July 23, 1946. F. W. RODGERS ET AL 2,404,533

SACK LIFTER

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Fig. 1.

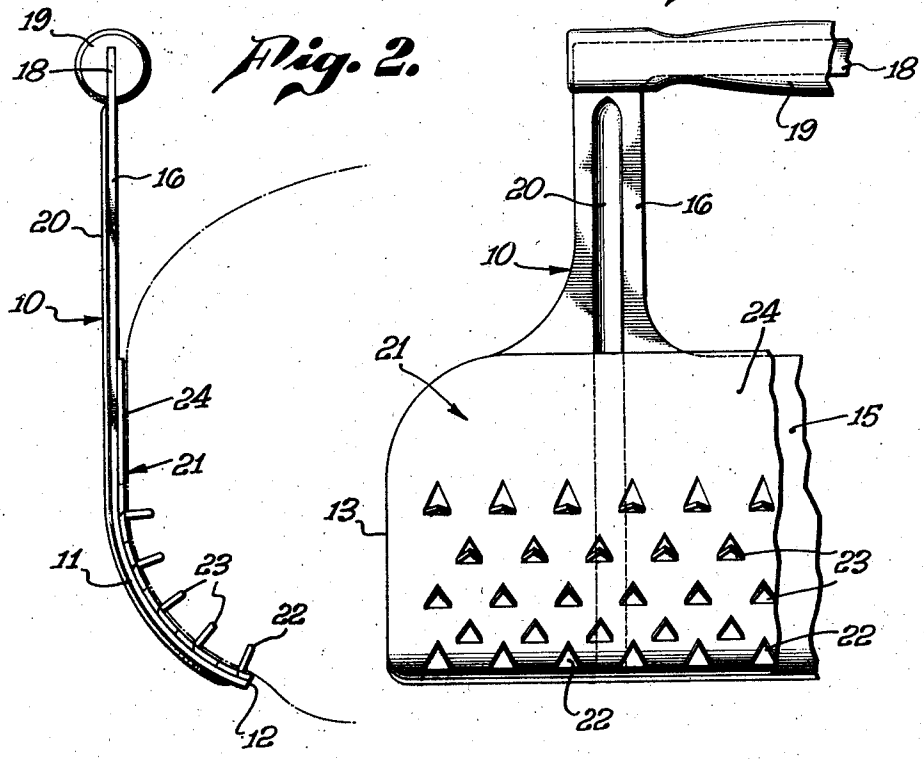
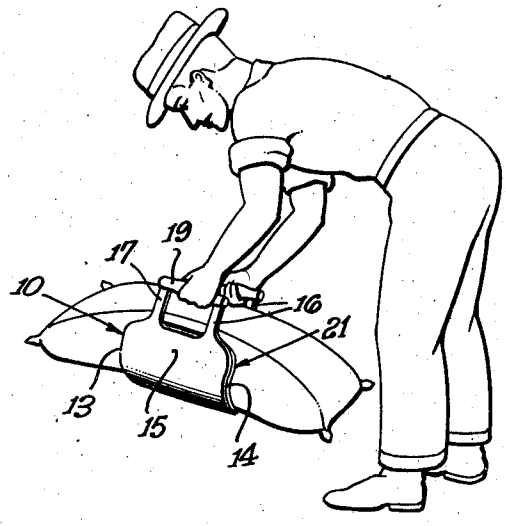


Fig. 2.

Fig. 3.



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SACK LIFTER

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1 Claim. (Cl. 294—1)

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This invention relates to a device for facilitating the handling of sacks or bags of wheat, barley, other grains, and various pulverulent or granular materials.

Grain and various other granular materials are often shipped and handled in bags. These bags may weigh from 90 lbs. each to as high as 150 lbs. Many of the sacks or bags are made of burlap or other coarsely woven material and the workers handling the bags are not only subjected to a great deal of strain but, in addition, often suffer abrasions and loss of skin from the areas of the wrists immediately above the palms of the hands, due to frictional and abrasive movement of the sacks against such areas while the bags are being handled. The present invention is directed to a sack lifter which facilitates the work of lifting, arranging, stacking, or otherwise moving heavy and awkward bags of granular material.

An object of the present invention is to disclose a sack lifter which may be quickly and readily applied to a sack so as to permit such sack to be lifted, raised and moved without discomfort and without causing the workers' hands or wrists to rub against the sack.

A further object of the invention is to provide a device which not only facilitates the lifting and manipulation of heavy sacks but does not damage the sacks during such handling.

A still further object is to provide an arrangement and combination of elements whereby sacks may be readily lifted and the devices disengaged from the sacks in an effective manner without damaging the sacks.

An object of the invention also is to prpvide an inexpensive, simple construction which permits effective sack lifting devices to be manufactured economically.

These and other objects of the invention will become apparent from the following description. In such description reference will be had to the appended drawing, in which:

Fig. 1 is a front view of one of the sack lifters made in accordance with the present invention, portions thereof being broken away.

Fig. 2 is a side elevation of the device.

Fig. 3 is a sketch illustrating one manner of use of such device.

The device of the present invention generally consists of a backing member 10 comprising a lower, curved portion 11 presenting a concave face which is contiguous to the bottom edge 12 of the member. The concave face extends between the side edges 13 and 14 of the backing

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member. The axis of curvature of the concave face 11 parallels the bottom edge 12 and the concave face 11 preferably represents an angle of rotation or generation of not less than 60° nor more than 90°.

The backing member also includes a substantially flat upper portion 15 from which extensions 16 and 17 extend upwardly in parallel, spaced relation. The upper ends of these extensions may be connected by means of a cross piece 18 around which a hand grip 19 is fastened or formed or the hand grip 19 may connect the upper ends of the extensions 16 and 17. Reenforcing ribs 20 may be formed in the backing member and extend into the extensions 16 and 17. Additional reenforcing ribs may also be formed in other sections of the upper and lower portions 15 and 11 of the backing member. The ribs, such as 20, preferably extend rearwardly (from the convex surface of the bottom portion), thereby presenting a minor depression on the concave or front surface of the backing member.

A sheet of relatively thin metal provided with a large number of punched out, integral, rigid, sharp teeth is attached to the concave face of the lower portion of the backing member. Such sheet is indicated at 21, and it will be noted that the lower portion of such sheet is provided with a large number of triangular, punched out teeth 22, 23, and the like. These teeth are preferably punched out of the sheet metal 21 by suitable dies while such sheet is flat and then the punched out sheet is bent to the curvature imparted to the backing member and either riveted or welded to the concave front face of the backing member. The tooth-bearing face sheet 21 may be removably attached to the backing as by means of machine screws. Thin sheet steel has been successfully used for the toothed facing 21.

It will be noted that the various teeth 22, 23, and the like are only formed in that area of the facing 21 which covers the curved lower portion 11 of the backing member. The upper portion of such facing 21 and particularly that area which is located between the curved lower portion, the extensions 16 and 17 and the hand grip opening, is left plane or flat as indicated at 24 and provides a bearing area or surface.

In use, a pair of sack lifters is grasped by the handles or hand grips and the lower edges 12 are inserted beneath the sides of a bag. When an upward pull is exerted upon the handles, the bag is readily lifted, the various teeth penetrating the bag or sack and firmly holding such sack upon the devices. When it is desired to release

the bag, it is only necessary to bring the hand grips 19 of the two devices toward each other, the bearing area 24 resting against the side of the bag and acting as a lever point which facilitates the withdrawal of the teeth from the bag. In actual practice, it has been found highly desirable to have the hand grips positioned with their axes substantially parallel to the bottom edge 12 of the device. The teeth 22 and 23 should be rigid and may vary from approximately ⅜" in length to ½" in length. They should be smooth and free from burrs so as not to rip or pull the threads of the bag material. The overall height of the device from the bottom edge to the top of the hand grip may vary from 14 to 16 inches so as to place the hand grips above the upper surface of the sack being lifted.

We claim:

A sack lifter consisting of: a backing member

comprising a lower curved portion presenting a concave face contiguous to the bottom edge of such member and a substantially flat upper portion; a pair of spaced extensions extending upwardly from the upper portion of the backing member; reenforcing ribs formed in the lower and upper portions; a hand grip carried by the extensions, the axis of the hand grip virtually paralleling the bottom edge of the backing member; and a sheet of relatively thin metal provided with a large number of punched out, integral, rigid, sharp teeth, such sheet being attached to the concave face of the lower portion of the backing member, said backing member and sheet presenting a virtually flat, toothless, bearing area above the concave face and between the extensions and hand grip.

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