Oct. 30, 1934. J. J. MIZER ET AL 1,978,471

KNEE LIFT JACK BAR

Filed March 30, 1934

Fig. 1.

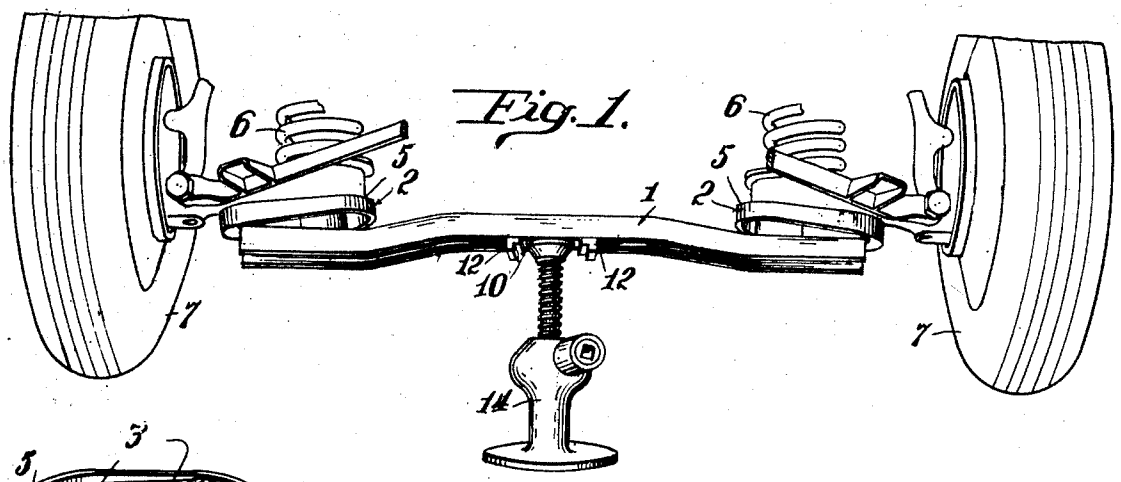


Fig. 2.

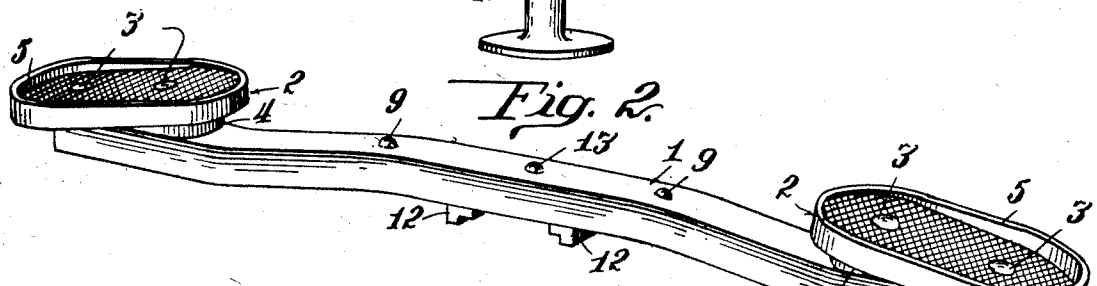


Fig. 3.

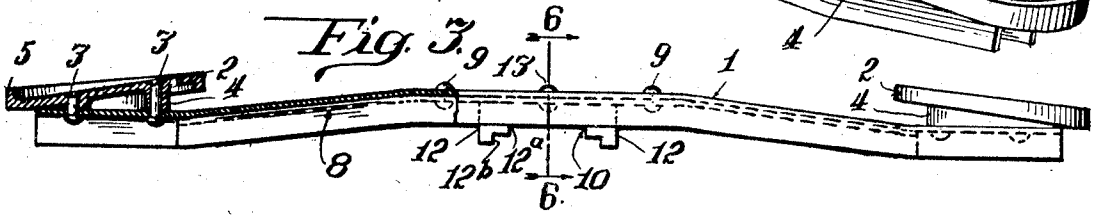


Fig. 4.

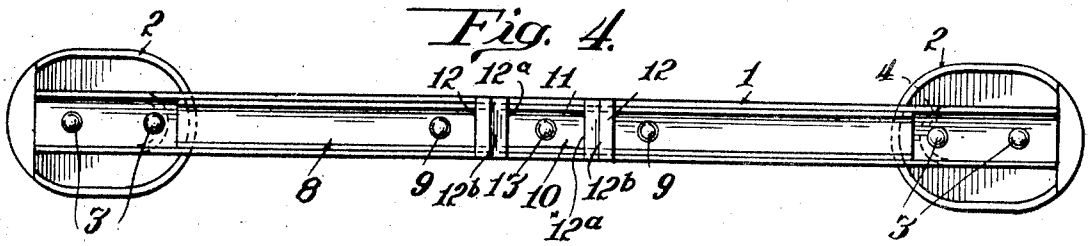


Fig. 5.

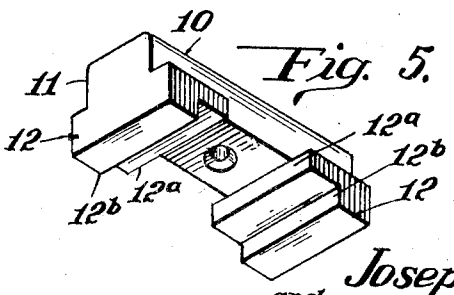
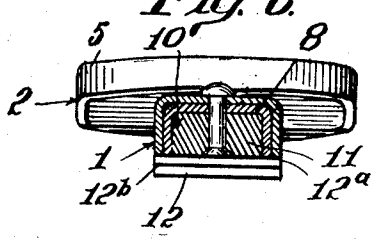


Fig. 6.



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Patented Oct. 30, 1934

1,978,471

UNITED STATES PATENT OFFICE

1,978,471

KNEE LIFT JACK BAR

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Application March 30, 1934, Serial No. 718,178

8 Claims. (Cl. 254—89)

This invention relates primarily to a supplemental lifting bar to be used in conjunction with the usual type of automobile lifting jack which is herein termed a knee lift jack bar.

In the development of automobile construction the manufacturers have seen fit to eliminate entirely the front axle and to separately mount the two front wheels on the chassis with springs interposed between the wheels and the body of the car. Heretofore, whenever it was necessary to lift the front end of a car for mechanical inspection, greasing, repair, or the like, the ordinary lifting jack was positioned beneath the front axle at the point desired and the car raised through such contact. With the advent of the above mentioned new development in automobile construction a new problem arose inasmuch as no axle contact was possible. In order to lift the front end of the car, it is necessary to effect a contact with each spring and heretofore this has necessitated two jacks operated independently.

The primary object of this invention is to provide a suplemental bar which may be used in cooperation with the usual types of lifting jacks to effectively raise the front end of automobiles having the new front wheel construction.

Another object is to provide such a bar that will not only permit the usual type of lifting jacks to raise the front of the car but will allow a pair of horses to be placed under the bar at each end after the car has been raised so that the jack may be removed and the car will be safely supported while the necessary work is being done.

Another object is to provide such a supplemental bar that can be inexpensively made and will be adapted to cooperate with lifting jacks of different sizes.

Still a further object is to provide such a device having substantial reinforcement means which will withstand the relatively great weight of the automobile.

Other objects will be apparent from the following detailed description.

In the drawing:

Fig. 1 is a perspective view of the knee lift jack bar cooperating with a jack of ordinary construction to lift the front end of a car constructed without a front axle as above described.

Fig. 2 is a perspective view of the jack bar itself.

Fig. 3 is a central vertical longitudinal section of the jack bar.

Fig. 4 is an inverted plan view.

Fig. 5 is a perspective view of the jack socket member.

Fig. 6 is a cross-section view taken along line 6—6 in Fig. 3.

In detail, 1 is an inverted channel or U-shaped bar of sufficient length having mounted on each end oval contacting cups 2 secured there by means of rivets 3. The bar 1 is humped in the central portion of the middle so that the contacting surface of the cups 2 is substantially in the same level as the center portion of the bar which results in better general balance and strength of the entire assembly and effects low clearance of the spring contacting members so essential in positioning the supplemental bar when on a jack under an automobile of the present low construction. The cups 2 are each provided with downwardly extending hollow lugs 4, the inner one being of greater length than the outer one so that when mounted on the bar, the contacting surfaces of the cups 2 slope downwardly away from the center of the bar and are provided with retaining rims 5, which are of greater height at the lowest edges of the cups and diminish as the surface becomes higher. This corresponds with the characteristic angle of the bottoms of the springs 6 through which the front wheels 7 of the automobile are mounted on the chassis. The rivets 3 extend through the lugs 4.

Extending within the bar 1 between the two contact members 3 is nested a smaller inverted U-shaped channel reinforcing bar 8 which is secured to bar 1 by means of rivets 9 and thus greatly strengthens the jack bar.

A jack socket member 10 has a main body portion 11 of rectangular cross section of a size adapted to snugly fit within the reinforcing channel bar 8 and is formed with opposed inverted step portions 12 at each end which form two different sized sockets 12a and 12b, the number of sockets depending only upon the number of steps provided. This socket member 10 is positioned within the reinforcing bar 8 at a point between the ends of the bar 1 and is secured in that position by a rivet 13 which extends through the body portion 11, the reinforcing bar 8 and the bar 1.

In operation it is only necessary to position a lifting jack of ordinary type, such as 14 in Fig. 1, beneath the front end of the car to be raised, place the herein termed knee lift jack bar on the jack with the lifting head of the jack within the socket member. It should be noted that the structure will accommodate lifting heads of various sizes according to the number of steps provided on the socket member. This being the cen-

ter of the device, it will balance while being raised by the jack until cups 2 contact the lower portions of the springs 6. It is clear that further operation of the jack 14 will effectively raise the front of the car for whatever purpose necessary.

We claim:

1. An accessory for a portable automobile jack comprising an inverted U-shaped bar, coiled spring supporting surfaces adjacent each end of said bar, a reinforcing inverter U-shaped bar nesting within said bar and a multiple size socket nesting midway between the ends of said bar.

2. An accessory for a portable automobile lifting jack comprising an inverted U-shaped bar formed with its ends below the plane of its center portion, spring supporting members secured to each such end of said bar, a reinforcing similarly shaped bar nesting within and secured to said bar and a socket member nesting within such reinforcing bar midway between the ends of said channel bar adapted to receive the lifting head of a jack.

3. An accessory for a portable automobile jack comprising a centrally humped bar with its ends below the plane of the humped portion, spring supporting cup members secured to said bar at each end, a reinforcing bar secured to said bar and a multiple sized socket member secured to said bar at said humped portion adapted to receive the lifting head of a jack.

4. An accessory for a portable automobile jack comprising an inverted U-shaped bar humped in the middle with laterally extending ends below the plane of the humped portion, spring supporting cup shaped members secured to the upper surface of each of said ends, an inverted U-shaped similarly humped reinforcing bar nesting within and secured to said bar and a multiple size socket member adapted to receive the lifting head of a jack nesting within said reinforcing bar at a point midway between the ends of said bar and secured in position by means extending through said bar, said reinforcing bar and said socket member.

5. An accessory for a portable automobile lifting jack comprising a bar, oval spring supporting members secured to the upper surface of said bar adjacent each end with surfaces sloping downwardly away from the center of said bar, retaining rims on said contact members and a multiple size socket on the under surface of said bar midway between its ends adapted to receive the lifting head of a jack.

6. An accessory for a portable automobile jack comprising a centrally humped bar with ends below the plane of the central portion, spring supporting members secured on said bar at each end with upper surfaces sloping downwardly away from the center of the bar and a socket secured to said bar at a point midway between its ends adapted to receive the lifting head of a jack.

7. An accessory for an automobile lifting jack comprising a saddle for resting upon the head of the jack, a transverse bar secured centrally to said saddle comprising opposite extending transverse arms and a pair of spring supporting cup members mounted on the respective outer end portions of the arms, said arms being deflected downwardly so as to position the load supporting surfaces of the cup members substantially at the level of the head of the jack.

8. An accessory for a portable automobile lifting jack comprising a centrally humped bar with ends below the plane of the central portion, spring supporting members secured on said bar at each such end with upper surfaces sloping downwardly away from the center of the bar, retaining rims on said spring supporting members, said bar being provided midway between its ends with retaining means adapted to center the bar upon a lifting jack.

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