Nov. 11, 1941. G. A. COUNTRYMAN 2,262,385

AUTOMOBILE REPAIR TOOL

Filed Sept. 13, 1940

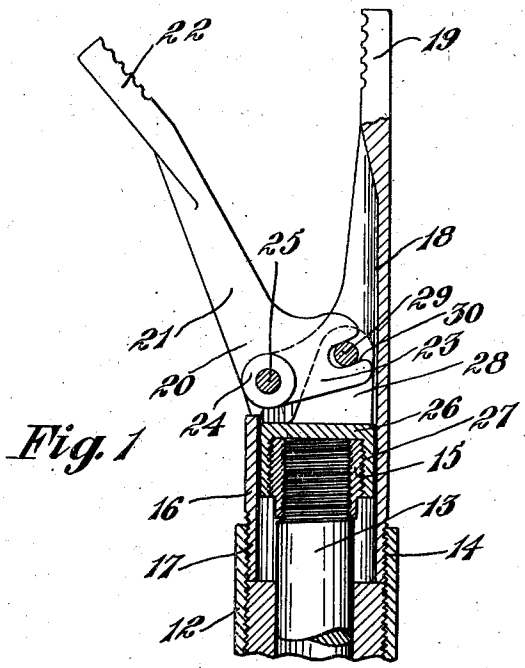


Fig. 1

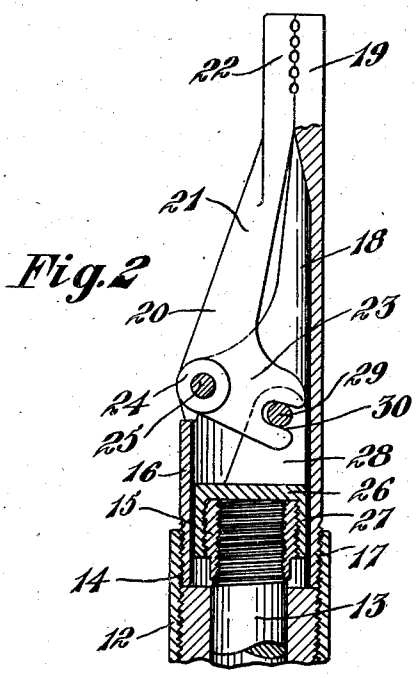


Fig. 2

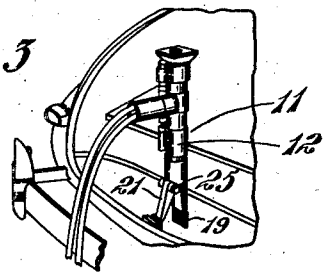


Fig. 3

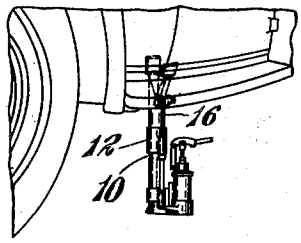


Fig. 4

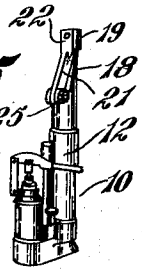


Fig. 5

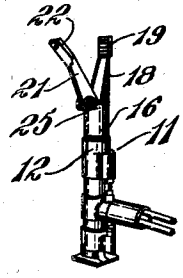


Fig. 6

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AUTOMOBILE REPAIR TOOL

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Application September 13, 1940, Serial No. 356,587

3 Claims. (Cl. 153—32)

The invention relates to repair tools for automobiles and more particularly to a tool adapted to be used in combination with a jack for making such repairs upon automobiles as bending or straightening frame members, straightening bodies and fenders and the like.

The object of the improvement is to provide a tool comprising a fixed jaw adapted to be rigidly connected to the cylinder of a jack and a movable jaw pivotally mounted upon the cylinder and pivotally connected to the ram or plunger of the jack whereby the movable jaw may be moved toward or from the fixed jaw by operation of the jack ram in order to spread apart automobile frame or body portions or press them toward each other as desired.

Another object is to provide a tool of this character comprising a fixed jaw having a tubular attaching portion for connection to the end of a jack cylinder and having a movable jaw pivoted upon said attaching portion, and a cap detachably connected to the ram or plunger of the jack and having means thereon operatively engaging the movable jaw whereby the same may be moved toward or from the fixed jaw by operation of the ram.

A further object is to provide a repair tool of the character referred to in which an assembly comprising a fixed jaw and a movable jaw pivoted thereto is adapted to be screw threaded to the end of a jack cylinder and a cap provided with means for engaging and operating the movable jaw is screw threaded upon the ram of the jack.

A still further object is to provide a tool of this character which will fit into a small space and have sufficient power to bend or strain relatively heavy parts of an automobile, making the tool especially applicable for pushing out sills and working within an automobile trunk or similar small area.

Still another object is the provision of such a tool adapted for connection to a double acting hydraulic jack so that the tool may be used for pushing or pulling as desired.

Another object of the improvement is to provide a tool of this character which may be quickly and readily attached to or detached from the jack so that the jack may be used for the connection of other tools or for the purpose of lifting or raising.

The above objects together with others which will be apparent from the drawing and following description may be attained by constructing the improved automobile repair tool in the manner illustrated in the accompanying drawing, in which

Figure 1 is a vertical sectional view of the upper end of a hydraulic jack showing the improved tool attached thereto with the movable jaw in open position;

Fig. 2, a similar view showing the movable jaw in closed position;

Fig. 3, a fragmentary perspective view of a portion of an automobile trunk showing the improved tool mounted upon a single acting hydraulic jack demonstrating the manner in which the tool may be operated in a small area;

Fig. 4, a fragmentary perspective view of a portion of the rear of an automobile showing the improved tool connected to a double acting hydraulic jack and demonstrating the manner in which it may be used in a small space for pushing out an automobile sill;

Fig. 5, a perspective view of the improved tool mounted upon a double acting hydraulic jack showing the jaws in closed position; and

Fig. 6, a perspective jaw of the tool mounted upon a single acting hydraulic jack showing the jaws in open position.

Similar numerals refer to similar parts throughout the several views.

The improved automobile repair tool is adapted to be used in connection with any suitable jack, preferably with a double acting hydraulic jack of the general type disclosed in my prior Patent No. 1,985,151 dated December 18, 1934, as indicated generally at **10** in Fig. 4 and Fig. 5 of the drawing, or to any usual and well-known type of single acting hydraulic jack as indicated generally at **11** in Fig. 3 and Fig. 6 of the drawing.

Either form of jack includes a cylinder **12** and a ram or plunger **13** slidably mounted therein and adapted to be operated by hydraulic pressure in usual and well-known manner.

The upper end of the jack cylinder **12** may be internally threaded as shown at **14** and the ram **13** of the jack may be provided with an externally threaded lifting head **15** as in common practice.

The improved tool comprises the tubular attaching portion **16** having the threaded lower end **17** for attachment to the internally threaded upper end portion of the jack cylinder.

The other end of this tubular member is cut away on one side forming the substantially straight arm **18** upon the end of which is formed a stationary jaw **19**.

A substantially L-shaped movable jaw **20** is provided comprising the elongated arm **21** having

a jaw 22 formed at its outer end, and the shorter angular bifurcated arm 23.

At the angle of the L is formed a bearing portion 24 pivotally connected to the tubular member 16 as by the pivot pin 25.

A cap 26 provided with the internally threaded depending flange 27 is threaded upon the lifting head 15 of the jack ram and has an upstanding ear 28 provided with a stud 29 received within the notched end 30 of the bifurcated arm 23 whereby movement of the ram 13 upward will swing the movable jaw outward upon the pivot 25, or away from the fixed jaw 19 for the purpose of spreading or pushing, as indicated in Fig. 1, while inward movement of the ram will move the movable jaw 22 toward the fixed jaw 19 for the purpose of pulling or pressing as indicated in Fig. 2.

As the jaws are quite narrow and occupy a very small space when in closed position, as shown in Fig. 2, the improved tool may be used for many purposes where there is a demand for power in a small area, such as for pushing out the lower portion of an automobile trunk as shown in Fig. 3 or for pushing out a sill as shown in Fig. 4.

In the same manner the improved tool may be used for pulling parts together where the movement of the parts is not very great, but where considerable pressure is required for pressing or pulling the same into shape, this being accomplished by attaching the tool to a double acting jack as shown in Figs. 4 and 5.

I claim:

1. A tool of the character described including an attaching portion arranged to be connected to the cylinder of a jack, a fixed jaw upon said attaching portion, an L-shape member pivoted upon said attaching portion and having a jaw upon one arm of the L, the other arm of the L-shape member having a slot therein and a stud carried by the ram of the jack for engagement with said slot so that the jaw upon the L-shape member may be pivotally moved toward and from the fixed jaw by operation of the ram.

2. In combination with a jack having a cylinder provided with a threaded end and a ram, a tool comprising a threaded tubular attaching portion for connection to the threaded end of the jack cylinder, a fixed jaw upon said attaching portion, an L-shape member pivoted upon the attaching portion and having a jaw upon one arm of the L, the other arm of the L-shape member having a slot therein and a stud carried by the ram of the jack for engagement with said slot so that the jaw upon the L-shape member may be pivotally moved toward and from the fixed jaw by operation of the ram.

3. In combination with a jack having a cylinder provided with a threaded end and a ram having a threaded lifting head, a tool comprising a threaded tubular attaching portion for connection to the threaded end of the jack cylinder, a fixed jaw upon said attaching portion, an L-shape member pivoted upon the attaching portion and having a jaw upon one arm of the L, the other end of the L-shape member having a slot therein, a cap threaded upon said lifting head and a stud carried by said cap for engagement with said slot so that the jaw upon the L-shape member may be pivotally moved toward and from the fixed jaw by operation of the ram.

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