Jan. 23, 1968 J. S. MANCINI 3,365,026

TRANSMISSION JACK FOR AUTO LIFT

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Fig. 1.

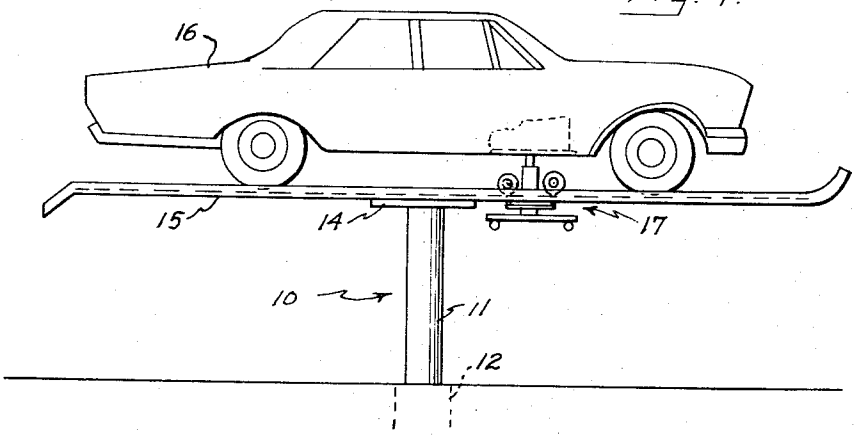
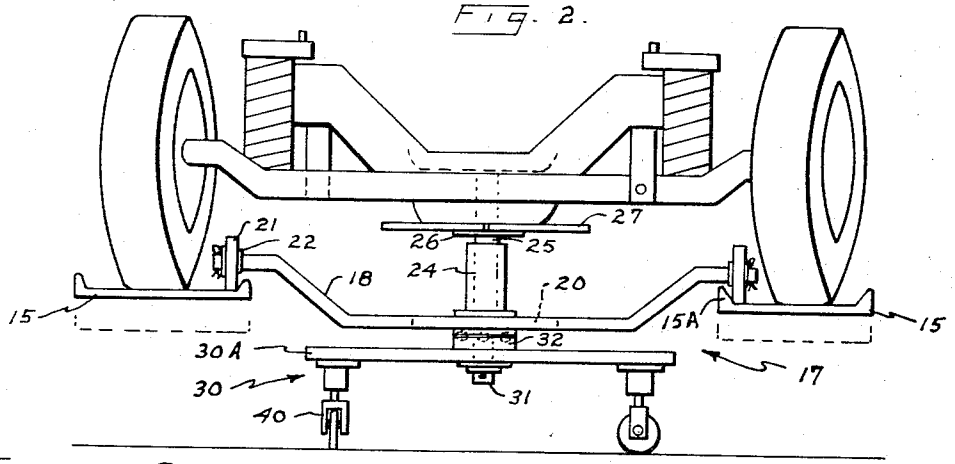


Fig. 2.



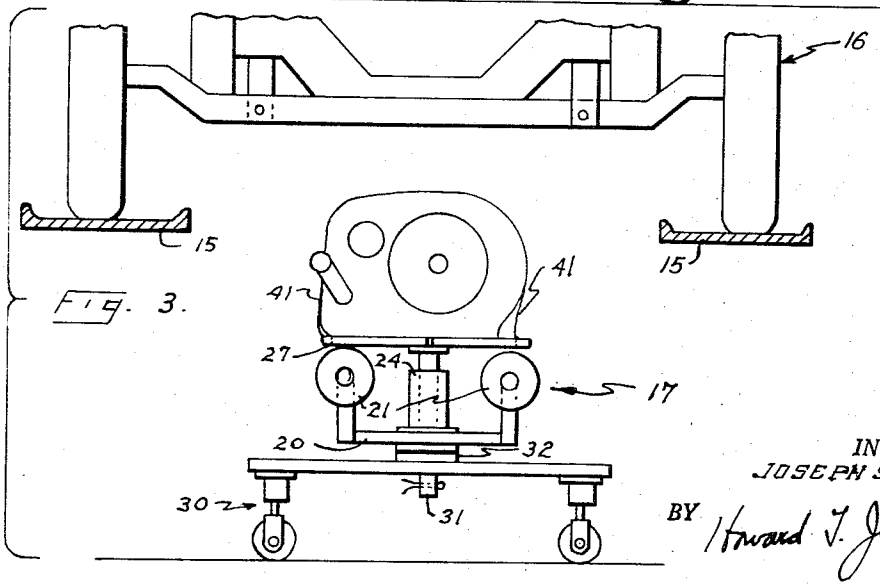


Fig. 3.

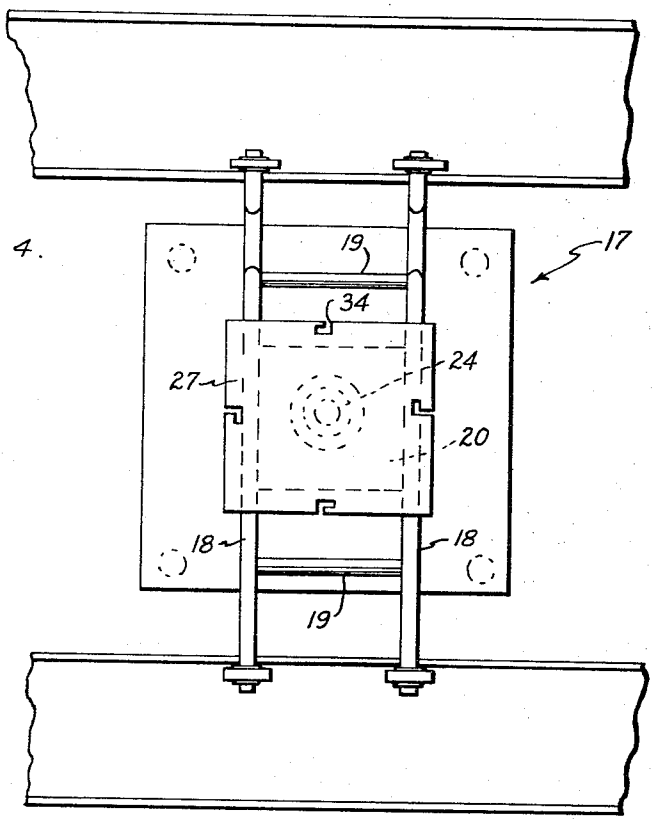
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Fig. 4.



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TRANSMISSION JACK FOR AUTO LIFT

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ABSTRACT OF THE DISCLOSURE

An auto transmission jack as an accessory for an auto lift to support the transmission when released from the auto and permit dropping of the lift and jack until the jack is supported upon the floor on wheels to permit moving the jack and supported transmission away from the lift for repair and re-installing the repaired transmission in the same manner.

The present invention relates to auto jacks and more particularly to a jack to be used with an auto lift that is designed specifically for removing and returning a transmission from or to its normal affixed relationship with the auto engine.

In the removal of a transmission from an automobile for repair or replacement, there is considerable difficulty because of its weight and because it is only accessible from below the auto. Most transmissions are removed by lifting the auto on a typical car hydraulic or electric hoist, so that the mechanic can get under the car to remove all the attaching bolts. The transmission must be supported during the removal, therefore various forms of jacks have been designed for this specific operation. All of these jacks are supported upon the floor and therefore require a long lift or drop as most of the cars are first lifted or jacked up to give the mechanic working space. In view of the considerable weight of the transmission, it must be handled very carefully and the jack must be adequate for the operation. The average garage or service station doing this type of work is equipped with a lift and the car is first positioned upon the lift to provide working space. The car is raised to permit the mechanic to get under the car. To support the transmission during the removal operation, a jack is positioned under it generally supported upon the floor. After the transmission is released from the engine, the jack is lowered to drop it to the floor or in a position for the mechanic to work on it.

The jacks used are generally mounted on a dolly, that is, they are on wheels and movable in any direction to permit rolling the transmission out from under the car. The car may remain upon the lift until the transmission is repaired or replaced and again hoisted into position and bolted in place.

It is an object of this invention to provide a special jack for removal of transmissions from cars in which the jack is supported entirely upon the auto lift during removal or replacement or installation of the transmission.

It is a further object of this invention to provide a special jack for removal of transmission from cars in which the jack is supported entirely upon the auto lift during removal or replacement or installation of the transmission and in which the jack is supported upon a dolly that hangs from the jack when the lift is raised, but contacts the ground when the lift is lowered.

Other objects of this invention shall be apparent by reference to the accompanying detailed description and the drawings in which:

FIG. 1 is a side elevational view of a hydraulic lift supporting a car and the transmission jack,

FIG. 2 is a front elevational view slightly enlarged showing the transmission jack hanging between the runners of a car lift,

FIG. 3 is an exploded elevational view showing the car and lift raised with the transmission jack supported upon a dolly on the ground, and

FIG. 4 is a plan view of the transmission jack supported in a hanging relationship upon the car lift.

Referring to the drawings and particularly FIG. 1 there is illustrated an auto lift **10** which is comprised of a central hydraulically actuated shaft **11** mounted in a hydraulic cylinder **12** in which the shaft **11** supports a cross member **14** and upon which a pair of car supporting runners **15** are mounted in spaced relationship so that a car **16** may be supported upon the air lift **10**. The subject of this invention is a specially designed jack **17** used for the removal of transmission and for the replacement of transmissions. Jack **17** is designed to be used only with an auto lift such as that illustrated. Therefore, referring to FIG. 2, there is illustrated a front elevational view of the transmission jack **17** in which the jack is positioned in a hanging relationship supported between the car supporting runners **15**. Referring to FIGS. 2 and 4 jack **17** is comprised of a pair of rods **18** positoned in spaced relation and joined by reinforcing rods **19** to provide a supporting frame for said jack. A plate **20** is positioned centrally between rods **18** and rigidly affixed or welded thereto. At either end of each rod **18** there is provided a wheel **21**. Wheel **21** is retained on shaft **18** by a cotter pin and may be held in this position by a collar **22** on shaft **18**. Wheels **21** are spaced to fit upon the runners **15** and preferably to fit upon the tread of the runner **15** within the raised side portion **15A**. Thus the framework of the jack is positioned in a rolling relationship upon the two runners **15**. Plate **20** supports a hydraulic jack **24** in a central position, the base of jack **24** being affixed or welded to plate **20**. Jack **24** is provided with a piston **25**. Piston **25** at its upper end is provided with a plate **26**, plate **26** being affixed or welded to a special transmission supporting plate **27**. A dolly **30** is rotatably supported under plate **20**, that is, plate **20** is provided with a downwardly projecting shaft **31**. A bearing **32** is mounted on shaft **31** and dolly **30** is mounted under bearing **32** with shaft **31** passing through the supporting platform **30A** of dolly **30**. The shaft **31** may be pinned or affixed as illustrated to retain dolly **30** in a rotatable supporting position for the jack **17**. It is to be understood that the dolly **30** is of a standard type in which there is platform **30A** and a swivel wheel **40** mounted at each corner of platform **30A** thus permitting dolly **30** to be rolled in any direction upon the floor when the jack is dropped to the floor. The transmission supporting plate **27** is specially designed, that is, it is provided with L shaped cutout keys **34** in opposed relation and centrally positioned on each side of plate **27** so that when plate **27**, as in FIG. 2, is raised to abut with the lower surface of a transmission, a pair of chains or cables **41** may be passed around the transmission and each end of the cable may be secured in the L shaped key **34** simply by providing an enlarged end on the chain or cable. One or two cables may be used as desired to strap the transmission firmly upon plate **27**. In operation a car **16** may be lifted to an appropriate working position and jack **17** may be rolled along the runners **15** so that plate **27** may be raised to a supporting position under the transmission of a car. In this position the bolts and all connections for the transmission may be removed and the hydraulic jack **24** may be lowered dropping the transmission. With the transmission free of all attachments to the car, the mechanic may step out from under the lift and drop the lift **10** until the dolly **30** rests upon the ground supporting the transmission. The framework of the jack **17** must then be rotated so that wheels **21** are removed from runners **15**. The lift **10** may then again be raised leaving the dolly supported transmission jack and

the transmission upon the ground where it may be rolled to any desired spot for repair. In a reverse sequence the repaired transmission or a new transmission may be positioned upon the plate **27** and firmly retained in position by cables or chains **41** and with the car **16** in a raised position on lift **10**, the dolly **30** may be rolled to an approximate position below the car. The lift may be lowered and the dolly **30** may be moved as desired so that the transmission falls into line with its intended position and when the runners **15** of the lift **10** are low enough as illustrated in FIG. 2, the framework of the jack may be rotated so that wheels **21** will be in the position as illustrated in FIG. 2 and the lift may then be raised thus lifting the transmission jack and its supporting dolly off the floor and the lift may be raised to a desired height for the mechanic. In the position as illustrated in FIG. 1, the hydraulic jack **24** may be actuated to lift the transmission into an exact position for installation of all of the necessary attachments. At the same time, the whole jack may be moved forward or rearward on the runners **15** to assist in the positioning of the transmission for attachment. When the transmission is attached, jack **24** may be dropped and the lift **10** may be dropped. As soon as dolly **30** contacts the floor, the framework may be turned releasing wheels **21** from runners **15** and by slightly lifting lift **10**, the transmission jack **17** may be rolled out of the way. The lift may then be dropped to the floor and the car removed from the lift.

Although we have shown a particular type of hydraulic lift, the transmission jack may be used with any lift where the car is supported upon a pair of runners and although we have shown a hydraulic jack mounted upon the transmission jack, any type of jack, whether hydraulic or mechanical, may be utilized and although we have shown a particular form of plate for attachment of the transmission, other forms of transmission plates may be utilized

without departing from the spirit of this invention and although we have shown one form of dolly to support the transmission jack, any form of dolly may be utilized without departing from the spirit of this invention and this invention shall be limited only by the appended claims.

What is claimed is:

1. In combination a jack and auto lift in which said jack is specifically designed for removal of the transmission of an auto, said auto lift having two spaced runners to support a car, said jack supported upon a hanging platform that spans the space between runners of said auto lift, said jack and hanging platform affixed to a dolly, means to lift said jack with an auto upon said lift, means to position said jack under the transmission of said auto and raise said jack to support said transmission, means to lower said transmission when it has been detached from said auto, means to support said jack and transmission upon said dolly when they are lowered to the ground, means to release said hanging platform from said auto lift and raise said auto lift to clear said jack and supported transmission.

2. In a device according to claim **1** in which said hanging platform is rotatably affixed to said dolly.

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