

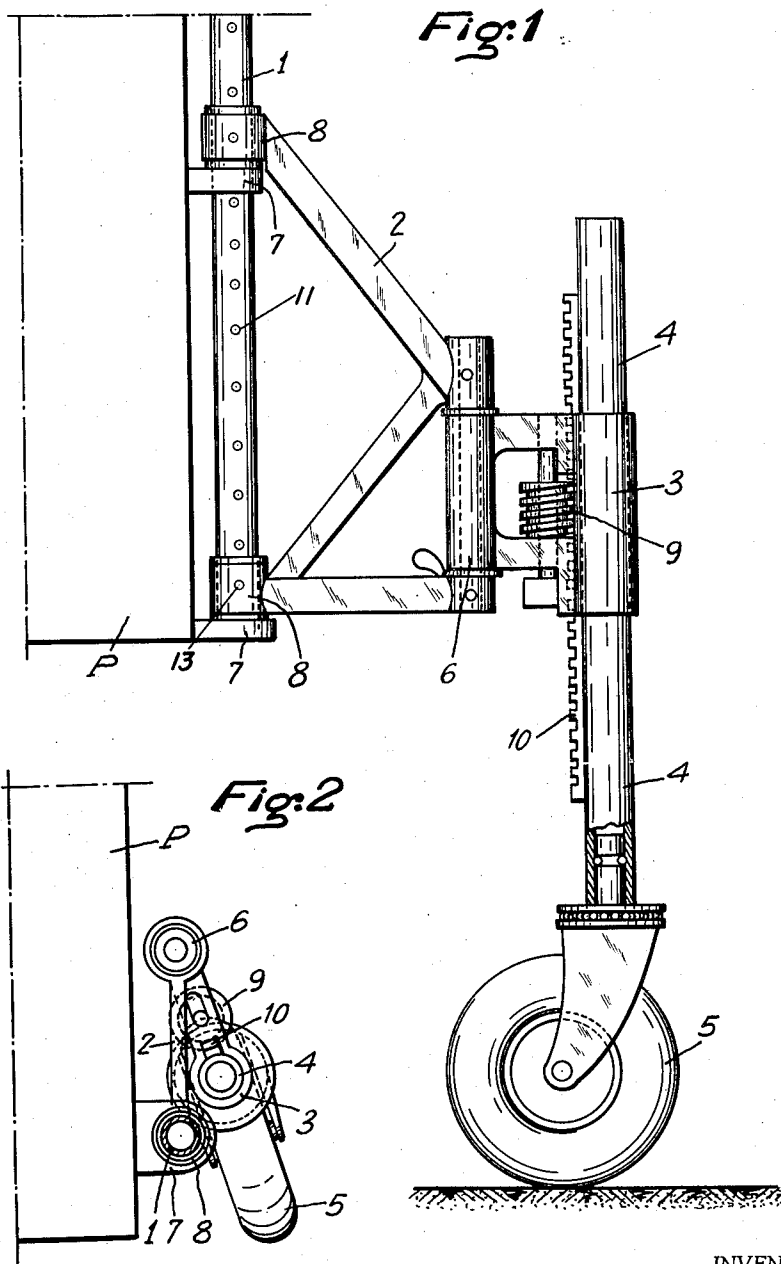
June 26, 1962

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3,041,083

DEVICE FOR SHIFTING NORMALLY STATIONARY LOADS

Filed June 8, 1959



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DEVICE FOR SHIFTING NORMALLY STATIONARY LOADS

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Filed June 8, 1959, Ser. No. 818,898
4 Claims. (Cl. 280—43.21)

My invention has for its object an arrangement for shifting normally stationary parts by providing autonomy for loads such as containers or shelters with a view to furthering their handling, loading, unloading, rolling or storing without resorting to handling apparatus such as cranes, winches, and the like.

My invention consists in movable systems associated transiently or permanently with a load, each movable system being adapted to rock round the axis of a vertical spindle carried by the load and also to slide vertically with reference to said spindle.

I have illustrated by way of example in the accompanying drawing a preferred embodiment of my invention.

In the said drawing:

FIG. 1 shows such a movable system carrying the load above its normal support constituted by the ground.

FIG. 2 shows the same system in plan view when folded against the load.

My invention consists in associating with a load P at least one movable system adapted to rock round the axis of a vertical spindle 1 secured to the load, said system being adapted also to slide vertically along said spindle.

Said movable system includes a bracket 2 connected by means of a hinge 6 to the sleeve 3 inside which slides vertically a tubular member 4 carrying advantageously at its lower end a wheel or roller 5.

In practice, two vertical shifting movements may be obtained respectively through a sliding of the whole movable system along the carrier spindle 1 and through a shifting of the tubular member 4 inside the sleeve 3.

As to angular movement, a first angular shifting is obtained through a rotation of the movable system round the spindle 1 and a further shifting through a rotation of the sleeve 3 round the hinge 6.

The spindle 1 is removably secured to the load P inside the supports 7 forming thrust members. Holes 11 are provided in spindle 1.

Sleeves 8 are fitted over the spindle 1 and adapted to allow a pivotal movement and a sliding movement of the bracket 2 rigid with said sleeves, to be executed with reference to the spindle 1. Sleeves 8 have holes 13 therein to align with holes 11 so that a pin can be inserted there-through to lock bracket 2 in a predetermined position on spindle 1.

These various sliding and pivotal movements allow, in addition to a reduction in bulk, the execution in certain cases of various operations positioning the wheels simultaneously or separately in different positions, to wit:

This movable system being unfolded through 180° with reference to its position when collapsed into contact with the load and set in the position illustrated in FIG. 1, the wheels are spaced with reference to the load by the length of the movable systems so as to leave room for the passage of a lorry or truck platform which may thus pass underneath the load and be loaded thereby or conversely the unloading of such a platform may be obtained through the reverse sequence of operations.

My invention shows the novel feature according to which the vertical adjustment of the load is ensured by a worm 9 which is preferably disconnectable and meshes with a rack 10 rigid with the tubular member 4 or otherwise. The movable system may also be controlled by any

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mechanical or hydraulic means adapted to make it slide along the spindle 1. Such control means may also be replaced by a worm or equivalent means such as cables, chains, or the like.

It should be remarked that the movable system may be collapsed or folded through the agency of one or more hinges whereby a larger number of positions are available for the wheels with reference to the load.

The raising and lowering operations may be executed either with reference to spindle 1 secured to the load or in registry with the outer parts 3—4 of the movable system.

These operations may be executed by hand, by a worm and rack system, by cables and pulleys, by chains, hydraulic means and the like.

Locking means may also be provided at different points to prevent rotation or sliding with a view to holding fast the different movable systems at the desired positions.

Lastly, it should be mentioned that the pivotal head for the fork-carrying wheel 5 has a cross-section such that it may be fitted as well at the lower end of the tubular member 4 and at the lower end of the upright or spindle 1, ball bearings and locking means co-operating with said head in either position.

What I claim is:

1. A device for shifting loads normally at rest, comprising at least one movable system including a first vertical member engaging the load, a bracket pivotally mounted on said first vertical member and adapted to be adjustably shifted vertically thereof, a sleeve pivotally mounted to said bracket and spaced with reference to said first vertical member, a second vertical member slidably carried in said sleeve, rolling means at the lower end of said second vertical member, and means on said device for controlling the vertical location of said second vertical member to urge the latter vertically with reference to said first vertical member.

2. A device for shifting loads normally at rest, comprising at least one movable system including a first vertical member engaging the load, a bracket pivotally mounted on said first vertical member and adapted to be adjustably shifted vertically thereof, a sleeve pivotally mounted to said bracket and spaced with reference to said first vertical member, a second vertical member slidably carried in said sleeve, rolling means at the lower end of said second vertical member, and a rack-and-worm connection between said sleeve and said second vertical member for adjusting the vertical position of the bracket with reference to the rolling means on said second vertical member.

3. Means for the displacement of a load normally stationary comprising a plurality of removable devices adapted to engage the load, each device comprising a first shaft disposed vertically and secured on the side of the load, a first support adapted to be vertically displaced along this shaft and pivoting about the same, two stops mounted on said first shaft and removably mounted on the load, a sleeve pivotally mounted about a vertical second shaft integral with said first support at a distance from said first shaft, said sleeve integral with a second support, a third vertical shaft terminating at its lower end with a removable fork pivotally supporting a wheel, said third shaft slidably mounted in said second support, and control means on said second support vertically displacing said second support relative to said third vertical shaft.

4. Means according to claim 3 wherein said control means consists of a worm mounted on said second support and a rack mounted on said third vertical shaft.

(References on following page)

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References Cited in the file of this patent

UNITED STATES PATENTS			
322,167	Drew	July 14, 1885	2,597,386
1,767,470	Mitchell	June 24, 1930	2,605,117
1,782,610	Green	Nov. 25, 1930	2,626,814
2,031,181	Smith	Feb. 18, 1936	2,749,137
2,137,541	Muffly	Nov. 22, 1938	568,486
			585,133

4

Schmid	May 20, 1952
Hooz	July 29, 1952
Chamberlain	Jan. 27, 1953
Thomsen	June 5, 1956

FOREIGN PATENTS

Germany	Sept. 25, 1930
Germany	Oct. 10, 1933