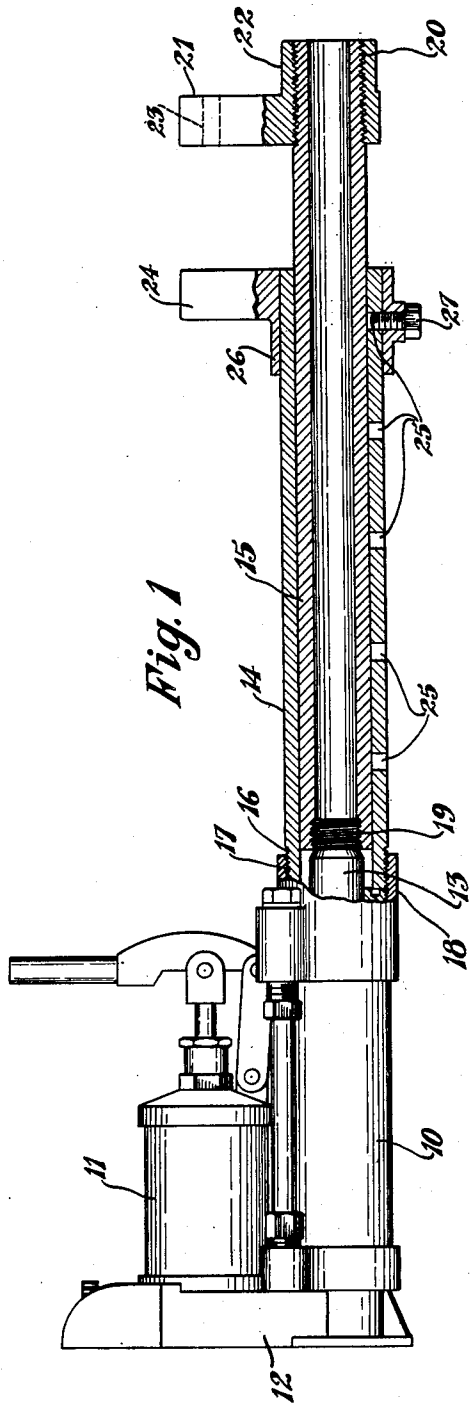
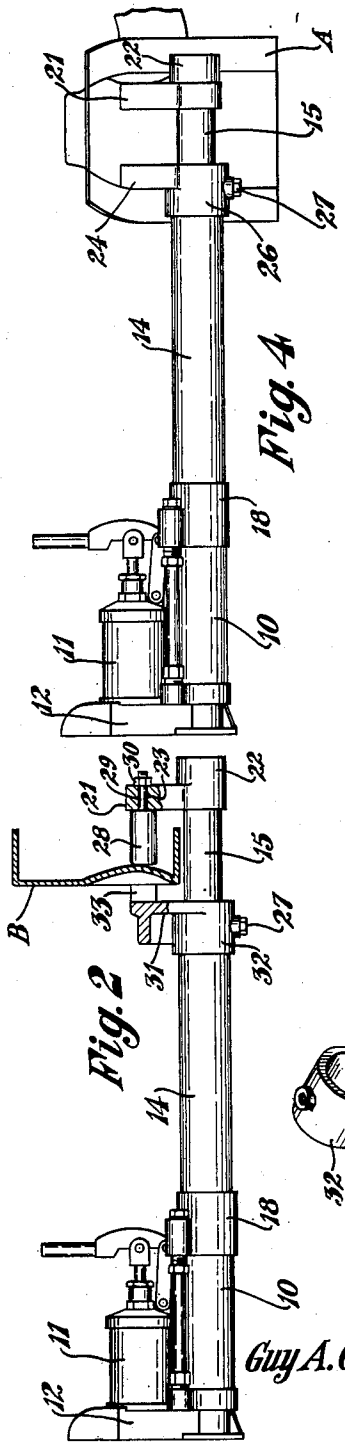
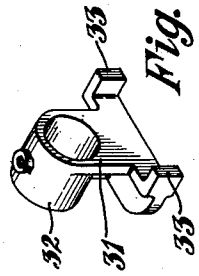
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ATTACHMENT FOR HYDRAULIC JACKS

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ATTACHMENT FOR HYDRAULIC JACKS

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3 Claims. (Cl. 153—32)

The invention relates to an attachment for hydraulic jacks for automobile repair work and more particularly to a clamping and spreading attachment for double acting hydraulic jacks.

The object of the improvement is to provide an attachment for a double acting hydraulic jack whereby either a clamping or spreading action may be produced so that various portions of automobile frames and the like may be pushed or pulled into alignment, dents may be removed and the parts may be otherwise straightened.

A further object is to provide such an attachment including a pair of telescoping tubes, one of which is adapted to be connected to the cylinder and the other to the ram or piston of the jack, jaws or similar tools being connected to the telescoping tubes for producing either a clamping or spreading action, depending upon the operation of the double acting jack.

Another object is to provide such an attachment in which one of the jaws or tools may be adjustably mounted upon the outer of the telescoping tubes so as to accommodate the attachment to various sizes of work.

The above objects together with others which will be apparent from the drawing and following description, or which may be hereinafter referred to, may be attained by constructing the improved attachment in the manner illustrated in the accompanying drawing, in which

Figure 1 is a sectional elevation of a double acting hydraulic jack provided with the improved clamping and spreading attachment;

Fig. 2, a sectional elevation on a smaller scale, showing the use of the attachment for straightening a dent or bend in a frame member;

Fig. 3, a detail perspective view of a special jaw or tool for use in an operation such as shown in Fig. 2; and

Fig. 4, an elevation showing the use of the attachment for spreading a front cross member or the like.

Similar numerals refer to similar parts throughout the drawing.

The attachment to which the invention pertains is adapted for use upon any hydraulic jack, particularly of the double acting type and is illustrated as applied to a double acting hydraulic jack such as disclosed in my Patent No. 1,985,151, granted December 18, 1934.

This jack comprises generally the cylinder 10 and the pump 11 for operating the same, both of which are shown as mounted upon a base 12, the ram or piston 13 being operable within the cylinder 10.

The attachment to which the invention pertains includes a pair of telescoping tubes 14 and 15, the tube 14 being externally threaded at one end as indicated at 16 for engagement with the internal screw threads 17 within the collar 18 fixed to the upper end of the cylinder 10.

The inner tube 15 is internally threaded at one end for engagement with the threaded head 19 of the ram or piston 13 of the hydraulic jack and may be externally threaded at its other end as at 20 for attachment of a jaw or the like such as the toe clamp 21 provided with the internally threaded collar 22.

Although screw threads are shown for detachably connecting a jaw to the tube 15, it should be understood that any suitable and well known means may be provided for detachably connecting a jaw to said tube. The toe clamp 21 may be provided with a bore 23 for the purpose of connecting an extension thereto, as will be later described.

Any suitable jaw such as the toe clamp 24 may be detachably connected to the outer end of the outer tube 14 and for the purpose of providing for the clamping or spreading of parts of various sizes this toe clamp 24 may be adjustably mounted upon the tube 14.

This adjustment may be accomplished in various manners but for the purpose of illustration a series of spaced apertures or sockets 25 are provided in the tube 14 and the collar 26 of the toe clamp 24 is provided with a set screw 27 adapted to selectively enter any one of these sockets or apertures to hold the toe clamp 24 in adjusted position upon the tube 14.

It will be seen that as the hydraulic jack is operated to raise the ram 13, the tube 15 will be moved outward relative to the tube 14, thus separating the toe clamps 21 and 24, whereby the attachment may be used for spreading the work; while the operation of the jack in the other direction, to lower the ram 13, will operate to move the toe clamp 21 toward the toe clamp 24, whereby the attachment may be used for clamping, bending or any pulling operation.

An illustration of the use of the attachment, equipped with the toe clamps 21 and 24, is shown in Fig. 4, in which the device is shown in use for spreading a bent front cross member A of an automobile frame.

This has always been one of the most difficult operations in the straightening of an automobile frame but it has been found that with this attachment the operation is made quite simple and the cross member may be either spread, as shown

in Fig. 4, or pulled together to the desired position.

In Fig. 2 is shown the use of the attachment for removing a dent from a bent channel frame. For this purpose the extension 28 may be attached to the toe clamp 21 by inserting the stem 29 of said extension through the bore 23 in the toe clamp, a nut 30 being provided for the outer threaded end of the stem in order to secure the extension upon the toe clamp.

For this purpose the toe clamp 24 may be removed from the outer tube 14 and the bending toe clamp 31 may be substituted therefor. This toe clamp 31 is provided with the collar 32 which fits upon the tube 14 in the same manner as the collar 26 of the toe clamp 24, a set screw 27 being provided in said collar for engagement in any of the apertures or sockets 25 of the tube.

A pair of spaced lugs 33 are formed upon the bending toe clamp 31 for contact with the rear face of the channel frame B, at opposite sides of the dent D to be removed therefrom while the extension 28 of the toe clamp 21 contacts with said dent as shown in Fig. 2. By operating the jack to lower the ram, it will be seen that the toe clamps will be pulled toward each other, the extension 28 pressing the dented portion of the channel frame back into the normal position.

Although only two uses of the attachment are illustrated and described, it should be understood that any spreading or clamping operation for bending or straightening of automobile frames and the like may be easily accomplished with this attachment and various sizes and shapes of toe clamps may be provided for accomplishing the various operations.

I claim:

1. An attachment for a hydraulic jack including a cylinder and a ram each having a threaded end, said attachment comprising a tube threaded at one end and connected to the threaded end of the cylinder, a tube threaded at one end and telescoped within the first named tube and connected to the threaded end of the ram, and laterally projecting jaws upon said tubes, one of said jaws being adjustably mounted upon the first named tube.

2. An attachment for a hydraulic jack including a cylinder having internal threads at its upper end and a ram having external threads at its upper end, said attachment comprising a tube having external threads at one end connected to the internal threads of the cylinder, a second tube telescoped within the first named tube and having internal threads at one end connected to the external threads of the ram, and external threads at its other end, a laterally projecting jaw having internal threads connected to the external threads of said last named tube, and a laterally projecting jaw adjustably mounted upon the first named tube.

3. An attachment for a hydraulic jack including a cylinder having internal threads at its upper end and a ram having external threads at its upper end, said attachment comprising a tube having external threads at one end connected to the internal threads of the cylinder, a second tube telescoped within the first named tube and having internal threads at one end connected to the external threads of the ram, and external threads at its other end, a laterally projecting jaw having internal threads connected to the external threads of said last named tube, and a laterally projecting jaw having a collar located around the first named tube and a screw for adjustably mounting said collar.

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