

Jan. 27, 1953

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2,626,641

COMBINED WORK-HOLDING AND SCREW-DRIVING MACHINE

Filed Nov. 1, 1950

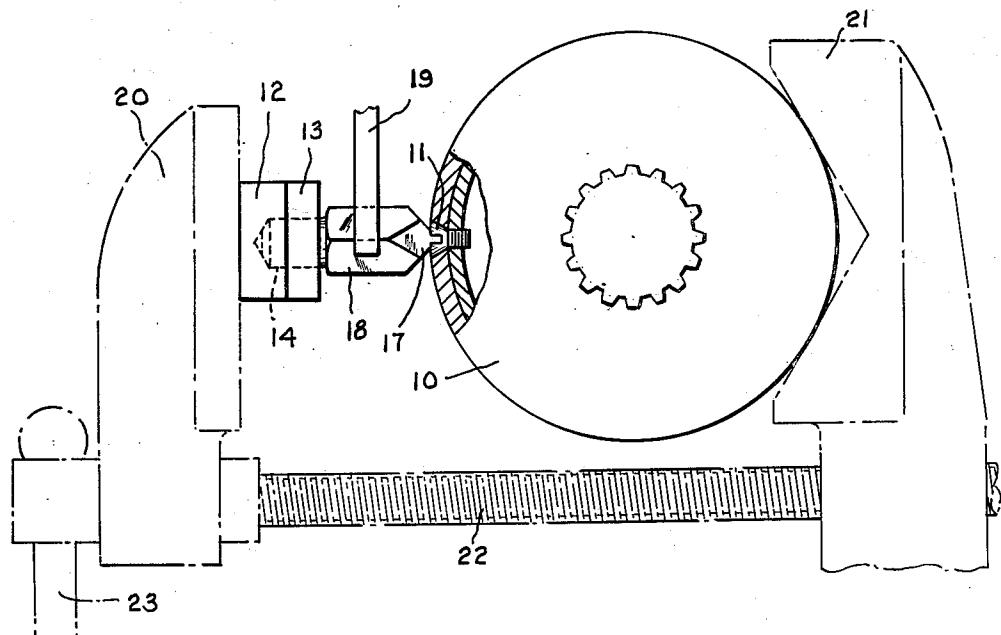


Fig. 1.

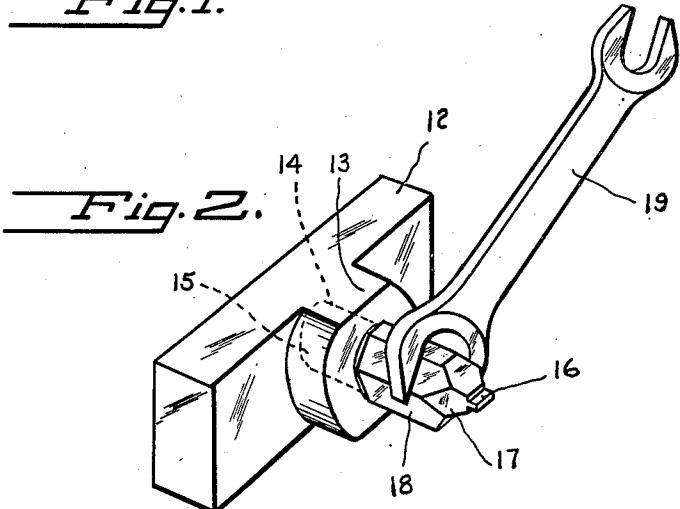


Fig. 2.

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Patented Jan. 27, 1953

2,626,641

# UNITED STATES PATENT OFFICE

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## COMBINED WORK-HOLDING AND SCREW-DRIVING MACHINE

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Application November 1, 1950, Serial No. 193,331

1 Claim. (Cl. 144—32)

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This invention relates to tools and has particular reference to a new and improved tool for use in repairing automobile generators and motors and other special apparatus.

An object of the invention is to provide a compact, relatively simple and economical tool which may be employed in combination with a vise for facilitating the removal and replacement of screws which secure the parts of generators and motors such as field coils which has heretofore been a difficult and time consuming operation because of the difficulty of holding the device so that it will not roll and also because of the force required and the difficulty of holding a screw driver in proper alignment with the screw and in engagement therewith.

Another object is to provide a device which is particularly adapted and especially useful in garages and service stations for repairing motors and automobile generators to replace burned out field coils, which the garage and service stations are called upon to repair.

Other objects and advantages of the invention will be apparent from the following description taken in connection with the accompanying drawing. It will be understood that changes may be made in the details of construction and arrangement of parts without departing from the scope of the invention as set forth in the accompanying claim. I, therefore, do not wish to be limited to the exact details of construction and arrangement of parts shown and described as the preferred form has been given by way of illustration only.

Referring to the drawings:

Fig. 1 is an end view showing the invention in operative position in a vise; and

Fig. 2 is a perspective view of a device embodying the invention.

Referring more particularly to the drawings wherein similar reference characters designate corresponding parts throughout, the device is shown in use in connection with an automobile generator 10 having the screw 11 which is to be removed and which retains the field coil to the field ring of the motor or generator.

The tool embodying the invention comprises a base or supporting portion 12 having the upstanding boss 13 which has the opening or socket 14 adapted to receive the end 15 of the screw driver member which is rotatable therein and having the screw driver portion 16 adjacent its opposite end adapted to engage the kerf of screw 11 and the intermediate portion 17 of said screw driver member has the flattened sides adapted to fit within wrench 19 which may be pushed or pulled to turn the screw driver member which turns screw driver portion 16 and therefore loosens or tightens screw 11 depending upon the direction of turning.

In operation the device is placed within and

5 with supporting portion 12 in engagement with jaw 20 of a vise which comprises also jaw 21 which jaws are relatively movable by means of bolt 22 which is adapted to be turned by handle to move jaws 20 and 21 relative to each other.

10 Motor or generator 10 is positioned within the vise in engagement with the jaw 21 of the vise and with screw 11 facing vise jaw 20.

The movable vise jaw 20 is then adjusted to move the tool into such position that screw driver portion 16 is in engagement with the kerf in screw 11 and then wrench 19 is applied to the flattened sides 18 of intermediate portion 17 and said intermediate portion 17 is turned to loosen or tighten screw 11 as desired.

15 It will be seen that the tool is relatively simple and economical and enables any service station or garage to service such motors and generators without the purchase of expensive equipment which is only occasionally employed.

20 It will also be noted the device can be employed for use with other special devices than motors or generators and which can also be supported in a vise.

25 From the foregoing it will be seen that I have provided relatively simple, compact and economical means for obtaining all of the objects and advantages of the invention.

Having described my invention, I claim:

30 In a device of the character described, a supporting portion adapted to engage a jaw of a vise and be supported thereby in operative position relative to a generator or the like which is supported against the opposite jaw of said vise, said supporting portion having a recess, a screw driver portion having a portion extending into said recess and carried by said supporting portion and mounted for rotation relative thereto, and having a screw driver adapted for use in connection with screws in said generator, said screw driver portion having flat sides outside of said recess for engagement by a separate wrench for turning said screw driver relative to said supporting portion and generator.

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