Aug. 16, 1949. F. J. VOYCHESKE 2,479,144

ENGINE CRANKSHAFT TURNING ADJUSTMENT TOOL

Filed Oct. 26, 1945 2 Sheets-Sheet 1

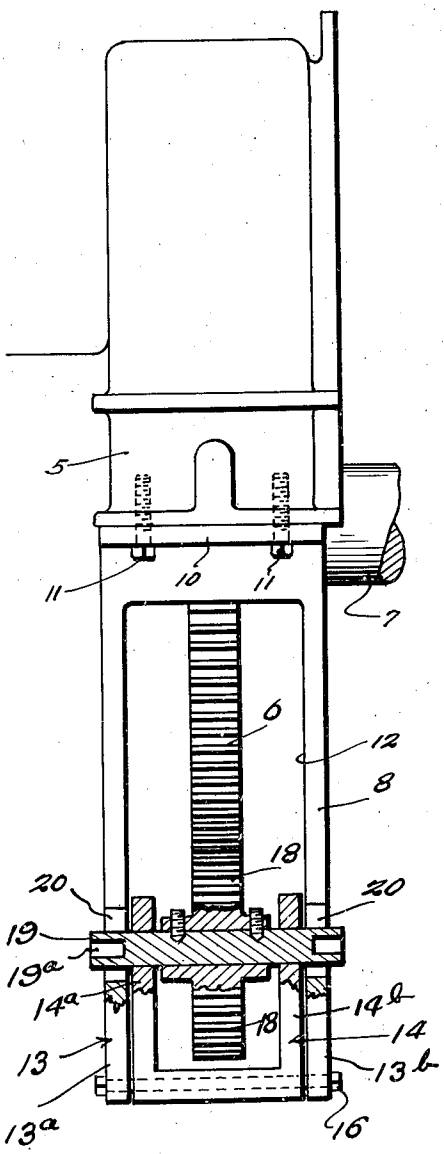


Fig. 1.

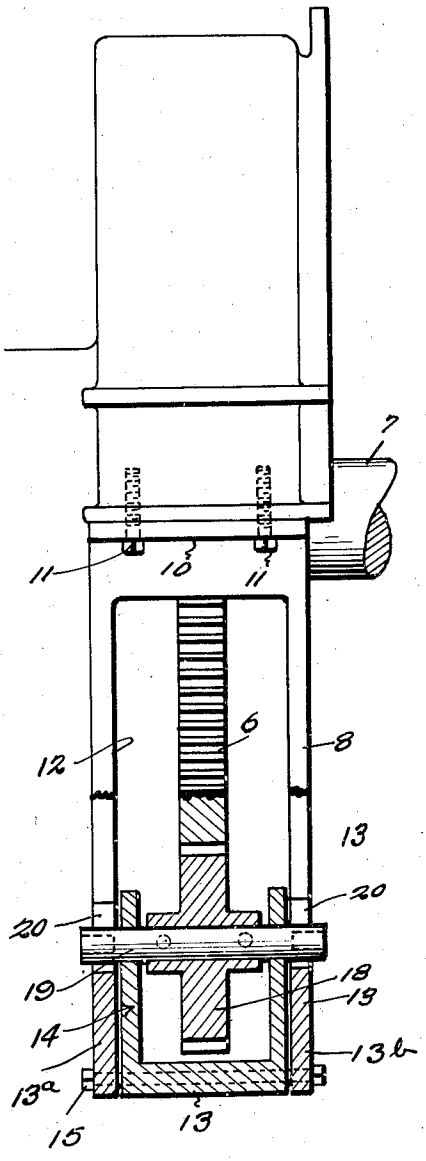


Fig. 2.

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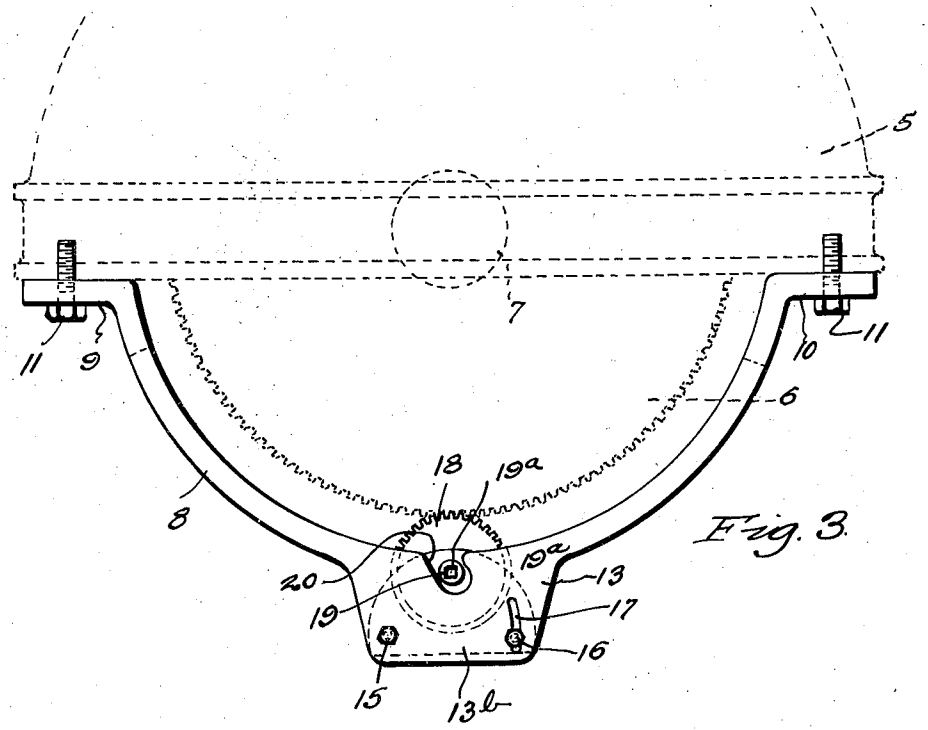


Fig. 3.

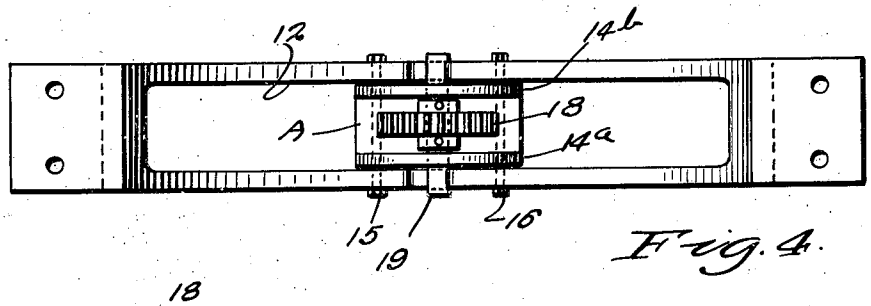


Fig. 4.

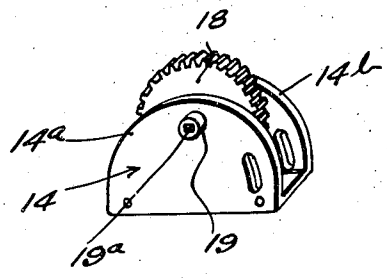


Fig. 5.

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UNITED STATES PATENT OFFICE

2,479,144

ENGINE CRANKSHAFT TURNING ADJUSTMENT TOOL

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Application October 26, 1945, Serial No. 624,895

1 Claim. (Cl. 81—54)

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This invention relates to a tool or fixture which may be attached temporarily to an engine and manually operated to turn the fly wheel of the engine, and therefore its crank shaft, so that any bearings may be tested or adjusted, and any connecting rod may be inspected or replaced.

The primary object of the invention is to enable the fly wheel, of an engine to be manually turned by a mechanic without requiring the mechanic to alter his working position under the engine.

The above and other objects may be attained by employing this invention which embodies among its features a frame which may be temporarily affixed to the casing of an engine, a pinion supported by the frame for meshing engagement with the starting gear carried by the fly wheel of the engine and means to enable the pinion to be turned from a position beneath the engine whereby the fly wheel and crank shaft of the engine may be turned in its bearings to bring various elements of the engine into a position for inspection or repairs.

In the drawings:

Figure 1 is a side elevation.

Figure 2 is a similar view, showing the lower portion in vertical section.

Figure 3 is rear elevation, showing engine parts in dotted lines.

Figure 4 is a top plan view of the attachment shown removed from the engine.

Figure 5 is a detail side view of the pinion gear detached from its supporting frame.

Referring to the accompanying drawings, which illustrate the practical embodiment of the invention, 5 designates the upper part of the housing of an engine fly wheel 6, which is mounted on the engine crank shaft 7 in the usual manner.

My improved tool or fixture includes the arched frame 8, which is provided with connecting lugs 9 and 10, adapted to be bolted directly to the ends of the housing 5, by the bolts 11.

The central and lower part of the frame 8 is formed with a slot 12, and provided with a depending housing 13 having side wals 13*a* and 13*b*.

Within the housing 12 a pinion gear 18 is supported in bearing frame 14 and this frame 14 is pivotally secured at one end by the bolt 15 to the side walls 13*a* and 13*b*, and adjustably secured at the other end by the bolt 16, and hence can be shifted through the arcuate slots 17 formed in the side walls 13*a* and 13*b* of the housing 13.

The bearing frame 14 is provided with opposing side walls 14*a* and 14*b* and the pinion gear 18 is located between these side walls. This gear is equipped with a shaft 19 which extends through the arcuate slots 20 formed in the side walls 14*a* and 14*b*, and each end of this shaft is formed

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with a squared socket 19*a* to receive a handle or wrench, so that the pinion gear may be manually turned.

The teeth of the pinion gear are adapted to have meshing engagement with the teeth of the engine fly wheel. The slots 17 of the housing 13, and the slots 20 of the bearing frame 14 permit of the necessary raising and lowering of the pinion gear so that its teeth will establish the proper meshing engagement with the teeth of the fly wheel; and the pinion may be held in such position by tightening the bolts 16.

By attaching the main frame 8 to the engine housing and adjusting the pinion gear against the teeth of the engine fly wheel, any mechanic may turn over the crank shaft by hand, while lying under the engine.

My tool or fixture will be found particularly useful for adjusting and inspecting engine bearings, and connecting rods, and a single main frame can be designed which will fit various makes of automobile and truck engines.

It is understood that the improved tool or fixture may be constructed of various materials, and that the construction of the details, and their combination and arrangement may be varied within limits, as defined by the claim hereof.

Having described my invention I claim as new:

A tool for turning engine shafts, comprising an arched main frame having lugs on the opposite sides thereof attachable to the sides of the housing of an engine fly wheel, said main frame having a central slot providing opposing side walls and a housing depending from said side walls, each of the side walls of the depending housing having opposed arcuate slots, a bearing frame mounted in the slot of the main frame and between the side walls of the housing last-named a pinion gear arranged between the side walls of the bearing frame and depending housing, means for pivotally securing the bearing frame to the depending housing, and means for adjusting said bearing frame in said housing to raise and lower the pinion gear.

FELIX JOHN VOYCHESKE.

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