Oct. 11, 1938. E. A. FOSTER 2,133,192

CRANKSHAFT DRESSING TOOL

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Fig. 1.

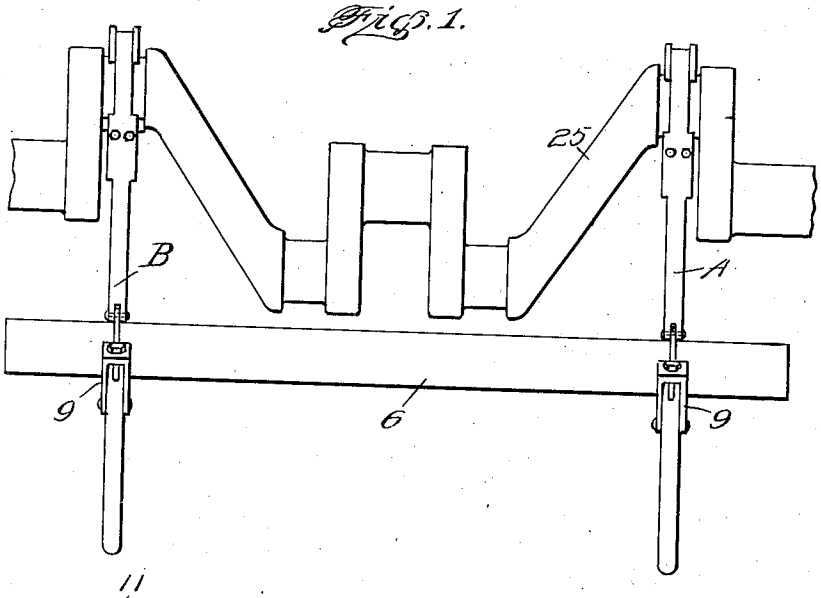

Fig. 2.

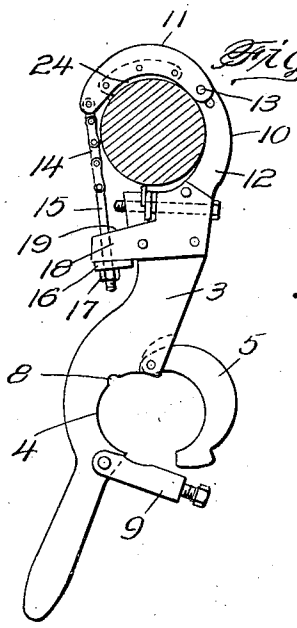

Fig. 8.

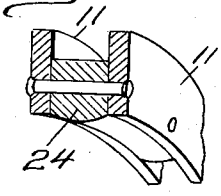

Fig. 3.

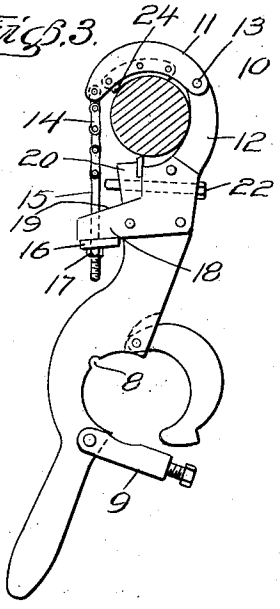

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Fig. 4.

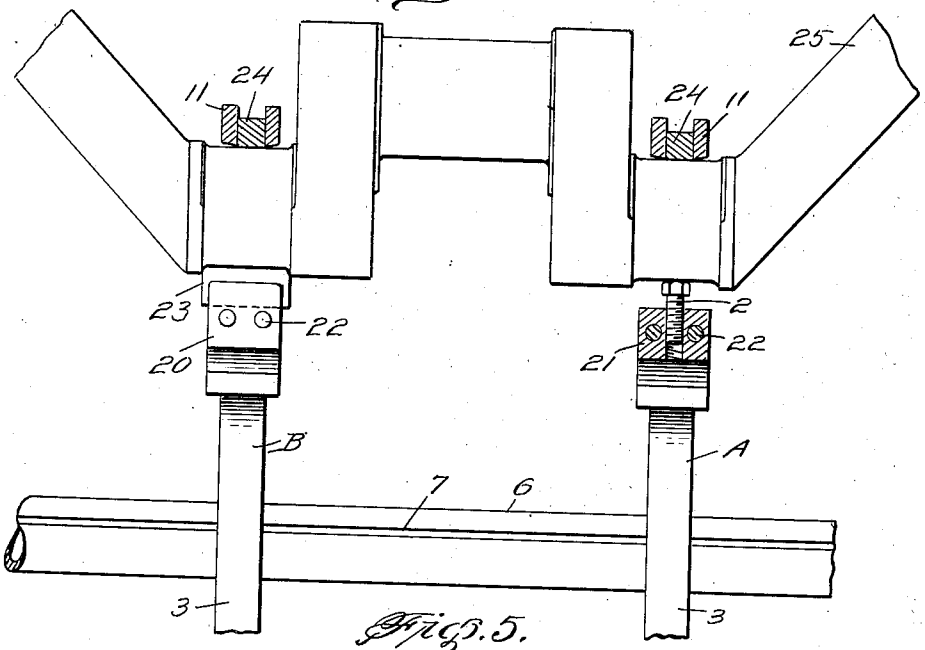


Fig. 5.

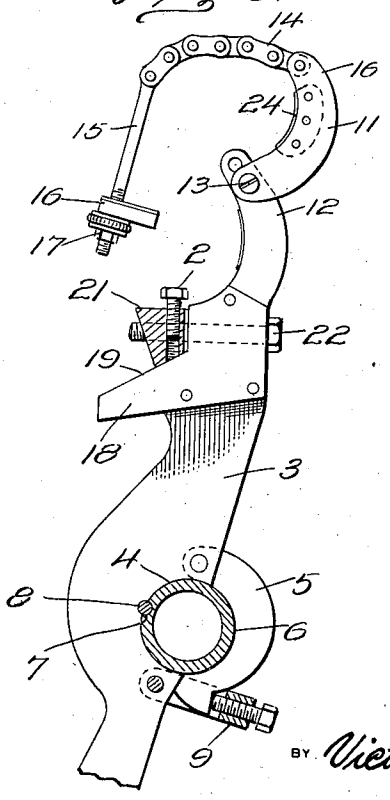


Fig. 6.

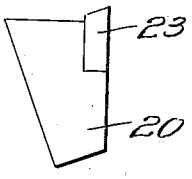
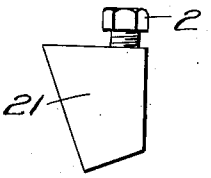


Fig. 7.



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2,133,192

CRANKSHAFT DRESSING TOOL

Edward A. Foster, Borger, Tex.

Application August 9, 1937, Serial No. 158,195

5 Claims. (Cl. 82—4)

This invention relates to tools for dressing crank shafts and has for the primary object the provision of a simple and inexpensive device of this character which may be adjusted for use on different size crank shafts and may be easily and quickly actuated to dress a journal portion of a crank shaft which has been worn, employing a companion journal section of the crank shaft as a support and guide for the device.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation illustrating a crank shaft dressing tool constructed in accordance with my invention and showing the same applied to a crank shaft.

Figure 2 is an end elevation, partly in section, showing the cutting element of the tool.

Figure 3 is a view similar to Figure 2 showing a guide element of the tool.

Figure 4 is a fragmentary vertical sectional view showing the tool adapted to a crank shaft.

Figure 5 is a side elevation, partly in section, showing the guide element adjusted ready for application to a crank shaft.

Figure 6 is a side elevation showing a cutter and its supporting block.

Figure 7 is a view similar to Figure 6 showing a block and a set bolt carried thereby employed upon the guide element.

Figure 8 is a fragmentary perspective view showing a portion of the jaw of either the cutting element or the guide element.

Referring in detail to the drawings, the numeral 1 indicates in entirety a tool especially adapted for dressing a worn journal portion of a crank shaft and employs in its construction a guide element A and a cutter element B, similarly constructed except that the guide element is minus a cutting blade and employs in lieu thereof a set bolt 2 to contact the journal portion of the crank shaft. The guide and cutting elements A and B each include a lever 3 provided with a recess 4 and cooperating with the latter is an arcuately curved jaw 5 for gripping a connecting bar 6. The connecting bar 6 is employed for rigidly connecting the guide and cutting elements A and B. However, said elements A and B can be adjusted towards and from each other on the bar and it is preferable that the bar have a rib or key 7 to fit in keyways 8 of the guide and cutting elements A and B. The jaws 5 are held closed by clamps 9 which will permit opening of said jaws at any time desired to bring about relative adjustment of the guide and cutting elements A and B on the connecting bar 6.

The guide and cutting elements A and B each include an arcuately curved jaw 10 composed of sections 11 and 12 pivotally and adjustably connected, as shown at 13. A flexible element 14 is connected to the free end of the section 11 and includes a screw threaded bar portion 15 on which is mounted a cushion element 16 and also threaded thereon is a nut 17. An extension 18 is formed on the lever 3 and has an opening through which the rod portion 15 extends. The cushion element 16 bears against the extension 18 with the nut 17 turned thereagainst thus permitting the jaw 10 to have a limited yieldable movement. The extension 18 has a supporting face 19 inclining away from the lever and on which is mounted either a block 20 or 21. The blocks 20 and 21 are similarly shaped and are adjustably connected to their respective elements A and B by bolts 22. The block 20 carries a knife 23 while the block 21 carries the bolt 2. The sections 11 and 12 of the jaw 10 have secured thereto work engaging strips 24. The faces 19 of the elements A and B permit the blocks to be adjusted relative to the bearing portions of a crank shaft 25. The adjustment of the blocks permits the use of this tool on crank shafts of different sizes.

In use, the cutting element B is adjusted or adapted to a bearing portion of a crank shaft which has been worn while the guide element A is adapted to a companion crank portion of the crank shaft and with the elements A and B rigidly connected by the bar 6 the guide element A will support and guide the cutting element B. It is to be understood that the operator grips the levers of the elements A and B and rotates them relative to the crank shaft, the cutting element dressing the worn bearing portion of the crank shaft.

What is claimed is:

1. A crank shaft dressing tool comprising a cutting element adapted to be applied on a worn bearing portion of a crank shaft, a guide element adapted to be applied to a companion bearing portion to the bearing portion on which the cutting element is adapted, and means for rigidly connecting said elements whereby said guide and cutting elements will be caused to move in unison during the rotation thereof in relation to the bearing portions of the crank shaft, said guide

element following the curvature of the bearing portion to which it is adapted for bringing about movement of the cutting element in a like path to dress the bearing portion on which it is adapted.

2. A crank shaft dressing tool comprising a cutting element adapted to be applied on a worn bearing portion of a crank shaft, a guide element adapted to be applied to a companion bearing portion to the bearing portion on which the cutting element is adapted, and a connecting bar detachably connecting said elements and acting to rigidly connect said elements and to permit adjustment of said elements relative to each other.

3. A crank shaft dressing tool comprising guide and cutting elements each including a lever and yieldable jaws, said jaws being adaptable to companion bearing portions of a crank shaft, a knife adjustably mounted on the cutting element for dressing the bearing portion engaged by the cutting element and being caused to travel in a path of movement in accordance with the path of movement set up by the guide element moving relative to the bearing portion on which it is mounted, a set bolt adjustably mounted on the guide element and adjustable against the bearing portion engaged by the jaw for the guide element, and means for connecting said levers.

4. A crank shaft dressing tool comprising guide and cutting elements each including a lever and yieldable jaws, a knife adjustably mounted on the cutting element, a set bolt adjustably mounted on the guide element, a connecting bar, jaws to engage said connecting bar and carried by said levers, and clamps for said last-named jaws.

5. A crank shaft dressing tool comprising a lever, a jaw carried by said lever and including pivotally connected sections, a flexible element connected with one of said sections including a rigid portion, an extension formed on said lever and having an opening to receive said rigid portion and provided with a beveled face, an adjustable yieldable connection between said rigid portion and the extension, and a knife carrying means adjustably mounted on said face and connected to the lever.

EDWARD A. FOSTER.