April 27, 1954 E. O. McKINNEY 2,676,835

ADJUSTABLE CARRIER

Filed Nov. 28, 1951

FIG. 1.

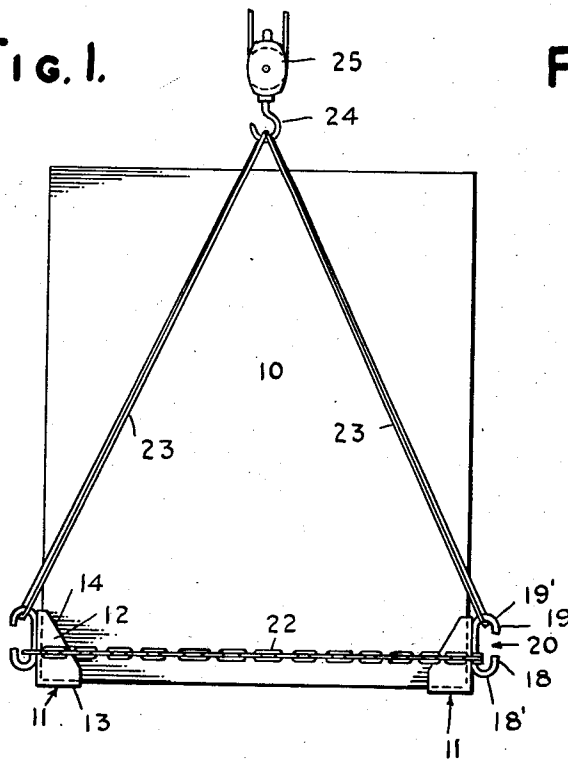


FIG. 2.

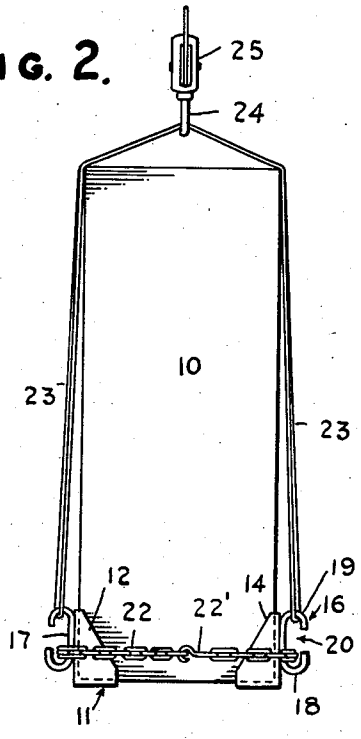


FIG. 3.

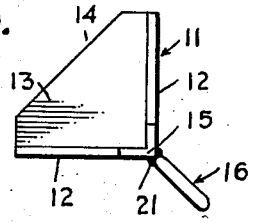


FIG. 5.

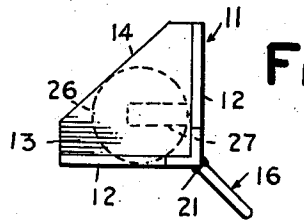


FIG. 4.

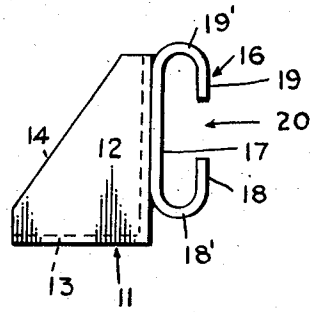
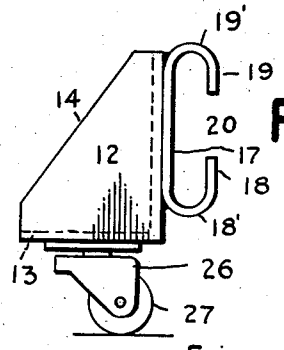


FIG. 6.



INVENTOR.
ELDON O. McKINNEY

BY B. P. Wilburn

ATTORNEY

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ADJUSTABLE CARRIER

Eldon O. McKinney, Palm Springs, Calif.

Application November 28, 1951, Serial No. 258,640

3 Claims. (Cl. 294—74)

1

My invention relates to an adjustable carrier for hoisting or transporting loads.

An important object of the invention is to provide a carrier of the above-mentioned character which is highly simplified and is readily adjustable for accommodating loads of different sizes and weights.

A further object of the invention is to provide a carrier of the above-mentioned character which may be conveniently and quickly applied to and removed from the load to be manipulated.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are employed to designate like parts throughout same,

Figure 1 is a side elevation of a carrier embodying my invention showing the same applied to a load,

Figure 2 is an end elevation of the same,

Figure 3 is a plan view of one of the corner sockets or brackets included in the carrier,

Figure 4 is a side elevation of the same,

Figure 5 is a plan view of a socket or bracket embodying a modified form of the invention,

Figure 6 is a side elevation of the same.

In the drawing, where for the purpose of illustration are shown preferred embodiments of my invention, the numeral 10 designates a load or object to be raised or transported. This load 10 is illustrated in the form of a rectangular casing holding the material. The carrier comprises corner sockets or brackets 11, each of which includes vertical sides 12, disposed at right angles to each other and a horizontal bottom 13. The sides and bottom are preferably integral. The vertical sides 12 have diagonal free edges 14, as shown. The sockets or brackets 11 may be formed of metal and may be in the form of a casting or may be stamped from sheet metal, if desired. The sides 12 are disposed at right angles to each other as stated, providing an apex or corner 15 and a C-shaped keeper or loop 16 is provided including a closed inner side 17 and outer sides 18 and 19, spaced to form a passage 20. The keeper or loop has an upwardly bent or facing bottom 18', and a downwardly bent or facing top 19', as shown. The side 17 of the keeper or loop is rigidly secured to the apex 15 of the bracket by welding, as shown at 21, although it may be secured by any suitable means. The keeper or loop is vertically arranged and the top 19' of the loop is near the top of the bracket 11

2

while its bottom 18' is at an elevation above the bottom 13.

In use, the sockets or brackets 11 receive the corners of the load or casing 10 at the bottom of the load, and the load rests upon the bottoms 13. A horizontal flexible element 22, illustrated as a chain, is inserted through the passages 20 and engages within the keepers or loops 16. The flexible element may be a continuous chain extending around the load and the sockets or brackets 11 and having its ends detachably connected by means of a hook 22' or the like. Instead of employing a chain 22, it is obvious that I may employ a cable, strap or other flexible element which extends horizontally around the load and sockets or brackets and has its ends detachably connected. The bottoms 18' prevent the downward displacement of the flexible element or chain 20.

As more clearly shown in Figures 1 and 2, the numeral 23 designates flexible suspension element, preferably in the form of elongated loops and which may be formed of cables or other flexible elements. Two of these loops may be arranged upon each side of the load 10 and diverge downwardly and the lower ends of these loops receive the tops 19'. The upper ends of the loops 23 receive a hook 24 carried by a hoist 25.

In view of the foregoing discussion, it would be seen that the sockets or brackets 11 may be applied to the corners of the load 10 and held thereon by the horizontal flexible element 22, which is adjustable within wide limits, to compensate for the difference in size of the load. The loops 23 connect the keepers 16 with the hoist 25 whereby the load may be raised and shifted or transported, as desired.

In Figures 5 and 6, I have shown a modified form of corner bracket or socket. In this form of the invention, a caster 26 having a wheel 27 is arranged beneath and attached to the bottom 13 to rotate upon a vertical axis. When the sockets or brackets are equipped with the casters, the load may be pushed along the floor or roadbed since the load would be supported upon wheels 27 of the casters. The same horizontal flexible element 22 is used to retain the sockets or brackets in position upon the corners of the load. Any suitable form of hoist may be used in connection with the sockets or brackets equipped with the casters 26, and I may use the loops 23 and hoist 25 or I may use the loops 23 or other flexible elements corresponding to these loops which may be connected with handles to be manually manipulated in raising and transporting the load. The

manual manipulation of the load is of course used when the load is relatively light, such as a refrigerator. All other parts of the sockets or brackets remain identical with those shown in the first form of my invention.

I wish it understood that my lifting apparatus may be used with loads of greatly varying size and weight. I contemplate constructing my apparatus for use in connection with loads varying between one hundred pounds to fifty tons. The sockets or brackets 11 will be made in different sizes and strengths depending upon the size and weight of the load.

It is to be understood that the forms of my invention herewith shown and described are to be taken as preferred examples of the same and that various changes in the shape, size and arrangement of parts may be resorted to, without departing from the spirit of my invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A lifting apparatus comprising sockets for receiving the corners of a load, substantially C-shaped keepers, each substantially C-shaped keeper being substantially vertically arranged and including a closed side and an upwardly extending bottom and a downwardly extending top, the top and bottom having outer sides having their inner ends spaced to provide a passage, one keeper being rigidly mounted upon each socket, a horizontal flexible element to be passed through the passages and to extend about the load and sockets and arranged within the keepers and held against downward displacement by the bottoms, and suspension elements engaging the tops of the keepers.

2. Lifting apparatus for substantially rectangular loads comprising separate socket elements for engagement with the lower corners of the rectangular load and free from direct connection and shiftable bodily toward and from each other, each socket element including a pair of upstanding side walls arranged substantially at right angles and a bottom substantially horizontal wall integrally secured to the side walls, substantially C-shaped elements secured to the side walls of said socket elements and arranged substantially vertically and having side openings and upper and lower ends, and a substantially horizontal flexible element passable through the side openings of the C-shaped elements and surrounding the side walls of the socket elements and load and held against downward movement by the lower ends of said C-shaped elements, the upper ends of the C-shaped elements being adapted to engage flexible suspension means for the apparatus.

3. Lifting apparatus for substantially rectangular loads comprising separate socket elements for engagement with the lower corners of the load and free from direct connection and shiftable bodily toward and from each other, each socket element including a pair of upstanding side walls arranged substantially at right angles and a bottom substantially horizontal wall integrally secured to the side walls, substantially C-shaped elements secured to the side walls at the junctions thereof and arranged substantially vertically and having side openings and upper and lower ends, a substantially horizontal flexible element passable through the side openings and surrounding the side walls of the socket elements and the load and held against downward movement by the lower ends of the C-shaped elements, and flexible suspension means passable through the side openings and engaging the upper ends of the C-shaped elements.

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