April 3, 1962 C. H. BRAND 3,028,145

ADJUSTABLE SUPPORT FOR AUTOMOTIVE LIFT JACKS

Filed Dec. 11, 1958

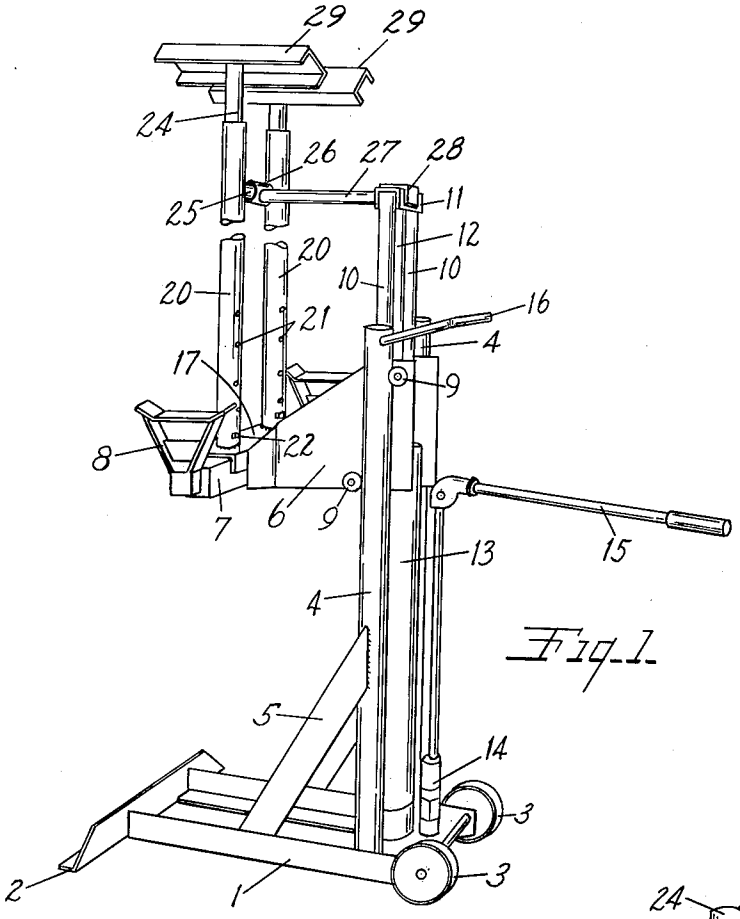


Fig. 1

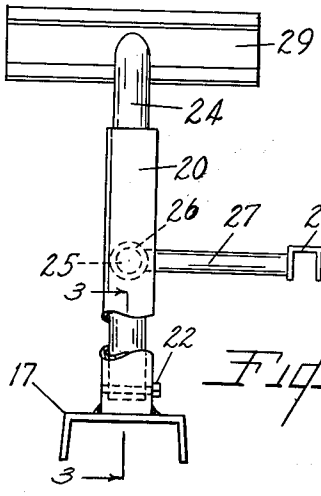


Fig. 2

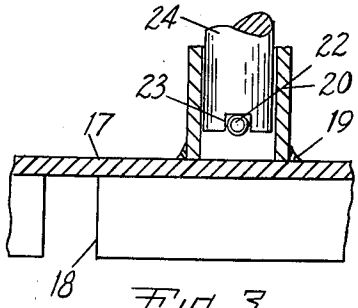


Fig. 3

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United States Patent Office 3,028,145 Patented Apr. 3, 1962

3,028,145

ADJUSTABLE SUPPORT FOR AUTOMOTIVE LIFT JACKS

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Filed Dec. 11, 1958, Ser. No. 779,775
6 Claims. (Cl. 254—134)

This invention relates to improvements in adjustable support for automotive lift jacks. The principal objects of this invention are:

First, to provide a novel form of support which is easily attached to the type of lifting jacks used in garages for supporting or lifting various parts of an automobile such as the transmission or motor block.

Second, to provide an adjustable support which can be quickly attached to a lifting jack and adjusted vertically into engagement with the part to be supported prior to exerting lifting force to the support by means of the jack.

Third, to provide a support of the type described which is inexpensive and collapsible to occupy a small space when not in use.

Fourth, to provide a novel form of extension support for a lift jack that is securely interlocked with its supporting jack simply by placing the support on existing portions of the jack and engaging a swingable brace with other portions of the jack.

Other objects and advantages of the invention will be apparent from a consideration of the following description and claims. The drawings, of which there is one sheet, illustrate a highly practical form of the support attachment.

FIG. 1 is a fragmentary perspective view of the support attachment operatively mounted upon a hydraulic lift jack.

FIG. 2 is a fragmentary side elevational view of the support attachment with parts broken away.

FIG. 3 is a fragmentary transverse cross sectional view taken along the plane of the line 3—3 in FIG. 2.

The embodiment of my invention illustrated is designed for use in connection with the type of lifting jack illustrated, and it will be understood that certain structural features are shaped or conformed to the particular jack illustrated, which comprises a base 1 having an elongated floor engaging foot 2 on one end and wheels 3 on the other end facilitating the moving and positioning of the jack. The laterally spaced tubular uprights 4 are fixedly secured to the base desirably adjacent the wheels and provided with braces 5. The vertically adjustable carriage of the jack includes plate-like side members 6 connected at their forward ends by the crossbar 7 which is provided with axle engaging seats 8 at its ends. The carriage side members 6 are provided with rollers 9 which coact with the uprights 4 and are positioned to slidably support the carriage on the uprights. At their inner ends the members 6 are connected by a yoke consisting of uprights 10 and the connecting crossbar 11 desirably positioned at the upper ends of the uprights.

The carriage is actuated, in the embodiment illustrated, by hydraulic means comprising piston rod 12 and hydraulic cylinder 13, the piston rod being connected to the crossbar 11. The cylinder 13 is supported on the base frame 1 being positioned between the uprights or guides 4. A hydraulic pump is conventionally illustrated at 14 and is provided with operating handle 15. To facilitate manipulation of the truck, the arms of a U-shaped handle 16 are connected to the upper ends of the uprights 4.

While the embodiment of my invention illustrated is especially designed for use in connection with a jack

illustrated and described, it is to be understood that it may be modified as may be desired for use in connection with jacks of this general type. The embodiment of my invention illustrated comprises the base or crossbar 17 of downwardly facing channel section dimensioned to fit over or seat upon the crosspiece 7 of the jack and having notches 18 in its inner flange spaced to receive the side plates 6 of the jack carriage. This effectively supports and positions the device on the jack carriage.

A pair of laterally spaced uprights 20 are fixedly secured to the crosspiece or base member 17 desirably by welding, as is conventionally illustrated in FIG. 2. These uprights are provided with a vertical series of holes 21 adapted to receive the supporting pins 22 which are desirably threaded for releasable engagement with the holes 21 so that they do not fall out or become accidentally disengaged. Adjacent their upper ends the uprights 20 are connected by the crossbar 25 which forms a swingable support for the sleeve-like bearing member 26 of the brace arm 27. At its other end the brace arm 27 is provided with a downwardly facing hook-like coupling member 28 of channel section and releasably engageable with the crossbar 11 of the yoke of the carriage. The brace arm 27 is of such length that the uprights 20 are held in vertical position when the base bar 17 is positioned upon the carriage bar 7 and the hook 28 is engaged with the crossbar 11.

The support rods 24 are telescopingly adjustable within the uprights 20 and are provided with work engaging seats in the embodiment illustrated, being in the form of inverted channel bars 29 which are positioned in inwardly inclined relation to each other and coact to provide a seat for a transmission or other part, as may be desired. It will be understood that it is common practice to provide elevators for automobiles when work is being done on the transmission and under parts thereof, such for example as transmission parts, and the device of my invention is highly desirable to facilitate the removing and positioning of such parts.

As stated, the embodiment of my invention illustrated is designed for use in connection with a jack having structural features generally illustrated, but it should be understood that it is readily modified for use in connection with certain other types of jacks. It may be quickly and securely mounted upon or removed from the jack permitting other uses of the jack than in the manner contemplated. For packaging and compact storage when not in use, notches 23 of the rods 24 may be lifted out of engagement with the pins 22 and twisted sideways to position the seat members 29 in side-by-side relation, which it will be understood is of advantage in packaging and storage when not in use.

I have illustrated and described my invention in a highly practical embodiment thereof. I have not attempted to illustrate or describe certain modifications and adaptations which might be desirable for other jack structures of this general type, as it is believed that such adaptations would be readily understood by those skilled in the art to which my invention relates.

What is claimed as new is:

1. The combination with a lifting jack including a base provided with wheels at its rear end and with a foot piece at its forward end and having laterally spaced ways projecting upwardly from its rear end, of a carriage vertically reciprocable on said ways and including laterally spaced side pieces projecting forwardly from said ways, an upwardly projecting yoke on the inner ends of said side pieces and having a crossbar at the outer ends of said side pieces, an auxiliary work support comprising a base bar downwardly facing channel section supportedly engageable

with said crossbar and having notches in its inner flange positioned to receive said carriage side pieces thereby preventing longitudinal movement thereof on said carriage crossbar, upwardly projecting laterally spaced tubular uprights on said base bar each having a plurality of vertically spaced pairs of aligned holes therein one of each pair being threaded, a second crossbar connected to said uprights in vertically spaced relation to said base bar, a brace member having one end pivotally sleeved upon said second crossbar and having a hook at its other end detachably engageable with said yoke on said carriage, work supporting rods telescopingly and rotatably engaged in said uprights and having work seat members having inclined faces fixedly mounted on their upper ends, and threaded support members for said work supporting rods selectively engageable with said pairs of holes in said uprights, said work supporting rods having notched lower ends engageable with said threaded support members.

2. The combination with a lifting jack including a base provided with wheels at its rear end and with a foot piece at its forward end and having laterally spaced ways projecting upwardly from its rear end, of a carriage vertically reciprocable on said ways and including laterally spaced side pieces projecting forwardly from said ways, an upwardly projecting yoke on the inner ends of said side pieces and having a crossbar at the outer ends of said side pieces an auxiliary work support comprising a base bar downwardly facing channel section supportedly engageable with said crossbar and having notches in its inner flange positioned to receive said carriage side pieces thereby preventing longitudinal movement of the base bar on said crossbar, upwardly projecting laterally spaced tubular uprights on said base bar each having a plurality of vertically spaced aligned holes therein, a second crossbar connected to said uprights in vertically spaced relation to said base bar, a brace member having one end pivotally sleeved upon said second crossbar and having a hook at its other end detachably engageable with said yoke on said carriage, work supporting rods telescopingly engaged in said uprights and having work seat members on their upper ends, and said support members for said work supporting rods selectively engageable with said holes in said uprights.

3. The combination with a lifting jack including a base provided with wheels at its rear end and with a foot piece at its forward end and having laterally spaced ways projecting upwardly from its rear end, of a carriage vertically reciprocable on said ways and including laterally spaced side pieces projecting forwardly from said ways, an upwardly projecting yoke on the inner ends of said side pieces and a crossbar at the outer ends of said side pieces provided with laterally spaced upwardly facing work seats, an auxiliary work support comprising a base bar of downwardly facing channel section supportedly engageable with said crossbar between said work seats thereon and having notches in its inner flange positioned to receive said carriage side pieces thereby preventing longitudinal movement of the base bar on said crossbar, upwardly projecting laterally spaced tubular uprights on said base bar each having a plurality of vertically spaced aligned holes therein, a second crossbar connected to said uprights in verticaly spaced relation to said base bar, a brace member having one end pivotally sleeved upon said second crossbar and having a hook at its other end detachably

engageable with said yoke on said carriage, work supporting rods telescopingly engaged in said uprights and having work seat members on their upper ends, and support members for said work supporting rods selectively engageable with said holes in said uprights.

4. In combination with a lifting jack including a vertically reciprocable carriage provided with a crossbar having laterally spaced work seats thereon, an auxiliary work support comprising a base bar of downwardly facing channel section seatedly engageable with said carriage crossbar between said work seats thereof, upwardly projecting laterally spaced tubular uprights on said base bar having vertically spaced supports receiving holes therein, a second cross bar connected to said uprights in vertically spaced relation to said base bar and having a brace member pivotally mounted thereon and detachably engageable with said carriage for supporting said uprights in upright position on said first mentioned crossbar on said carriage, work supporting rods telescopingly engaged in said uprights and provided with work seat members, and supports for said rods selectively engageable with said holes in said uprights, said work supporting rods having notched lower ends engageable with said supports for said rods whereby said rods are non-rotatably supported in their adjusted position.

5. In combination with a lifting jack including a vertically reciprocable carriage provided with a crossbar, an auxiliary work support comprising a base bar of downwardly facing channel section seatedly engageable with said carriage crossbar, upwardly projecting laterally spaced uprights on said base bar having vertically spaced support receiving holes therein, a brace member pivotally mounted on said uprights and detachably engageable with said carriage for supporting said uprights in upright position on said carriage crossbar, work supporting rods telescopingly engaged with said uprights and provided with work seat members, and supports for said rods selectively engageable with said holes in said uprights, said work supporting rods having notched lower ends engageable with said supports for said rods whereby said rods are non-rotatably supported in their adjusted position.

6. A work support for a lifting jack including a vertically adjustable carriage having a crossbar, a unitary auxiliary work support including a base bar supportedly engageable with said carriage crossbar, upwardly projecting laterally spaced uprights on said base bar having a plurality of vertically spaced holes therein, a second crossbar connected to said uprights in vertically spaced relation to said base bar, a brace member pivotally mounted on said second crossbar and detachably engageable with said carriage for supporting said uprights in upright position on said carriage, work supporting members telescopingly engaged in said uprights and having work seats thereon, and supports for said work supporting members selectively engageable with said holes in said uprights.

References Cited in the file of this patent

UNITED STATES PATENTS

1,781,063	Jessen	Nov. 11, 1930
1,905,624	Dwork	Apr. 25, 1933
2,536,550	Hughes	Jan. 2, 1951
2,568,827	Schallock	Sept. 25, 1951