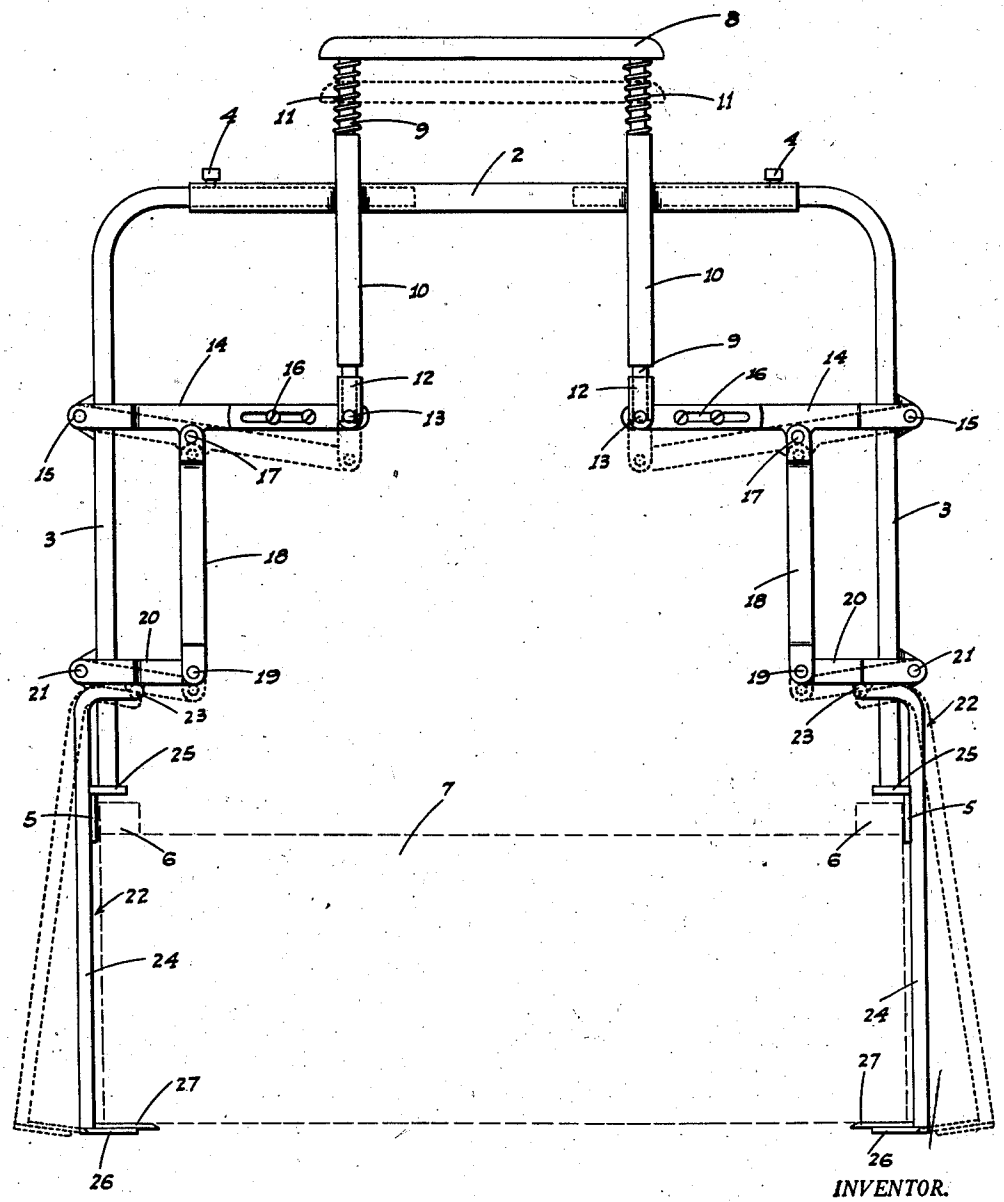
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LUG BOX LIFTER

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Fig. 1



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Fig. 2

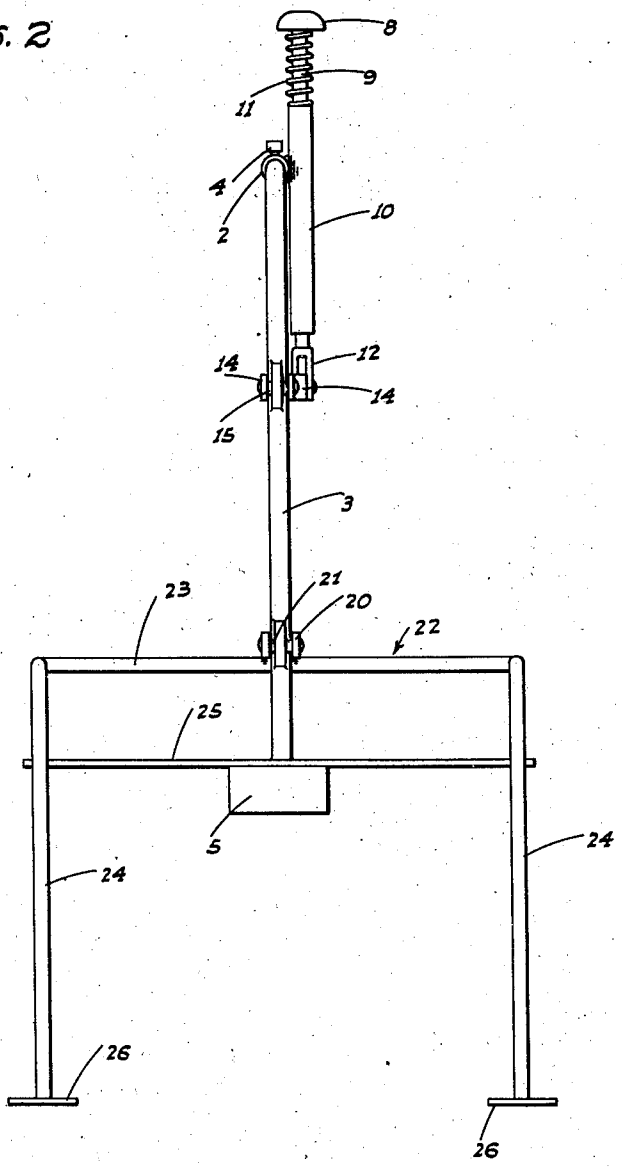
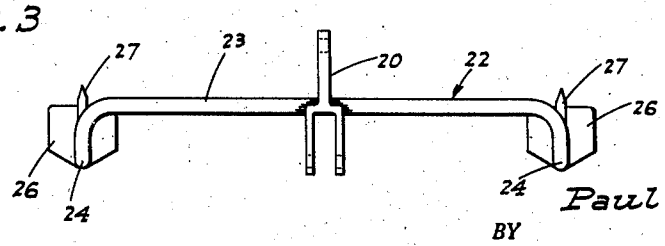


Fig. 3



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LUG BOX LIFTER

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5 Claims. (Cl. 294—115)

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This invention is directed in general to, and it is an object to provide, a lug box lifter of novel construction; such lifter being useful, in the field or packing shed, for readily engaging and picking up a loaded lug box from above.

Another object of the invention is to provide a lug box lifter which includes an upstanding bail-like handle having box engaging members arranged in connection with the lower end portions of opposite arms of such handle for movement to and from box engaging positions; there being manually controlled means, operative from the handle at the top, to cause such movement of said box engaging members.

A further object of the invention is to provide a lug box lifter, as above, wherein said box engaging members comprise swinging legs pivoted on and depending from the bail-like handle, and inwardly projecting feet on the lower ends of the legs adapted to engage under the box at the ends; said manually controlled means comprising an actuating lever system extending between a movable hand grip on the handle at the top, and said legs.

A further object of the invention is to produce a simple and inexpensive device, and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Figure 1 is an elevation of the lug box lifter as in use.

Figure 2 is an end view of the device.

Figure 3 is a top plan view of one of the leg units, detached.

Referring now more particularly to the characters of reference on the drawings, the lug box lifter comprises a bail-like handle, indicated generally at 1, which comprises a horizontal top bar 2 and, at opposite ends, depending side arms 3; the side arms being adjustably connected to the top bar, as shown at 4, for the purpose of varying the spacing between the side arms 3 to correspond with box lengths.

At their lower ends the depending side arms 3 are each formed with an inverted L-shaped, inwardly facing locating and stop unit, indicated generally at 5, and which unit is adapted to seat on a corresponding one of the end cleats 6 of a lug box 7.

In spaced relation above the top bar 2 the

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device includes a horizontal, parallel hand grip 8 secured at opposite ends in connection with plungers 9 which extend downwardly through corresponding vertical sleeves 10 affixed to said top bar 2 in symmetrical relation thereon. Compression springs 11 surround the plungers 9 between the upper ends of the sleeves 10 and the hand grip 8, whereby to normally maintain the latter in a raised position relative to the top bar 2, as shown in full lines in Fig. 1.

At their lower ends and below the sleeves 10 the plungers 9 are each fitted with a clevis 12 straddling and pivotally connected, as at 13, with the inner end of an inwardly projecting, longitudinally adjustable lever 14; the levers 14 being pivoted at their outer ends, as at 15, in connection with corresponding ones of the depending side arms 3. The longitudinal adjustment means for the levers 14 is indicated generally at 16. The levers 14 are longitudinally adjustable so that they may be altered in length proportionate to the adjustment of the depending side arms relative to the top bar 2.

Intermediate their ends the levers 14 are pivotally connected, as at 17, with the upper end of depending links 18, and said links 18 are pivoted, at their lower ends, as at 19, with other levers 20 which project inwardly from pivotal connection with the depending side arms 3, as at 21. The levers 14 and 20 are thus maintained in parallel relation to each other by the links 18, and said links are parallel to each other.

The above comprises the actuating lever system of the device.

A box engaging leg unit, indicated generally at 22, is fixed in connection with each of the levers 20, and comprises the following:

A horizontal cross bar 23 is affixed to each lever 20 intermediate the ends of the latter; the cross bar 23 projecting on opposite sides of said lever 20 a substantially equal distance.

At its outer end each horizontal cross bar 23 is formed with rigid depending legs 24 which extend downwardly in a plane adjacent but outwardly of the locating and stop units 5; said locating units 5 each including an elongated top plate 25 which extends across the inner faces of each pair of legs 24 adjacent but short of their upper ends.

At their lower ends the legs 24 are each fitted with a flat, inwardly projecting foot 26 having a sharp prong 27 extending inwardly some distance beyond said foot.

When the device is in use the operator grasps

the top bar 2 intermediate its ends, with his hand straddling the hand grip 8.

The hand is then tightened to cause the grip 8 to depress the plungers 19, which results, through the medium of the described actuating lever system, in outward swinging movement of the legs 24 and feet 26 from the normal full-line position of Fig. 1 to the outwardly swung, dotted line position as shown in such figure.

With the legs 24 and feet 26 thus swung outwardly the operator sets the device down onto a box lengthwise thereof, until the locating and stop units 5 rest on the cleats 6.

Thereafter the hand grip 8 is released and snaps upward under the force of the compression springs 11. When this occurs the legs 24 and feet 26 swing inwardly to their normal position and the feet engage under opposite ends of the lug box. As there are a pair of transversely spaced feet included in each of the box engaging leg units the lug box 7 is engaged from below adjacent each corner thereof.

To lift the lug box 7 as so engaged by the feet 26 the operator merely grasps the top bar 2 of the bail-like handle 1 and carries the box to the desired destination.

The device is practical and extremely useful for carrying lug boxes from the field to a truck for loading, or for use in packing sheds or any other place where loaded lug boxes are manually and individually handled.

If, on any given box the height thereof is such that the feet 26 cannot engage beneath the box, then the sharp prongs 27 will be penetrated into the box ends and thus support said box for lifting.

From the foregoing description it will be readily seen that there has been produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

1. A lug box lifter comprising a bail-like handle having spaced, depending arms, a hand grip disposed adjacent and parallel to the top of the handle above the latter, vertical plungers depending from the hand grip, vertical guide sleeves on the top of the handle, the plungers slidably extending through the guide sleeves, a leg unit depending from each arm and pivoted in connection therewith for swinging motion in a plane lengthwise of the handle, inwardly projecting feet on the leg units at the lower end adapted to engage beneath opposite ends of a lug box when the leg units are in a predetermined position, and means between the plungers and corresponding leg units operative to swing the leg units to and from said position upon reciprocation of said plungers.

2. A lug box lifter comprising a bail-like handle having spaced, depending arms, a hand grip disposed adjacent and parallel to the top of the handle above the latter, vertical plungers depending from the hand grip, vertical guide sleeves on the top of the handle, the plungers slidably extending through the guide sleeves, a leg unit depending from each arm and pivoted in connection therewith for swinging motion in a plane lengthwise of the handle, inwardly projecting feet on the leg units at the lower end adapted to engage beneath opposite ends of a lug box when the leg units are in a predetermined position, and means between the plungers and corresponding leg units operative to swing the leg units to and from said position upon reciprocation of said plungers; said means comprising a pair of vertically spaced, parallel levers projecting inwardly from each arm and pivoted thereon for vertical swinging motion, a link pivotally connecting said levers of each pair, and the lower end of each plunger being pivoted to the uppermost lever of the corresponding pair inwardly of the link, the leg units being secured to the lowermost levers of the corresponding pair for movement therewith.

3. A lug box lifter as in claim 2 in which said arms are adjustable on the handle to vary the spacing therebetween; the uppermost levers being adjustable lengthwise between said links and the plungers.

4. A lug box lifter comprising a bail-like handle having spaced, depending arms, a hand grip disposed adjacent and parallel to the top of the handle above the latter, vertical plungers depending from the hand grip, vertical guide sleeves on the top of the handle, the plungers slidably extending through the guide sleeves, a leg unit depending from each arm and pivoted in connection therewith for swinging motion in a plane lengthwise of the handle, inwardly projecting feet on the leg units at the lower end adapted to engage beneath opposite ends of a lug box when the leg units are in a predetermined position, and means between the plungers and corresponding leg units operative to swing the leg units to and from said position upon reciprocation of said plungers; there being compression springs surrounding the plungers between the sleeves and the hand grip whereby to normally maintain said hand grip in an elevated position relative to the top of the handle.

5. A box lifter comprising a bail-like handle, a pair of spaced, depending arms rigidly connected therewith, a box locating and stop unit at the lower end of each arm, a pair of vertically spaced inwardly projecting levers pivotally mounted on each arm for swinging movement in a vertical plane, a link connecting each pair of levers, means connected with the upper levers to swing the same, and a clamping leg unit fixed to each lower lever and projecting to a point below and to the outside of the corresponding box locating and stop unit.

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