March 26, 1957 A. H. BOTTORFF 2,786,650

INVERTIBLE LIFT MEMBER WITH SLIDABLE JACK HEAD

Filed July 11, 1955 2 Sheets-Sheet 1

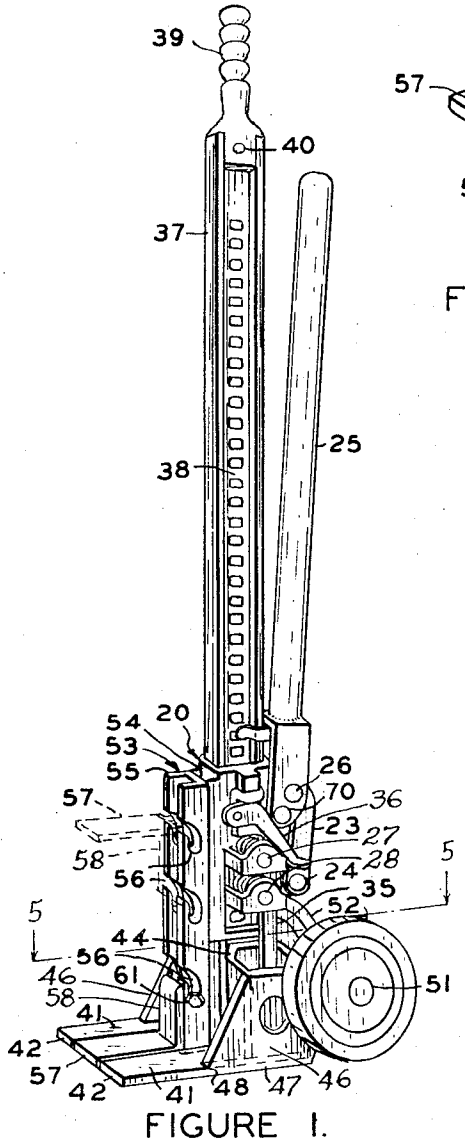

FIGURE 1.

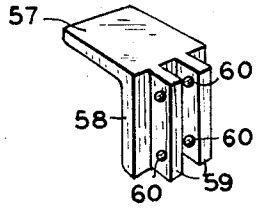

FIGURE 3.

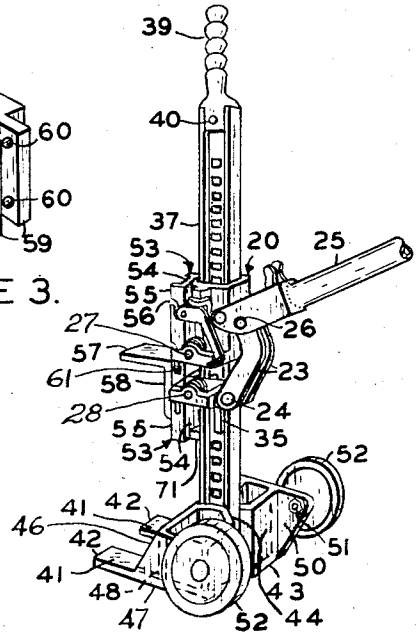

FIGURE 4.

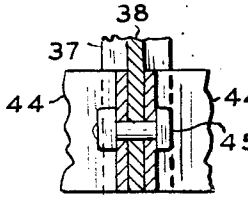

FIGURE 2.

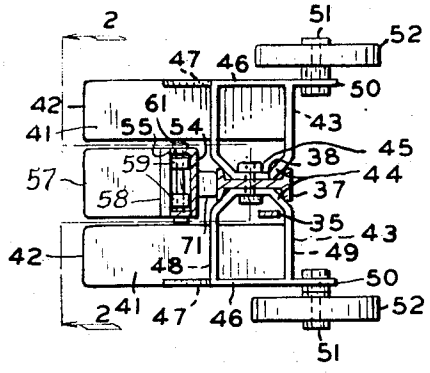

FIGURE 5.

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INVERTIBLE LIFT MEMBER WITH SLIDABLE JACK HEAD

Filed July 11, 1955 2 Sheets-Sheet 2

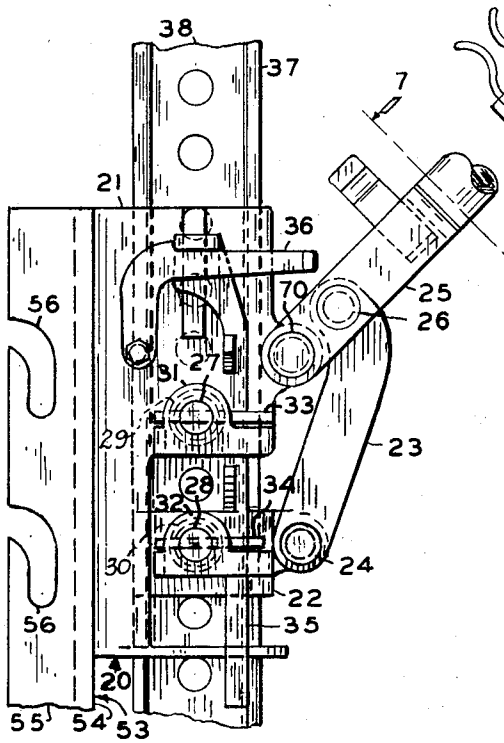

FIGURE 6.

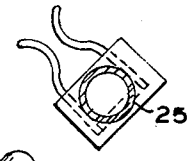

FIGURE 7.

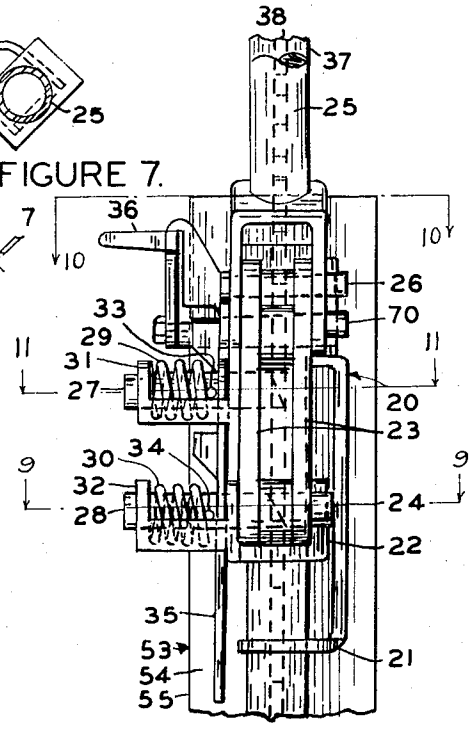

FIGURE 8.

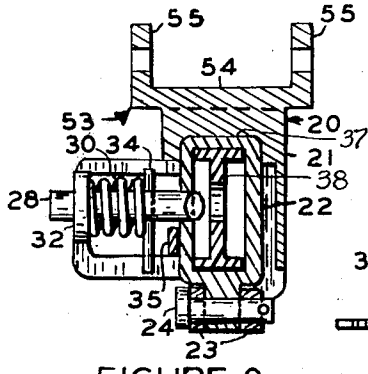

FIGURE 9.

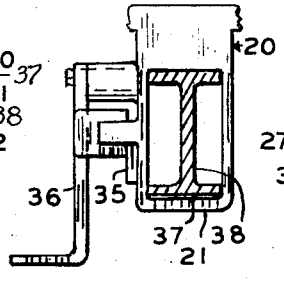

FIGURE 10.

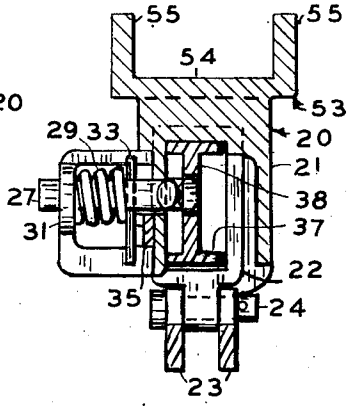

FIGURE 11.

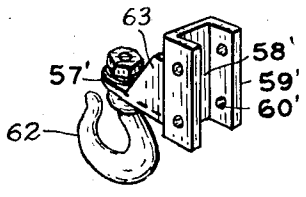

FIGURE 12.

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2,786,650

INVERTIBLE LIFT MEMBER WITH SLIDABLE JACK HEAD

Albert H. Bottorff, St. Joseph, Mo.

Application July 11, 1955, Serial No. 521,249

1 Claim. (Cl. 254—134)

This invention relates to an improvement in a jack and more particularly to an invertible lift member with means for rapid primary adjustment.

An advantage of the present improved invention is to provide a slidable jack head with a front vertical channel shape member secured thereto and extended below the jack head and have means to receive an invertible lift member. The invertible lift member or plate may be manually and rapidly changed from a lowered floor level position on the channel shape member so as to be inserted below an article to be lifted, to a selected position of vertically spaced support positions on the channel for different types of objects to be lifted or lowered.

With this primary advantage the improved invertible lift member with the slidable jack head will be more fully understood from the accompanying drawings, this specification and the claims appended.

In the drawings:

Figure 1 is a perspective view of the improved jack illustrating the front and left side thereof, the base plates and lift means or plate being on the floor in the lowered position.

Figure 2 is an enlarged sectional fragmentary view taken on lines 2—2 of Figure 5 rotated clock-wise 90 degrees to illustrate the lower portion of the perforated web of the jack post in an upright manner bolted to the support plates.

Figure 3 is a perspective view illustrating the lift means or lift plate in an inverted position, from that shown in Figure 1, with the integral upright member turned downward and the connection ribs projected therefrom.

Figure 4 is a perspective view of the improved jack illustrating the left side and rear thereof, the lift member being in the inverted position and the slidable head raised to an intermediate height on the jack post.

Figure 5 is a sectional view taken on lines 5—5 of Figure 1 and rotated clock-wise a few degrees to illustrate a plan view of the pair of base plates with support plates secured thereto and bolted to the section of the jack post, the sideplates and wheels are secured thereto.

Figure 6 is an enlarged side view of the slidable jack head mounted on a fragment of the jack post, and part of the jack handle is broken away.

Figure 7 is a sectional view taken on lines 7—7 of Figure 6 illustrating only the latch and a portion of the jack handle.

Figure 8 is a rear view of the slidable jack head with a portion of the jack post being broken away above and below the slidable jack head.

Figure 9 is a sectional view taken on lines 9—9 of Figure 8 with the climbing pin withdrawn from the jack post web.

Figure 10 is a sectional view taken on lines 10—10 of Figure 8 illustrating only the upper portion of the slidable jack head with other parts being broken away.

Figure 11 is a sectional view taken on lines 11—11 of Figure 8 with the upper climbing pin withdrawn from the jack post perforated web.

Figure 12 is a perspective view of a lift member being a hook attached thereto to illustrate the use of other kinds of lifting apparatus for various types of loads.

The slidable head 20 preferably comprises; the slidable housing 21, slidable guide member 22, toggle links 23 having one end of each thereof pivotally connected to slidable guide member 22 at 24 and the opposite end thereof being pivotally connected to lever 25 at 26, the lever 25 pivotally connected to slidable housing 21 on pin 70, engageable climbing pin 27 slidably retained in housing 21, engageable climbing pin 28 slidably retained in guide member 22, compression springs 29 and 30 being around the engageable climbing pins 27 and 28 respectively and being confined between the bracket ends 31 and 32 respectively and actuator pins 33 and 34 respectively, reversing cam member 35, reversing lever 36, and the actuating parts for moving the lift member upwardly, downwardly, or support the lift member on the upright jack post 37 by the engageable climbing pins 27 and 28. These parts are all old and are associated with the invention to illustrate an operable jack slidable head 20. Other types of operable jack heads may be used without departure from the improved invention.

The upright jack post 37 is provided with the usual perforated web 38 for the climbing pins 27 and 28. An upright handle 39 is attached to the upper portion of the upright jack post 37 with the bolt or rivet 40. The handle projects above the post 37 and both are preferably aligned by means of their longitudinal axes. A person may grasp this handle with one hand and lift it for changing locations thereof and the handle is also convenient for pulling or pushing the jack on its wheels 52.

A pair of flat, horizontal and elongated base plates 41 are spaced parallel, the front ends 42 thereof being designated the toe and the opposite ends 43 being designated the heel. A pair of support plates 44 are each bent flatwise into a U shape. Each support plate has the curved portion of the U shape secured to the lower end of the jack post perforated web 38 by bolt 45. The pair of U-shaped support plates 44 are bolted on opposite sides of the jack post perforated web 38. A pair of side plates 46 are provided with one located along the outside longitudinal edge 47 of each base plate 41. The front lower edge 48 of each support plate 44 is located intermediately between the toe 42 and heel 43 of the respective base plate 41 and the rear lower edge 49 of the support plate is located along or near the heel 43. The support plates 44 have their outer ends secured to the side plates 46 and the lower edges secured to the base plates 41. The lower edges of the side plates 46 are secured to the respective base plates along the outer edges thereof with the front edge of each located intermediately between the toe and the front of the U-shaped support plates. The side plates 46 continue rearwardly at 50 past the support plates 44 and each is provided with a stub axle or bolt 51 projected outward sidewise or transversely to support a wheel 52. The plates are all secured together or attached preferably by welding or may be cast together without departure from the invention.

The stub axles or bolts 51 are located above the bottom of the base plates 41 a greater distance than the outside radius of the wheels 52 so that the jack may rest on the base plates 41 when in an upright position and being used to raise or lower objects.

An upright channel 53 having a web 54 spacing its flanges 55 is secured to the slidable jack head 20. The web 54 is secured by casting or welding to the front of the jack head 20 and the flanges 55 are projected forward. The top of the web 54 has flanges 55 secured to the upper portion of the slidable jack head 20 and the channel 53 extends downward below the bottom of the slidable jack head 20 a sufficient distance to touch the floor or pave-

ment on which the base plates rest when the slidable jack head **20** is lowered on the jack post and positioned above the support plates **44**.

The flanges **55** of the channel **53** are provided with holes, openings or preferably slots **56** aligned in horizontal pairs and spaced vertically for quick major adjustment without using the jack handle.

The lift means or plate **57** is flat, horizontal and has an upright member **58** secured thereto and provided with projected upright ribs **59** preferably arranged to enter between the flanges **55**. However the ribs may be positioned outside of the channel if desired. This lift means **57** is designated upright as illustrated in Figure 1 and inverted as illustrated in Figures 3 and 4. Holes **60** are aligned horizontal in the ribs and are spaced near the ends of the ribs to receive the bolt **61** in the upper holes **60** of the ribs **59** whether the lift means is upright or inverted. The bolt **61** is sufficiently long enough to enter the slots **56** and support the lift member either in an upright or an inverted position. A space lug **71** is secured to the lower portion of channel **53**.

Figure 12 illustrates a modified form of the lift means. The lift means plate **57'** is preferably flat, horizontal and has an upright member **58'** secured thereto and is provided with upright ribs or flanges **59'** preferably arranged to enter between the flanges **55**. Holes **60'** are aligned horizontally in the flanges or ribs **59'** and are spaced near the ends of the flanges or ribs to receive the bolt **61** in the upper holes **60'**. A hook **62** is secured to the plate **57'** for a modified form of lift means. A gusset plate **63** is secured to plate **57'** and upright member **58'**.

It is obvious that the lift member may be quickly changed in elevation by means of the bolt **61** and slots **56** in the channel flanges **55** to facilitate a quick adjustment. The jack may be tilted on the heel thereof to be supported on the wheels **52** for moving about the floor or pavement.

What I claim as new and desire to secure by Letters Patent, is:

An invertible lift member comprising: a vertical elongated plate, a horizontal plate, said horizontal plate being secured to one side of said vertical plate near one end thereof, vertical ribs, said vertical ribs being secured to the opposite side of said vertical plate, said vertical ribs having spaced transverse holes therethrough, a bolt, said bolt being in the upper spaced holes of said ribs, a slidable jack head, a pair of upright flanges projected from said slidable jack head, said pair of upright flanges having transverse openings therein spaced vertically, said bolt being sufficiently long enough to engage selected openings in said upright flanges, and the openings in said upright flanges detachably securing said bolt in said upright flanges.

References Cited in the file of this patent

UNITED STATES PATENTS

1,038,520	Beck	Sept. 17, 1912
2,504,201	Johnson	Apr. 18, 1950

FOREIGN PATENTS

697,233	Great Britain	Sept. 16, 1953
720,133	Great Britain	Dec. 14, 1954