Dec. 2, 1958 S. HUTCHINSON 2,862,757

GAS METER PICK-UP DEVICE

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Fig-1

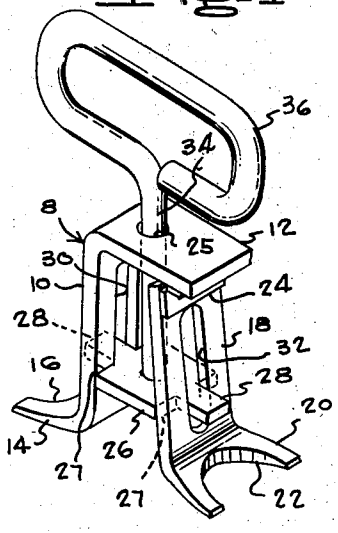
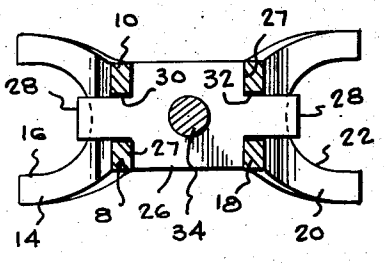


Fig-4



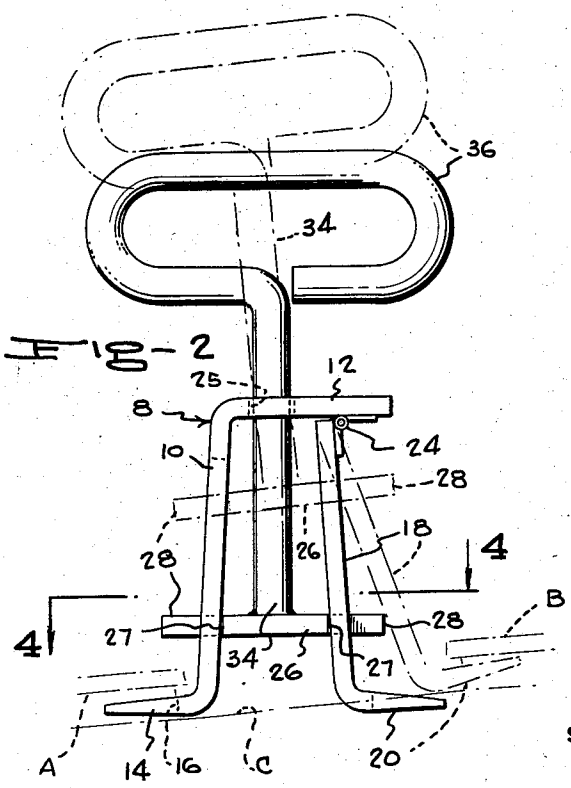
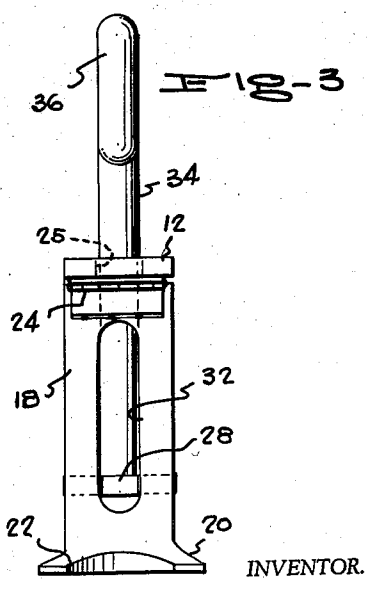


Fig-3



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GAS METER PICK-UP DEVICE

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2 Claims. (Cl. 294—94)

This invention relates to devices falling generally in the category of grapples, tongs, or similar articles used for gripping and for carrying objects. More particularly, the invention has reference to a device of this nature that is especially adapted for picking up gas meters, which are somewhat inconvenient to handle, particularly when substantial numbers of the same must be carried in a comparatively short time. A gas meter has spaced overhangs, and the device constituting the present invention is particularly adapted for being first disposed in the space between said overhangs, and then swiftly adjusted to a position in which support flanges of the device are engaged under the overhangs, whereby the meter can be carried in a position depending from the tongs or grapples.

A more specific object of the invention is to provide a lifting tong or pick-up device which, though particularly designed for picking up gas meters, can be used for elevating and carrying any other object that has spaced overhanging portions under which the flanges of the pick-up device may be engaged.

Another object is to provide a pick-up device as stated which will be particularly designed to be swiftly adjustable to an object-gripping position, responsive merely to elevation of a handle of the device.

Another object is to so form the device that on elevation of the handle and engagement of the support flanges of the pick-up device beneath the overhangs of the elevated object, the weight of the object itself will tend to even more firmly engage the flanges in their supporting positions, thereby to assure to the maximum extent against accidental detachment of the elevated article from the pick-up device.

Another object is to provide a pick-up device or tongs of the character described that will be adapted for manufacture at a relatively low cost, will be highly compact, trouble-free in operation, and adapted for detachment from a supported object whenever desired, with a facility fully matching that with which the device can be engaged with the object.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a perspective view of a lifting grapple according to the present invention;

Figure 2 is an enlarged side elevational view thereof, the grapple being shown in full and dotted lines in releasing and gripping positions respectively;

Figure 3 is an elevational view of the device on the same scale as Figure 2, as seen from the right of Figure 2; and

Figure 4 is a transverse sectional view on the same scale as Figure 2, taken substantially on line 4—4 of Figure 2.

Referring to the drawings in detail, the device constituting the present invention includes a support frame generally designated by the reference numeral 8. Frame

8 is of one-piece construction, and it may be formed from flat, rigid bar stock bent to shape. The frame has an approximately inverted L-shape as shown to particular advantage in Figure 2, and includes an elongated, wide, straight leg 10 integral at its upper end with a laterally projecting head 12. Leg 10 at its lower end is integrally formed with a laterally outwardly projecting support flange 14 which is progressively reduced in thickness in the direction of its distal end, and which has a deep, wide recess 16 opening upon said distal end. Flange 14 lies in a plane approximately parallel to that of the head 12, with the leg 10 being inclined slightly out of perpendicularity to said planes, so as to be at a slight obtuse angle to each of the heads and flanges, again as best shown in Figure 2.

A movable leg 18 is in laterally spaced, confronting relation to the stationary leg 10, and has a distal end formed with a laterally outwardly projecting flange 20 having a recess 22, and progressively reduced in thickness in the direction of its distal end and disposed substantially coplanar with the flange 14 in the inoperative position of the parts shown in full lines in Figure 2. Leg 18 at its upper or inner end is pivotally connected by a hinge 24 to the underside of the head 12, for swinging movement about an axis extending transversely of the head, whereby the leg 18 swings upon the head 12 toward and away from the leg 10, between the inoperative and operative positions shown in full and dotted lines respectively, in Figure 2.

The head 12, between the legs 10, 18, is formed with an opening 25. In the space between the legs, below head 12, a rectangular spreader plate 26 is disposed, said spreader plate having opposite side edges 27 in slidable contact with the inner surfaces of legs 10, 18. Integrally formed upon the spreader plate, and projecting outwardly from said side edges 27, medially between the front and back edges of the spreader plate, are tongues 28, entering longitudinal slots 30, 32 formed in the respective legs 10, 18.

An elongated, straight shank 34 is welded or otherwise fixedly secured to the center portion of the plate 26, extending in perpendicular relation to the plane of said plate. Shank 34 is loosely positioned through opening 25, and above head 12 is integrally formed with the handle 36.

In use of the device, handle 36 is initially lowered to the full line position of Figure 2, so that spreader plate 26 is disposed in closely spaced relation to flanges 14, 20. This permits leg 18 to swing inwardly to the full line position shown in Figure 2, so that the flanges 14, 20 may be readily entered into a space between overhangs A, B, of an article C that is to be lifted. The overhangs are found on a gas meter, although obviously other objects may have equivalent means under which the flanges 14, 20 may be engaged.

Then, one merely lifts the handle 36 to the dotted line position of Figure 2. This causes spreader plate 26 to move upwardly, toward head 12. The distance between the opposite edges 27 of the spreader plate is slightly greater than the distance between the upper ends of the legs 18. Therefore, plate 26 enters as a wedge between the legs, biasing leg 18 outwardly. This spreads flanges or jaws 14, 20 so that they engage under overhangs A, B.

It will be seen that the object C can thus be picked up and readily carried, with one hand, and the weight of the object tends to cause downward movement of the frame 8 relative to the stem or shank 34, so that the plate 26 is even more firmly wedged between the legs 10, 18, thereby assuring that the device will not be accidentally disengaged from the supported object. Of course, when the device is to be removed from the object, one may merely lower handle 36, so that with the slide plate

26 adjusted downwardly, leg 18 can be swung toward leg 10 to disengage the flanges 14, 20 from under the overhangs A, B.

It is believed clear that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. A lifting device comprising: a support frame of inverted L-shape having a laterally projecting head and an elongated, straight leg rigid with one end of and depending from the head at an angle of slightly more than 90 degrees to the head; a movable leg spaced laterally from the first leg and hingedly connected to the other end of the head, said movable leg being swingable about its hinge axis toward and away from the first leg, said head having an opening between the legs; a spreader plate disposed between the legs and having opposite side edges in slidable contact with the respective legs, the distance between said side edges being greater than the distance between the proximal ends of the legs, for spreading the legs responsive to movement of the spreader plate toward the head from a lower to an upper position; cooperating guide means on the spreader plate and legs for guiding the spreader plate in its movement toward and away from the head; and handle means including a shank rigid at one end with the spreader plate, said shank loosely engaging in said opening for sliding movement in the direction of its length and for rocking movement about an axis parallel to that of the hinge axis of the movable leg, the shank extending perpendicularly to the head in the lower position of the spreader plate and rocking to a position out of perpendicularity to the head in the upper position of the spreader plate, said legs having outwardly projecting, article-gripping flanges on their distal ends.

2. A lifting device comprising: a support frame of inverted L-shape having a laterally projecting head and an elongated, straight leg rigid with one end of and depending from the head at an angle of slightly more than 90 degrees to the head; a movable leg spaced laterally from the first leg and hingedly connected to the other end of the head, said movable leg being swingable about its hinge axis toward and away from the first leg, said head having an opening between the legs; a spreader plate disposed between the legs and having opposite side edges in slidable contact with the respective legs, the distance between said side edges being greater than the distance between the proximal ends of the legs, for spreading the legs responsive to movement of the spreader plate toward the head from a lower to an upper position; cooperating guide means on the spreader plate and legs for guiding the spreader plate in its movement toward and away from the head; and handle means including a shank rigid at one end with the spreader plate, said shank loosely engaging in said opening for sliding movement in the direction of its length and for rocking movement about an axis parallel to that of the hinge axis of the movable leg, the shank extending perpendicularly to the head in the lower position of the spreader plate and rocking to a position out of perpendicularity to the head in the upper position of the spreader plate, said legs having outwardly projecting, article-gripping flanges on their distal ends, said guide means comprising tongues on the spreader plate, and slots formed in the legs, the tongues projecting through the slots.

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