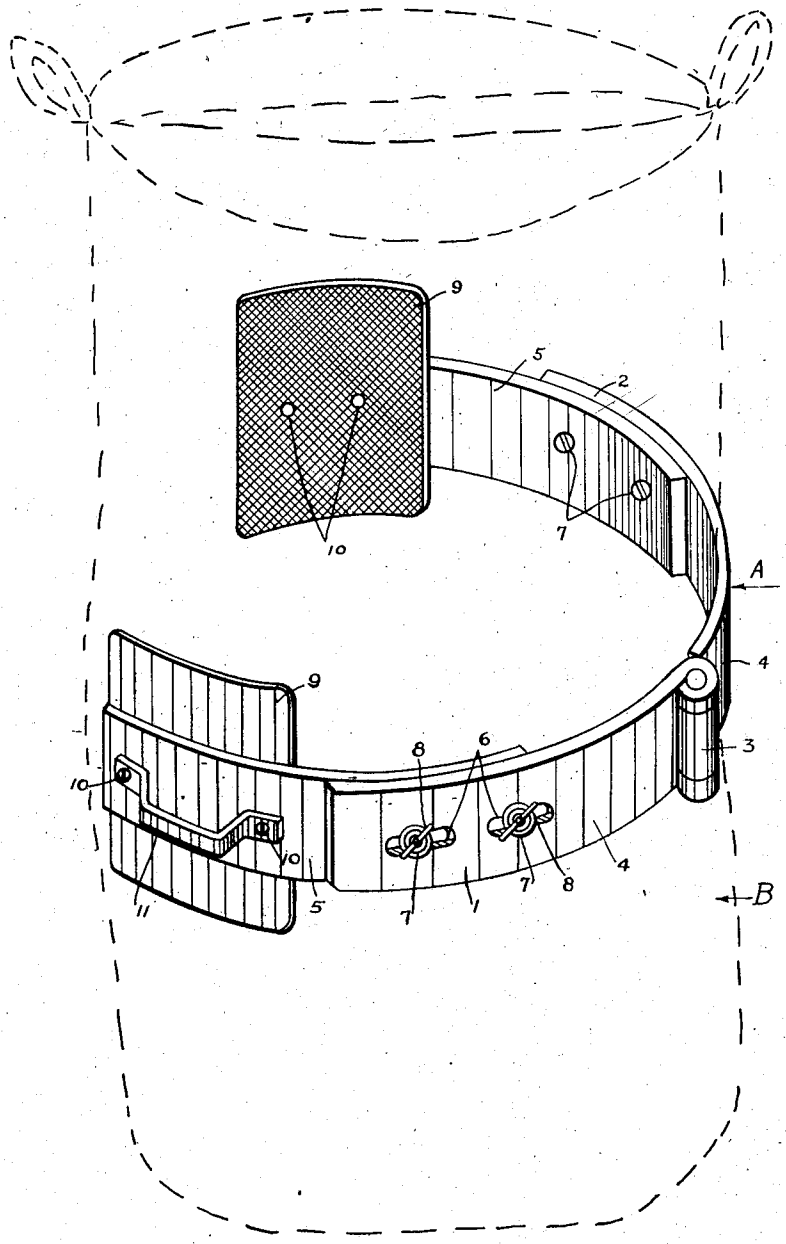
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LIFTER AND CARRIER

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LIFTER AND CARRIER

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6 Claims. (Cl. 294—16)

This invention relates to article lifting and handling devices and the primary object is to provide a simple, efficient, and practical device of that nature which is particularly adapted for handling heavy and bulky objects such as bags of grain, flour or other material conventionally packed and shipped in large bags or sacks; and which, as is well known, are very awkward and difficult to lift and carry because of their weight, bulk, and shape.

The invention essentially comprises a pair of hingedly connected, arcuately formed arms having gripper plates at their outer ends, and a pair of handles, each adjacent one of the plates, for manipulating the device, these handles being so arranged that when engaged by the operator's hands they can operate to place the connected gripper plates upon opposite sides of the bag to be lifted so that a firm grip on the latter will be effected. By the use of the same handles the operator can then lift the bag and conveniently carry it where necessary, after which the device is merely opened, by the same handles, to release the load and is then in readiness for immediate re-use on another bag or article to be handled.

Further and more detailed objects will be disclosed in the course of the following specification, reference being had to the accompanying drawing, wherein the single figure is a perspective view of the device showing it in operative position on a filled sack, designated in dotted lines.

Referring to the drawing more particularly and by reference characters A designates generally the lifting device, and B designates (in dotted lines) the articles to be lifted and carried, in this case the article being shown in the form of a common type of grain, flour or other bulk article bag.

The lifting device includes two arcuately formed arms 1 and 2, pivotally joined as at 3, so that the arms are free to swing in wide arcs relatively to each other. Each arm is made up of two overlapping sections 4 and 5, one of which is longitudinally slotted, as at 6, to receive bolts 7, having wing nuts 8, whereby the arms may be adjusted as to length.

At their outer end portions, and upon their inner surfaces, the arms 1 and 2 are provided with gripping plates 9, the same being secured by rivets or bolts 10, the inner or opposed surfaces of these plates are preferably lined, milled, corrugated, or otherwise roughened so as to firmly grip the surface material of the bag to be lifted and carried. The same rivets or bolts 10 may also be used to attach a pair of gripping handles 11 which project sufficiently so that the operator can firmly engage and hold them in his hands.

The operation of the device, while probably obvious, may be briefly described as follows:

When a filled bag, either prone or erect, is to be lifted and placed upon a truck or carried to another location, the operator grasps the handles 11 and spreads the arms until the gripper plates can be positioned as shown, with the arms encircling one side of the bag. The arms are then brought in about the bag until the roughened inner surfaces of the plates 9 establish firm contact with the bag surface. As the operator then lifts on the handles very little inward pressure is required to maintain the gripping contact, and the bag can be lifted with comparative ease and carried. When the bag is then again set down it is only necessary to spread the arms to release the device for further service.

It is preferable to have the arms of such length so that they will encircle somewhat more than half the circumference of the bag, as the plate gripping contact is then most effective, and, since bags vary in size, the arms are adjustable to different lengths, as at 6—8, so that when the operator is working on a number of bags of similar size and shape, as often occurs, he can adjust the arms to best accommodate the device to meet each circumstance.

It is understood that suitable modifications may be made in the structure as disclosed, provided such modifications come within the spirit and scope of the appended claims. Having now therefore fully illustrated and described my invention, what I claim to be new and desire to protect by Letters Patent is:

1. A device of the character described comprising a pair of curved arms hingedly connected at inner adjacent ends, frictional gripping plates secured upon the inner surfaces of the outer ends of said arms, and handles extending from the outer ends of the arms at points adjacent the gripping plates at least one of said arms being composed of overlapping sections, one of which has a slot and the other of which has a bolt extending through said slot whereby the arm may be adjusted as to length.

2. A lifter and carrier for a filled bag or the like comprising an arcuately curved, flat, strap-like device of such length and curvature as to pass around and embrace more than half the circumference of the bag when engaging the same, the ends of the device being relatively movable whereby they may be spread and closed toward

each other, a gripping plate secured upon the inner surface of each outer end portion of the device, said plate being of a size to project substantially beyond side edges of the strap material, and handles secured upon the outer surfaces of the device one at each end portion thereof for manipulating the device, said handles extending along the respective surfaces to which they are attached and with gripping portions spaced from said surfaces.

3. A lifter and carrier for a filled bag or the like comprising an arcuately curved, flat, strap like gripping device of such length and curvature as to pass around and embrace more than half the circumference of the bag when in gripping contact therewith, the ends of the device being relatively movable whereby they may be spread and closed toward each other, gripping plates of substantially greater widths than the device attached to the ends of the device for flat gripping contact with the surface of the bag, and handles secured to the ends of the device adjacent the gripping plates and in substantial parallelism therewith.

4. A lifter and carrier for a filled bag or the like comprising a curved gripping device of such length as to pass around and embrace more than half the circumference of the bag when in gripping engagement therewith, the ends of the device being movable toward and away from each other whereby the bag may be gripped and released, gripping plates mounted on the ends of the device and having large gripping surfaces for frictional engagement with relatively large surfaces of the bag, and operating handles mounted upon the backs of the plates in substantial parallelism therewith.

5. A lifter and carrier for a filled bag or the like comprising a curved gripping device of such length as to pass around and embrace more than half the circumference of the bag when in gripping engagement therewith, the ends of the device being movable toward and away from each other whereby the bag may be gripped and released, gripping plates mounted on the ends of the device and having large gripping surfaces for frictional engagement with relatively large surfaces of the bag, and operating handles mounted upon the backs of the plates in substantial parallelism therewith, the gripping device including two pivotally connected sections.

6. A lifter and carrier comprising a curved strap-like device formed of band material and adapted to be closed about a filled bag to embrace the same and then opened to release the bag, the device being of greater than semi-circular length when in closed position, handles attached to the ends of the device to operate the same and by which the bag may be carried, frictional gripping plates secured upon the inner sides of the device at the ends thereof and being of substantially greater dimension vertically than the vertical width of the band material.

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