March 11, 1958 W. A. POSEHN 2,826,322

BARREL LIFTER ATTACHMENT FOR FORK LIFT TRUCKS

Filed April 30, 1956 2 Sheets-Sheet 1

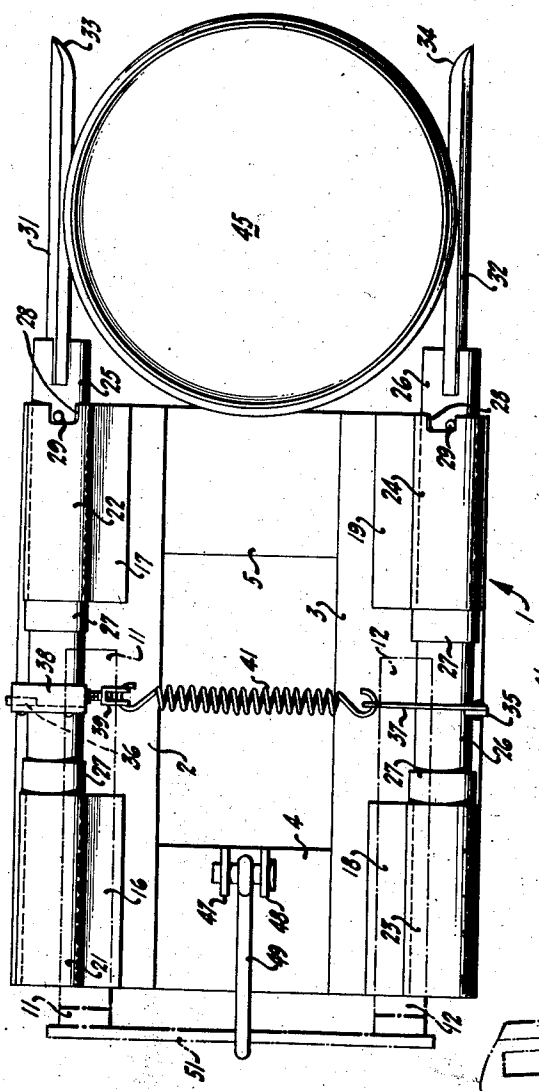


FIG-1

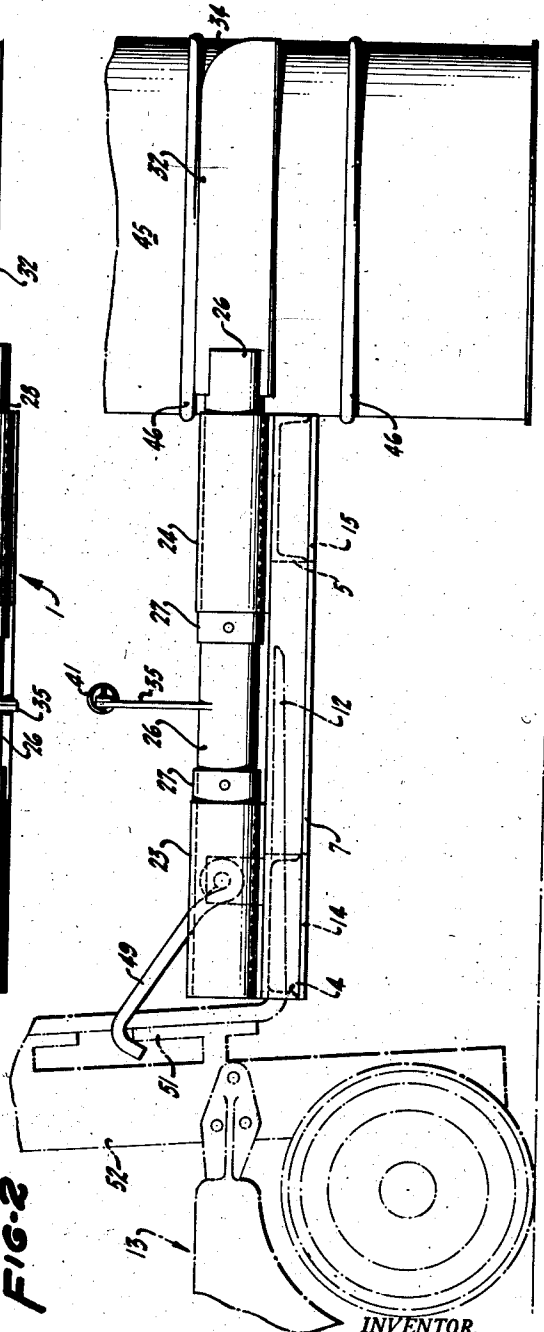


FIG-2

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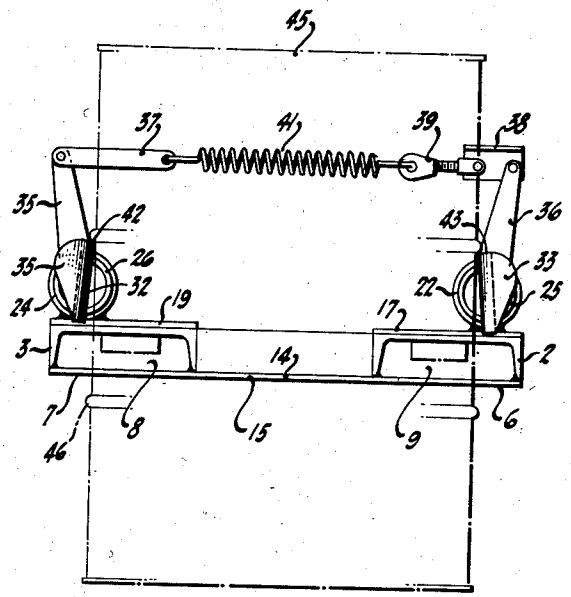



FIG-3

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# BARREL LIFTER ATTACHMENT FOR FORK LIFT TRUCKS

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5 Claims. (Cl. 214—620)

This invention relates to and in general has for its object the provision of a barrel lifter attachment for fork lift trucks.

Although lift trucks are presently available wherein the usual forks have been replaced by barrel lifting clamps, such equipment cannot be used as a lift fork truck without first disassembling the lifting clamps and re-equipping the truck with forks.

More specifically, the object of this invention is the provision of a barrel lifter attachment which can be engaged by the forks of a lift truck in exactly the same fashion as a pallet, and then detachably secured to the mast of the truck.

A further object of this invention is the provision of a barrel lifter attachment comprising a frame or platform provided with fork-receiving entryways and with a pair of parallel, spring biased, rotatable arms or rails extending outwardly therefrom and arranged to snugly straddle an upright barrel at a point beneath one of its circumferential beads or corrugations.

The invention possesses other advantageous features, some of which, with the foregoing, will be set forth at length in the following description where that form of the invention which has been selected for illustration in the drawings accompanying and forming a part of the present specification, is outlined in full. In said drawings, one form of the invention is shown, but it is to be understood that it is not limited to such form, since the invention as set forth in the claims may be embodied in other forms.

Referring to the drawings:

Fig. 1 is a top plan plan view of a barrel lifter attachment embodying the objects of my invention.

Fig. 2 is a side elevation of the attachment illustrated in Fig. 1.

Fig. 3 is a front elevation of my attachment shown in its operative position about a barrel.

The attachment as shown in these various figures comprises a fabricated, generally rectangular platform or frame, generally designated by the reference numeral **1**, including a pair of parallel, transversely spaced, downwardly facing channels **2** and **3** welded at their ends to a pair of parallel, transversely extending and intervening, downwardly facing channels **4** and **5**. Welded over the lower open faces of the channels **2** and **3** are plates **6** and **7**, thereby forming longitudinally extending, closed forkways **8** and **9** for the reception of the conventional fork tines **11** and **12** of a conventional fork lift truck **13**. Similarly welded over the open faces of the transverse channels **4** and **5** are stiffening plates **14** and **15**.

After welding to each of four rectangular plates **16**, **17**, **18**, and **19** cylindrical bearing sleeves **21**, **22**, **23**, and **24**, the two sets of pairs of plates **16** and **17**, and **18** and **19**, are welded to the top faces of the channels **2** and **3**, each pair of sleeves **21** and **22**, and **23** and **24**, being coaxially aligned and axially spaced. Here it is to be noted that the intermediate plates **16**, **17**, **18**, and **19** are resorted to simply for the reason that it is easier to first



weld the sleeves to the plates, and then the plates to the channels, rather than to weld the sleeves directly to the channels.

Journaled in each pair of coaxial sleeves **21** and **22**, and **23** and **24**, are cylinders **25** and **26**, and affixed to each of these cylinders immediately adjacent the inner ends of the sleeves are stop collars **27** serving to prevent the cylinders **25** and **26** from moving longitudinally within their bearing sleeves.

Formed in the forward end of each of the forward sleeves **22** and **24** is a notch **28** of predetermined length, and receivable and movable within the limits of each notch **28** is a pin **29** secured to and extending radially from each of the cylinders **25** and **26**.

Secured to the forward protruding ends of the cylinders **25** and **26** are flat, parallel arms or rails **31** and **32** formed with outwardly flaring or beveled ends **33** and **34**. Here it should be noted that the transverse distance between the two rails **31** and **32** when their flat, inner sides lie in vertical planes should be slightly greater than the outer diameter of a barrel on which the lifter is designed to operate so that they can be made to snugly straddle the barrel when the barrel is in an upright position. Also, it should be noted that the outer ends of the rails or arms **31** and **32** are outwardly flared for the purpose of enabling the rails to more readily "find" the barrel.

Welded to the cylinders **25** and **26** intermediate the inner ends of their bearing sleeves are lever arms **35** and **36**, and pivoted respectively thereto are links **37** and **38**. Pivoted to the link **38** is a turnbuckle **39**, and secured to and between the turnbuckle and the link **37** is a tension spring **41** serving to bias the upper edges **42** and **43** of the arms or rails **32** and **31** inwardly towards each other, as viewed in Fig. 3, into clamping engagement with a barrel **45** immediately below one of its circumferential beads **46**.

Secured to the upper rear plate **14** is a pair of ears **47** and **48**, and pivoted thereto is a hook **49** arranged to hook over one of the cross members **51** of the mast **52** of the lift truck **13** when the attachment is mounted in its operative position on the forks **11** and **12** of the truck.

*Operation*

Assuming that the attachment above described is mounted on the forks of a lift truck and secured thereto by the hook **49**, its rails **31** and **32** can be forced into straddling engagement with an upright barrel. When moving into this position the upper edges **42** and **43** of the rails **31** and **32** are forced slightly outwardly against the biasing action of the spring **41**. Otherwise considered, the spring **41** serves to maintain the edges **42** and **43** in snug engagement with the barrel. It should here be noted that the upper, inner edges **42** and **43** of the rails should be sharp rather than rounded and that the tension of the spring **41** should be sufficiently great to preclude the lifting rails **31** and **32** from riding over the barrel bead **45**. The pin **29** and notches **28** simply serve to determine the inwardmost positions of the rails **31** and **32**, or in other words, to maintain the rails at a sufficient inclination to permit the ready positioning of the rails into straddling engagement with the barrel.

The rails **31** and **32** are detached from a barrel by depositing the barrel on the ground or other support and then merely backing the lift truck away from the barrel. This of course means that the tension on the spring **41** should not be so great as to preclude this operation.

If it be desired to then use the lift truck in a conventional way, its forks are lowered so as to permit the attachment to rest on the ground; the hook **49** is disengaged; and the truck is backed away from the attachment.

I claim:

1. A barrel lifting attachment for a fork lift truck com-

prising: a frame; a pair of transversely spaced, parallel arms mounted on said frame, each for rotation relative to each other and to said frame on axes parallel to said arms, said arms extending substantially beyond the confines of said frame and arranged to straddle an upright barrel beneath the peripheral beads thereof; spring means for urging said arms to rotate about said axes in opposite directions; means for spacing said frame from the ground to thereby permit the insertion therebeneath of the fork of said fork lift truck in parallelism with said arms; and means for detachably securing said frame to said fork lift truck.

2. A barrel lifting attachment for a fork lift truck comprising: a frame arranged to be picked up by and secured to said fork lift truck; a pair of transversely spaced, parallel bearing sleeves secured to said frame, said sleeves lying in a generally horizontal plane; a cylinder journaled in each of said sleeves; means for preventing said cylinders from moving longitudinally within said sleeves and for limiting their rotational movement within said sleeves; a barrel-engaging arm fixed to each of said cylinders in parallelism therewith and extending outwardly substantially beyond the confines of said frame, said arms being arranged to straddle an upright barrel beneath one of its beads; and spring means for urging said cylinders to rotate toward each other.

3. A barrel lifting attachment for a fork lift truck comprising: a platform provided with means for receiving the fork of a lift truck and arranged to be lifted by said truck; means for detachably securing said platform to said truck when said platform is operatively engaged by said fork; a pair of transversely spaced, parallel arms journaled to said platform and extending outwardly therefrom, said arms being arranged to snugly straddle an upright barrel beneath one of its peripheral beads; and spring means for urging said arms to rotate towards each other.



4. An attachment such as defined in claim 3, wherein said arms are relatively flat and are outwardly flared at their outer ends, thereby to enable said arms to more readily find said barrel.

5. A barrel lifting attachment for a fork lift truck comprising: a generally rectangular frame provided with a pair of transversely spaced, parallel entryways for the reception of the fork of a lift truck and by which said frame can be lifted by said fork; two transversely spaced pairs of coaxially spaced bearing sleeves mounted on said frame; a cylinder journaled in each pair of coaxial bearing cylinders; a barrel lifting rail fixed to one end of each of said cylinders in parallelism therewith and extending outwardly therefrom, said two rails being arranged to straddle an upright barrel beneath one of its peripheral beads; an arm fixed to and extending radially from each of said cylinders at a point intermediate its two bearing sleeves; a tension spring operating between said two arms; means for limiting the degree of rotation of said cylinders within their bearing sleeves; means for preventing said cylinders from moving axially within their bearing sleeves; and means for detachably securing said frame to said fork lift truck when said frame is supported by the forks of said truck.

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