Aug. 17, 1926. 1,596,293

D. NEIL

GENERATOR TOOL

Filed August 5, 1924 2 Sheets-Sheet 1

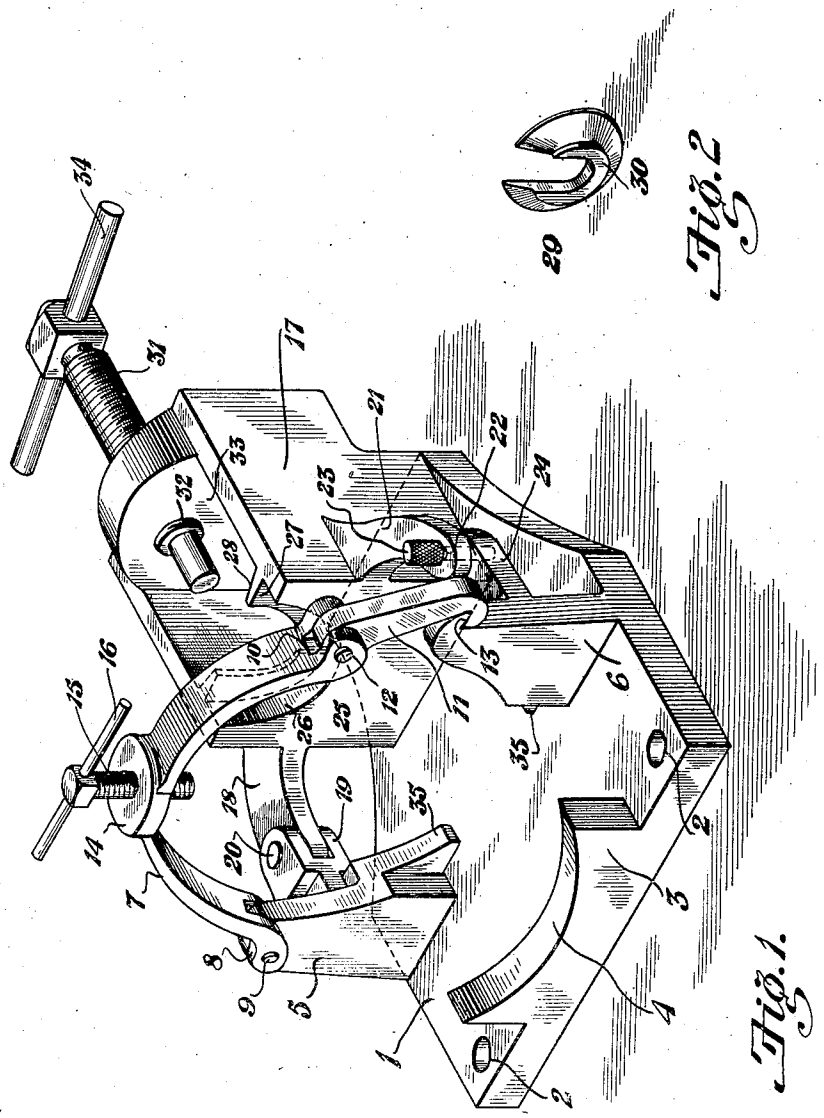


Fig. 1.



Fig. 2

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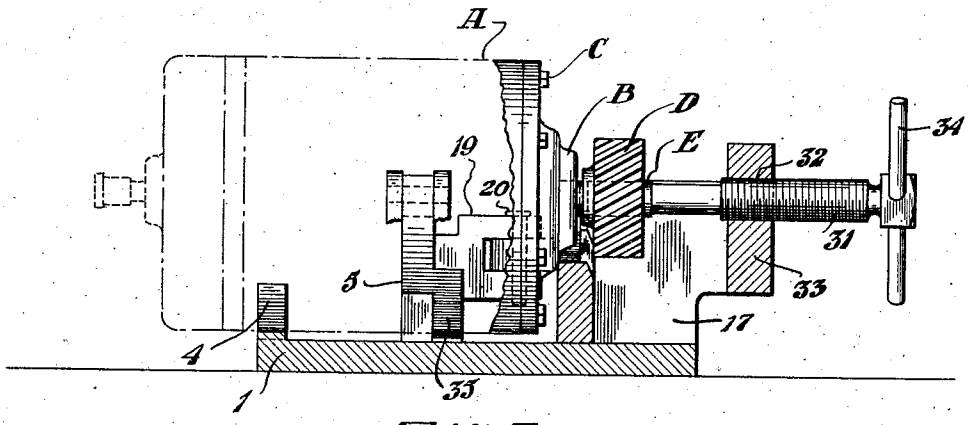



Fig. 3.

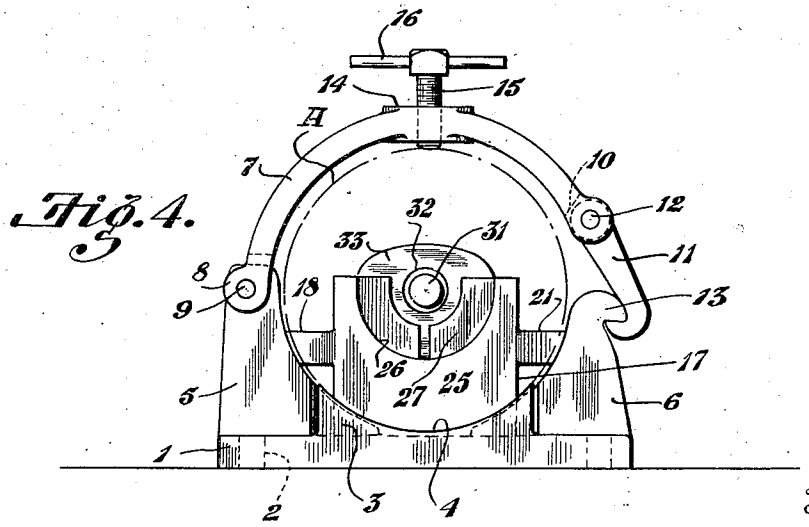



Fig. 4.

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# UNITED STATES PATENT OFFICE.

DAVID NEIL, OF CANTON, OHIO.

## GENERATOR TOOL.

Application filed August 5, 1924. Serial No. 730,207.

The invention relates to devices for use in automobile repair shops and garages for repairing generators such as are commonly used in automobile starting and lighting systems.

It is the object of ths present improvement, to provide a tool or device arranged to be mounted upon a bench or table and provided with clamping means for holding the generator to permit the removal of the different parts thereof, and with a screw stripping means for removing the gear and bearings from the armature shaft of the generator; the clamping means and stripping means being independently arranged to swing out of operative position to permit the operation of either of said means singly.

The above and other objects may be attained by constructing the tool in the manner illustrated in the accompanying drawings, in which—

Figure 1, is a perspective view of the generator tool embodying the invention, showing the operative position of the clamping means and stripping means;

Fig. 2, a detail perspective view of the removable abutment fork, used for stripping the small bearing from the shaft;

Fig. 3, a longitudinal sectional view of the tool, showing the operation of the stripping means, and

Fig. 4, an end view of the tool showing the operation of the clamping means.

Similar numerals refer to like parts throughout the drawing.

The device includes a base 1, having apertures 2, for the reception of screws or other fastening means for securing the base to a bench or other support.

A flange 3, is formed at one edge of the base plate, and provided with the arcuate upper edge 4, shaped to fit the casing of a generator shown at A.

Midway between the ends of the base plate, and near opposite edges thereof, is located a spaced pair of upright ears 5 and 6, the arcuate clamping arm 7 being pivotally connected at one end to the upper portion of the ear 5, as by the lugs 8 and pin 9.

The other end of the arm 7 is bifurcated as shown at 10, and the latch hook 11 is pivotally connected thereto as by the pin 12, and arranged to engage the lip 13 upon the upper end portion of the upright ear 6.

The central portion of the arcuate arm 7 is enlarged forming the threaded bearing 14 which receives the clamping screw 15 provided with the cross bar 16 for manually adjusting the same to clamp the generator in the device as shown in Fig. 4.

The stripping mechanism comprises a box 17, having an integral arm 18 upon one side hingedly connected to the lugs 19 upon the upright ear 5, as by the hinge pin 20. A similar arm 21 is formed upon the other side of the box and provided with an aperture 22 to receive the locking pin 23 arranged to be engaged in the lug 24, upon the upright gear 6, to lock the stripping device in position for operation, as best shown in Fig. 1.

The inner end wall 25 of the box is recessed at its upper portion as shown at 26, to accommodate the boss B upon the end plate of the generator casing and provided with the substantially U-shaped fin 27, beveled upon its inner side as shown at 28 to receive the similarly beveled flange 29 upon the abutment fork 30.

The stripping screw 31 is located through a suitably tapped aperture 32 in the rear wall 33 of the box and provided with a handle 34 for manually rotating the same.

When it is desired to clamp the generator in the device in order to work upon the same, such as removing the screws C, the locking pin 23 is removed and the box 17 swung outward at one side of the base.

The generator is then placed in position resting upon the end flange 3 and the curved lugs 35 and the arcuate arm 7 is swung into the position shown in Figs. 1 and 4, the hook 11 thereon engaging the lip 13, the clamping screw 15 being turned into engagement with the generator casing as shown in Fig. 4, clamping the same between said screw and the flange 3 and lugs 35.

The casing is thus held rigidly in place and access may be had to the ends thereof for removing the screws in the end plate or the like.

When it is desired to strip the gear D or the bearings from the armature shaft, the clamping arm is released and swung outward to one side and the box is locked in the operative position as shown in Figs. 1 and 3. The gear, to be stripped from the armature shaft E, is positioned to abut the inner side of the fin 27, as shown in Fig. 3, the armature shaft being extended through the U-shaped opening in said fin. The stripping screw 31 is then turned into

engagement with the end of the armature shaft and the armature shaft is forced out of the gear or bearing.

For removing the small bearing used on some generators the removable abutment fork 30 is placed against the inner tapered side of the fin 27 for engagement with the bearing to be removed, the operation being otherwise the same as above described.

It will also be understood that an attachment may be used in conjunction with this tool for spreading or removing the pole pieces from the generator, this pole spreader comprising a cone shaped attachment arranged to be inserted in the generator and operated by the stripping screw.

I claim:

1. A device of the character described including a base portion, a curved, transversely disposed clamping arm hingedly connected at one side thereof, a latch upon the free end of the arm for detachably connecting the same to the other side of the base, a clamping screw carried by the intermediate portion of the arm, and stripping means at one end of the base portion, for removing the gear and bearings from a generator shaft.

2. A device of the character described including a base portion, an arm provided with a clamping screw and hingedly connected at one side of the base, stripping means hingedly connected at one side of the base for removing the gear and bearings from a generator shaft, and means for locking the stripping means in operative position at one end portion of the base.

3. A device of the character described including a base portion, a hinged clamping arm connected thereto for clamping a generator upon the base, and stripping means for removing the gear and bearings from the generator shaft, and including a box having a U-shaped opening in its inner wall to receive the shaft and a screw in its outer wall for engagement with the end of the shaft, said box being hingedly connected to the base at one side thereof and arranged to be locked in operative position.

4. A device of the character described including a base portion, a hinged clamping arm connected thereto for clamping a generator upon the base, and stripping means for removing the gear and bearings from the generator shaft, and including a box having a U-shaped opening in its inner wall to receive the shaft and a screw in its outer wall for engagement with the end of the shaft, said box being hingedly connected to the base at one side thereof and arranged to be locked in operative position, said inner wall of the box having a beveled rear face, and an abutment fork provided with a beveled flange for engagement therewith.

5. A device of the character described including a base plate, a pair of upright ears at opposite sides of the base plate, curved lugs at the lower ends of said ears and an arcuate flange at the forward edge of the base plate to receive a generator casing, a curved arm provided with a clamping screw and hingedly connected to one of the ears, a pivoted hook at the free end of said arm, a lip upon the other ear for engagement with the hook, a stripping mechanism comprising a box having a U-shaped opening in its inner wall to receive a generator shaft and a screw in its outer wall for engagement with the end of the shaft, said box being hingedly connected to one ear and arranged to be locked to the other ear.

In testimony that I claim the above, I have hereunto subscribed my name.

DAVID NEIL.