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LIFTING TONGS

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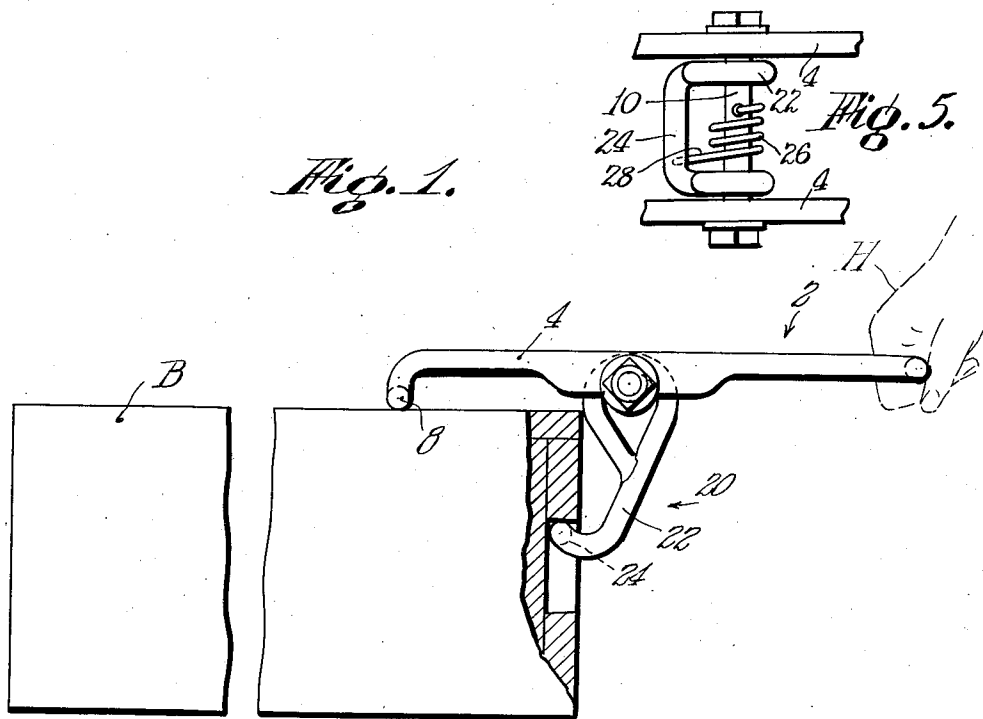
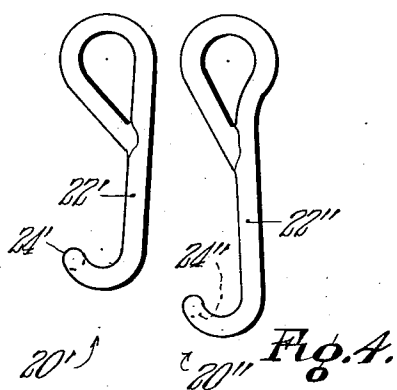
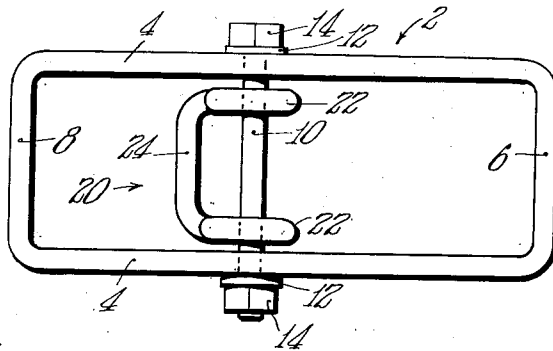


Fig. 3.

Fig. 2.



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LIFTING TONGS

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2 Claims. (Cl. 294—15)

This invention relates to improvements in lifting devices and is directed more particularly to the provision of a novel tongs for lifting heavy objects.

5 The invention has for its principal object the provision of tongs for the lifting of heavy objects such as packing cases, lumber, rails, pipes, and the like. The device is adapted for many and various uses, and while the invention is to be described with reference to its use in lifting a packing case, it is not desired to be limited to that particular use.

10 The device of the invention is so constructed that it may be readily and quickly attached to an object which it is desired to carry thereby, and it has the advantage of being simple in its construction and therefore economical in its manufacture. As a special feature, two of the devices may be used as a pair if desired, so that an object may be more easily moved and/or carried.

15 It is well known that lifting heavy objects by hand is sometimes difficult and often causes considerable injury to the hands, particularly the fingers. In the case of packing boxes, for example, it is customary to place the fingers under the cleats which are usually to be found on the ends of the boxes, and while the boxes can be lifted and carried thereby, injury can easily result to the hands. This invention is adapted to obviate these dangers.

20 Various other novel features and advantages of the invention will be hereinafter more fully referred to in connection with the following description of the invention in its preferred form, reference being had to the accompanying drawing, wherein:

25 Fig. 1 is a side elevational view of the device of the invention showing a packing case in association therewith;

40 Fig. 2 is a plan view of the device shown in Fig. 1;

Figs. 3 and 4 are side elevational views of hook members; and

45 Fig. 5 is a partial plan view of the hook member of the device and a spring member in association therewith.

Referring now to the drawing more in detail, the invention will be described.

50 A lever member indicated generally by 2 is provided and this is made of steel or some other suitably rigid material. The lever 2 includes spaced side arms 4 and transverse end portions 6 and 8 extending between the ends of arms 4, as shown.

The forward transverse end 8 is slightly offset relative to the side arms so as to extend downwardly as shown. This offset part is adapted to engage the top of the object being lifted, such as a box indicated by B.

5 The rear transverse part 6 serves as a grip member. That is, the bar may be grasped by the hand as indicated at H in the drawing and lifted upwardly so as to cause pressure to be exerted downwardly on the object by part 8.

10 Extending between and connecting the side arm members 4 at a point intermediate their opposite ends is a cross member 10. This member 10 is preferably parallel to the transverse parts 6 and 8 and it may consist of a bolt which is removably secured to the side arms by means of washers 12 and nuts 14.

This cross member 10 serves as a pivot member as will presently appear.

A hook member, indicated generally by 20, is 20 provided and this preferably consists of two side parts 22 and a transverse portion 24 connecting the lower ends thereof. The upper ends of the side parts are bent over and back onto themselves so as to form open "eyelets" as shown and these receive the pivot member 10.

25 With the hook member thus disposed on the pivot member, the former is freely suspended downwardly for movements into positions relative to the object to be lifted. All of the parts are preferably formed of strong iron or a similarly rigid material.

30 The transverse portion of the hook member 20 is offset so as to form a hooked portion at its lower end. It is this offset portion which is adapted and intended to be disposed beneath a portion beneath the top of the object to be moved.

35 In practice, the device of this invention is so associated with the object that its offset forward part 8 engages the top of the object and the hook member is swung so that its offset part engages the object at some point below the top, such as the cleat of the packing case shown. Then the grip part 6 is grasped by the hand and when pressure is exerted upwardly by the hand, pressure is caused to be exerted downwardly against the top of the object.

40 If desired there may be a plurality of hook members of different lengths such as 20' and 20'' as shown in Fig. 3. These hooks include side arms 22' and 22'' and transverse parts 24' and 24'', respectively, and are interchangeable so that objects of different sizes and shapes may be lifted.

45 If so desired, a spring member 26 of any of the

conventional forms may be placed in association with the cross member 10 as shown in Fig. 5 or in association with either or both of the side arm members 4. The spring member has an end portion 28 which yieldably engages against the transverse portion 24 of the hook member 20, to urge it into the position shown in Fig. 1 so as to securely grip the object being lifted or carried. The hook member will not slip out when it is held in position by force under pressure.

While I have described the invention in great detail and with respect to the present preferred form thereof, it is not desired to be limited thereto since many changes and modifications may be made therein without departing from the spirit and scope of the invention. What it is desired to claim and secure by Letters Patent of the United States is:

1. A unitary device for lifting a box having an upper horizontal wall and a vertical end wall provided with a horizontally extending and outwardly projecting cleat comprising in combination, an upper rectangular frame formed to have spaced parallel side arms connected at their rear ends by a rear transverse hand grip member and connected at their forward ends by a forward transverse box engaging member for resting on the upper wall of a box when the frame extends in substantially horizontal position, a transverse pivot member extending between the side arms of the frame intermediate the ends thereof, and a U-shaped hook member having spaced side members connected at their lower ends by a lower transverse member with the upper ends of said side members pivotally connected to the pivot member adjacent the side arms of the frame whereby said member is pivotally suspended from the frame in substantially vertical position, the lower ends of the side members and the lower transverse member of the hook disposed so that the said transverse member is offset forwardly of the side members and adapted to

extend beneath and underlie a projecting cleat on the end of a box on the upper wall of which box the forward transverse member of the frame rests so that the end of the box may be elevated by elevating the rear end of the frame.

2. A unitary device for lifting a box having an upper horizontal wall and a vertical end wall provided with a horizontally extending and outwardly projecting cleat comprising in combination, an upper rectangular frame formed to have spaced parallel side arms connected at their rear ends by a rear transverse hand grip member and connected at their forward ends by a forward transverse box engaging member for resting on the upper wall of a box when the frame extends in substantially horizontal position, a transverse pivot member extending between the side arms of the frame intermediate the ends thereof, and a U-shaped hook member having spaced side members connected at their lower ends by a lower transverse member with the upper ends of said side members pivotally connected to the pivot member adjacent the side arms of the frame whereby said member is pivotally suspended from the frame in substantially vertical position, the lower ends of the side members and the lower transverse member of the hook disposed so that the said transverse member is offset forwardly of the side members and adapted to extend beneath and underlie a projecting cleat on the end of a box on the upper wall of which box the forward transverse member of the frame rests so that the end of the box may be elevated by elevating the rear end of the frame, and the underside of the forward box engaging transverse member of the frame being disposed in a plane below the horizontal plane of the underside of the side arms of the frame, whereby said transverse member may bear on the upper side of a box throughout its length and provide a relatively long bearing surface.

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