Sept. 25, 1923. 1,468,878

J. A. DONALD

DEVICE FOR HANDLING PACKAGES

Filed Nov. 8, 1921

FIG. 1

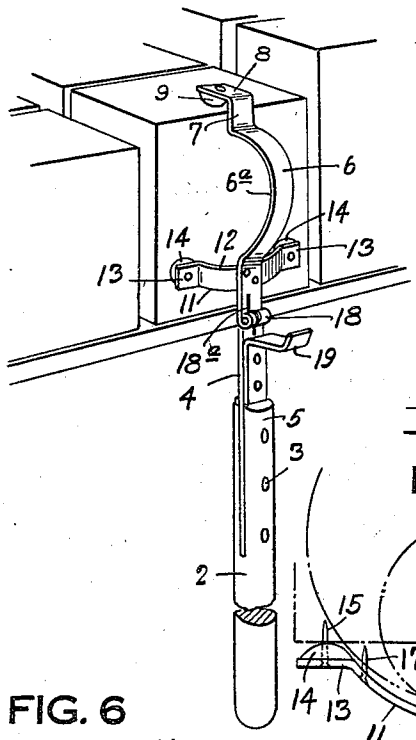


FIG. 2

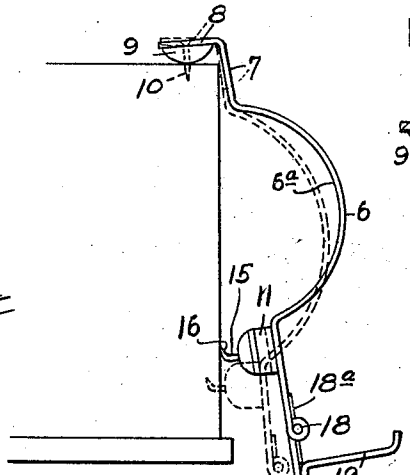


FIG. 5

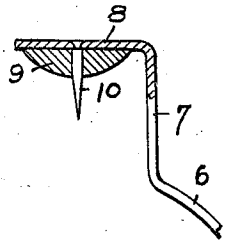


FIG. 4

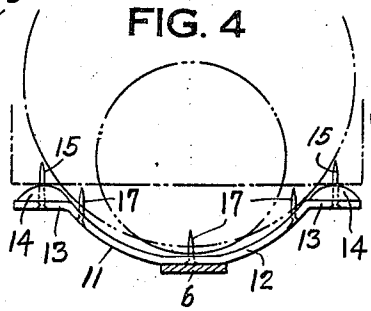


FIG. 6

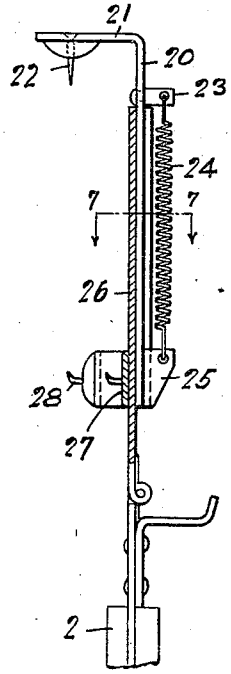


FIG. 7

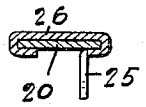
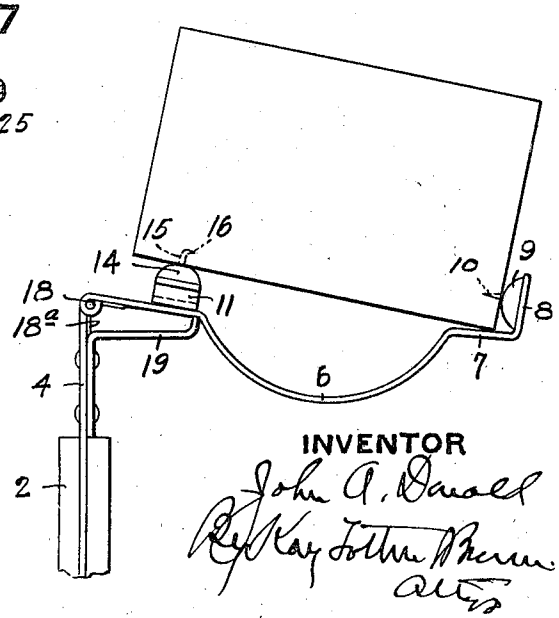


FIG. 3



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UNITED STATES PATENT OFFICE.

JOHN A. DONALD, OF WILKINSBURG, PENNSYLVANIA.

DEVICE FOR HANDLING PACKAGES.

Application filed November 8, 1921. Serial No. 513,648.

To all whom it may concern:

Be it known that I, JOHN A. DONALD, a citizen of the United States, and resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Devices for Handling Packages; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to a device for handling packages, and has reference more particularly to the lifting of packages from elevated positions, such as from the upper shelves in store-rooms.

The object of my invention is to provide a simple and efficient device by means of which packages may be quickly and readily removed from upper shelves and held securely in position so as to prevent their falling while being lowered, thereby doing away with the necessity of getting up on to counters, or using ladders to reach the desired packages.

To these ends my invention comprises the novel features hereinafter set forth and claimed.

In the accompanying drawing, Fig. 1 is a perspective view of my package handling device, partly broken away, showing it in the operation of removing a package from a shelf; Fig. 2 is an enlarged side view broken away, showing the position of the device in full lines when first applied, and showing in dotted lines the final position of securing the package; Fig. 3 is a view showing the device tilted back with the package in a horizontal position for lowering it; Fig. 4 is a cross section showing the device as applied to the removal of a square or round package; Fig. 5 is an enlarged detail of the upper end of the spring member; Fig. 6 shows a modified form of my invention; and Fig. 7 is a section on the line 7—7, Fig. 6.

In the drawing, the numeral 2 designates a suitable rod or handle, to the upper end of which my improved package handling device is secured by means of the rivets 3, or other suitable fastening devices.

My device in one of its forms consists of the metal strip 4, the lower portion of which is held between the bifurcated end 5 of the handle 2 by means of the rivets 3.

The upper end of the metal strip 4 has hinged thereto the frame 6 which is preferably made of spring steel, or some metal having the required resiliency, and said metal frame is bowed as at 6^a for the purpose more fully hereinafter set forth.

Above the bowed portion 6^a the frame 6 is bent to form the substantially straight portion 7, and the inwardly projecting tongue 8. A pad 9 of rubber, or other resilient material, is secured to the tongue 8, and a prong 10 passes through said tongue and pad, which prong is adapted to engage the top of the package to be handled.

A cross-arm 11 is secured to the frame 6 just below the bowed portion 6^a, said arm being preferably curved, as at 12, intermediate its ends. The outer ends 13 of the arm 11 are straight, and have the pads 14 secured thereto with the prongs 15 passing through the ends of said cross-arm and through the pads 14, the inner end of said prongs being formed with a slight hooked portion 16. As clearly shown in Fig. 4, the curved portion 12 of the cross-arm 11 may be provided with prongs 17 which will come into play when the device is used for handling round packages.

To secure greater safety in the handling of the packages, I prefer to have the frame 6 hinged to the strip 4 as at 18, with the spring 18^a which normally holds the frame upright, so that when the package has been grasped the upper portion may be tilted back into the position shown in Fig. 3, by the weight of the package, so that the package is held in a horizontal position in lowering. To support the upper portion in this position, I provide the bracket 19 which is secured to the strip 4.

In the operation of my device, the operator holding the handle 2 in his hand elevates it until the tongue 8 is above the package to be removed, whereupon by drawing down the said handle the prong 10 is forced into the top of the package, the pad 9 limiting the downward movement, and acting as a cushion so as to prevent any undue pressure which would tend to mutilate or break the package. Having engaged the package in this manner at the top by pulling down on the handle 2, the bowed portion 6^a, due to the spring of the metal, will be slightly elongated, as shown in dotted lines, Fig. 2, whereupon the handle 2 is manipulated so as to force the prongs 15 at the outer ends of the cross-arm 11 into the front of the package, and as said prongs are slightly hooked they will pass in an upward

direction into said package, thereby securing a tight hold, so that, in conjunction with the hold already secured on the package by the prong 10, the package will be securely held, so that it may then be lifted from the shelf and lowered without danger of its becoming free to fall. However, to insure further against falling, the upper portion of the device may be tilted back into the position shown in Fig. 3, so that the package is supported in substantially a horizontal position, and may be lowered in this way, so that even if the hold secured by the prongs 10 and 15 should become loosened the package would still be held in position to be lowered without any danger of its falling.

In case it is desired to remove a round package, the device operates in the same manner as above described, the prong 10 being first inserted in the top of the package, whereupon by drawing down the bowed portion 6ª is elongated and the prongs 17 are then forced into the package. If the package is a small one the central prong 17 alone will engage the package, but where the circumference of the package is large enough all the prongs 17 will come into play.

In Fig. 6, I have illustrated a modified form of my invention in which the vertical arm 20 has the inwardly extending tongue 21 with the prong 22 extending down therefrom. This arm has the lug 23, to which the upper end of the spiral spring 24 is connected, the lower end of said spring being connected to the lug 25 on the sliding sleeve 26, which encloses the arm 20. The sliding sleeve 26 has the cross-arm 27 with the prongs 28. In the operation of this modified form of my invention, the operator, as before, secures a hold on the top of the package by forcing the prong 22 into the same, whereupon by pulling down on the rod 2 the sleeve 26 moves down, the spring 24 being elongated, whereupon the prongs 28 are forced into the package in the same manner as above described, so that the package is held securely in place between the lug 21 and the cross-arm 27.

What I claim is:

1. The combination with a suitable handle, of a package handling device carried thereby, comprising a metal member having an inwardly projecting tongue at its upper end, a prong carried by said tongue, a cross arm engaged by said metal member, prongs carried by said cross arm, and a spring connected to said metal member and said arm.

2. The combination with a suitable handle, of a package handling device carried thereby, comprising a metal member having an inwardly projecting tongue at its upper end, a prong carried by said tongue, a cross-arm supported by said metal member, prongs carried by said cross-arm, and a bowed spring portion between sand tongue and said arm.

3. The combination with a suitable handle, of a package handling device carried thereby comprising a metal member having an inwardly projecting tongue at its upper end, a pad carried by said tongue, a prong carried by said tongue projecting through said pad, a cross-arm carried by said member having pads at the ends thereof, prongs on said arm passing through said pad, and a spring-bowed portion between said tongue and said arm.

4. The combination with a suitable handle, of a package handling device comprising a metal member having an inwardly extending tongue at the upper end, a prong carried by said tongue, a curved cross arm, prongs carried by said cross arm, and a bowed spring portion between said tongue and cross arm.

5. The combination with a suitable handle, of a package handling device comprising a hinged metal member having an inwardly projecting tongue at the upper end, an element at the upper end of said member adapted to engage the top of the package, a second element adapted to engage the front of the package and a support carried by the said handle to maintain said metal member in a horizontal position.

In testimony whereof, I the said JOHN A. DONALD, have hereunto set my hand.

JOHN A. DONALD.

Witnesses:
EDITH K. FREESE,
JOHN F. WILL.