June 5, 1956 G. B. JACOBS 2,749,172

BUNDLE THROWING HANDLE DEVICE

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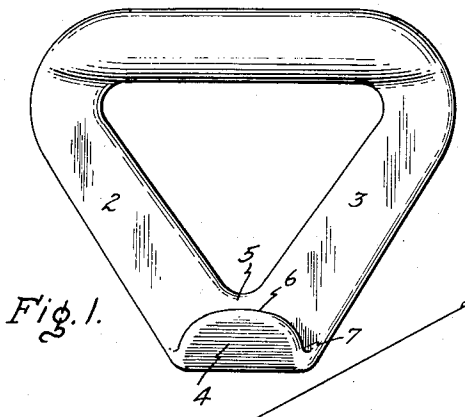


Fig. 1.

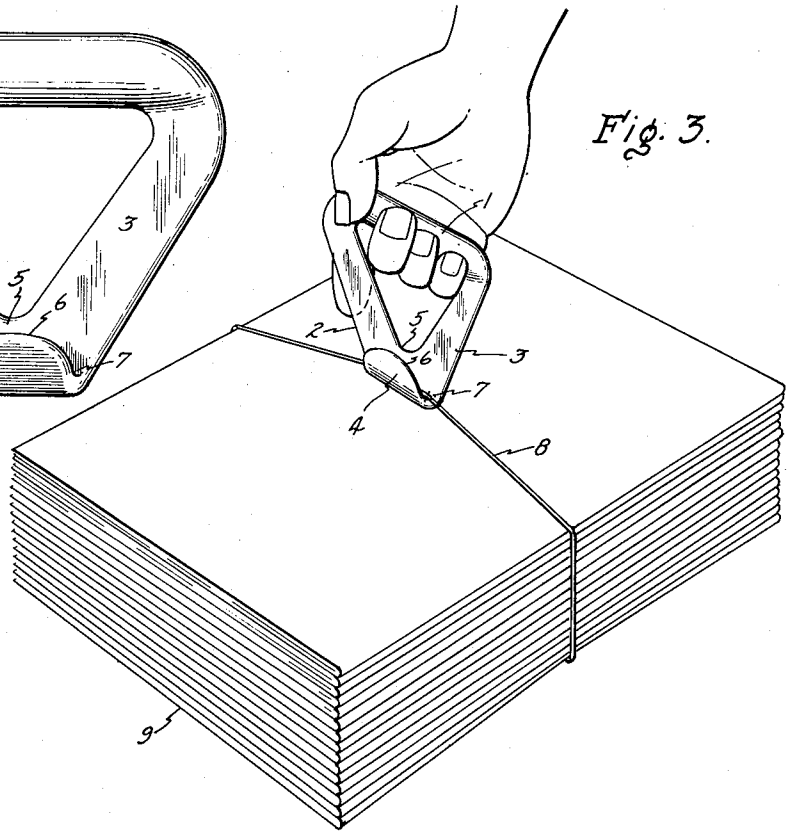


Fig. 3.

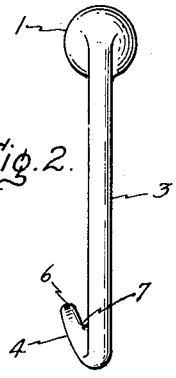


Fig. 2.

Fig. 5.

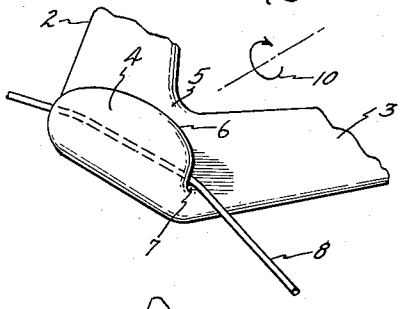
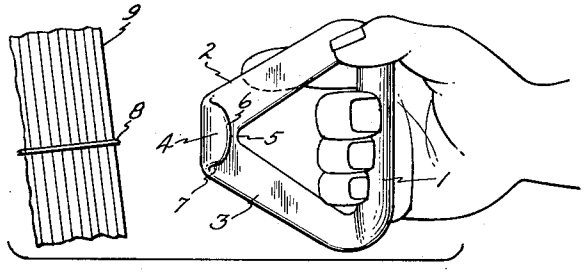


Fig. 4.



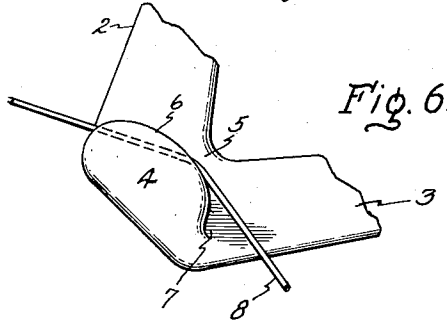


Fig. 6.

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BUNDLE THROWING HANDLE DEVICE

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2 Claims. (Cl. 294—26)

My invention pertains to bundle throwing handle devices, particularly devices comprising a lip for releasably engaging the cord, wire or the like which binds a package or bundle and a handle portion attached to the lip.

A general object of my invention is to provide improved means for the manual handling of packages and bundles.

My invention is particularly adapted for use in the handling of newspapers. It is the common practice to bind newspapers together into bundles as soon as the newspapers, which have been printed and put together, can be collected into bundles. The bundles are tied or bound with a tout cord or with wire, the binding, on city newspapers, being applied by a machine, the bundle comprising perhaps 25 or 100 newspapers and typically weighing between 30 to 70 pounds, more or less. The bundles issuing from the binding machine are transferred, usually by hand, to a mechanical conveyor which carries the bundles to and along a truck loading platform. Men who serve as loaders are stationed along the platform. The loaders grab bundles from the conveyor and throw the bundles onto waiting trucks. In some plants, certain other handling of the bundles may be required. For example, it may be necessary to load the bundles onto hand trucks or pallets or to stack the bundles out of the way for future loading on trucks.

The loaded trucks deliver the bundles to distribution stations throughout the city and to hotels, post offices, railroad stations, newsstands and the like. Wherever a bundle is delivered, it must be handled again, for example, by being thrown from the truck to a platform, there to be again picked up and carried to a point of sale.

The men or handlers who must handle the bundles cannot grasp the cord or wire because of the injury to the fingers which results. It has been the practice for the handler to lean over, grasp the bundle at its lower edges with both hands, to straighten the body while lifting the heavy bundle and then to throw the bundle.

While handles have been heretofore suggested for attachment to the cord of packages, such prior devices are not practical for handling newspapers since they are not readily detachable.

The handle device of the present invention is so arranged that it will readily catch the cord or wire on the top of the bundle and that it will remain, during the lifting and swinging of the bundle, safely and firmly secured to the bundle, while at the same time it is arranged to release from the bundle in response to a mere flick of the wrist of the handler.

The novel features which are believed to be characteristic of this invention are set forth with particularity in the appended claims. The invention itself, however, both as to its organization and method of operation, together with further objects and advantages thereof, may best be understood by reference to the following description taken in connection with the accompanying drawing, in which:

Fig. 1 is a front elevation of a device in accord with my invention;

Fig. 2 is a side elevation of the device;

Fig. 3 is a perspective view showing the device in reduced scale in use in lifting or swinging a bundle of newspapers;

Fig. 4 is a view similar to Fig. 3 but showing the position of the device in respect to a bundle of newspapers immediately following release of the thrown bundle;

Fig. 5 is a detail perspective view of the lip portion of the device engaged with a bundle cord; and

Fig. 6 is a view similar to that of Fig. 5 demonstrating the action of the lip during release of the bundle cord from the handle device.

As seen in Fig. 1 a preferred embodiment of my invention comprises a metal member shaped generally in the form of an equilateral triangle and having an upper cylindrical handle portion **1** forming the base of the triangle, two flat leg portions **2** and **3** as the two sides of the triangle, and a lip **4** at the apex at which the legs **2** and **3** join to form web **5**. The one of the legs which extends upwardly to the left from the lip and which is designated **2** in the drawings serves as a finger rest for the index finger in normal right-handed use of the device, while the leg **3** extending upwardly toward the right serves as a mere stiff joining structural element, holding the handle portion **1** and lip **4** in proper relation. Legs **2** and **3** are preferably identical and, in the illustrated embodiment, both, of course, contribute to the overall strength and rigity of the device. If the device is to be used in the left hand, as will hereafter become apparent, leg **3** may function as the finger rest.

It is to be noted that the lip **4**, as seen in Fig. 1, is rounded from end to end of the lip. In other words, the upper edge **6** of the lip is shaped to comprise a substantially continuous and smooth arc which curves downwardly at the ends of the lip, and meets the ends of the straight lower edge of web **5** to form therewith an acute angle of approximately 50 degrees in the illustrated embodiment.

Fig. 2 shows the device in side view. The cylindrical handle portion **1** is seen to be rounded off into the leg **3**, and the lip **4** extends upwardly and outwardly from the plane of the legs to form a notch or groove **7** in which the cord or wire of a lifted bundle will be disposed. The upper edge **6** of the lip is seen in this figure to be rounded across the thickness of the lip. The roundness across the thickness of the lip at its upper edge, together with the curve of the upper edge **6** from side to side as seen in Fig. 1, are important to the effective operation of the device in connection with the release of bundles being thrown.

The legs **2** and **3** of the device are preferably rounded at the edges to prevent any injury to the hand and to improve the appearance. The roundness of the upper edge **6** of the lip, however, is important to the operation of the device. The rounded edge **6** does not catch and tear the paper as the lip is pulled across the upper surface of the bundle to engage the binding cord, the roundness of the edge **6** toward the notch **7** minimizes any cutting tendency of the lip on the cord and avoids catching of the cord on the lip during release of the bundle, thereby causing the bundle to be released as later explained.

A bundle of newspapers is lifted by the handle by first dragging the lip **4** across the top of the bundle, holding handle portion **1** in the hand, until lip **4** engages under the binding cord or wire of the bundle, and then by lifting the handle into the position of Fig. 3. As there seen, the cord **8** which binds the bundle **9** of newspapers is engaged in the notch formed against web **5** and behind the upturned lip **4**. The forefinger of the right hand is in

position against the back side of finger rest 2, while the remaining fingers grasp handle 1. The thumb rests comfortably against the handle 1. It has been found that the bundle so held is readily controlled and guided by the hand and that it may be accurately swung to permit accurate throwing by the handler.

The bundle as seen in Fig. 3 may be swung forward and thrown, the handle device being released therefrom as the bundle swings forward, as indicated in Fig. 4. As there seen, the bundle 9, of which only a portion is shown, has just been released from the handle device. Release is obtained by a sharp twist or snap of the handle device accomplished by pressing with the index finger against rest or leg 2 while pulling with the tip of the little finger against the handle adjacent the end of leg 3. Looking down the arm of the handler, the twist of the device is thus seen as a counterclockwise twist. The twist should be rapidly applied and should occur just as most of the weight or pull of the bundle on the handle device is reduced at the top of the swing, as the arm approaches a horizontal position. It is desirable that there be a slight forward movement of the hand, in the direction in which the bundle is being thrown, at the moment of application of the twist.

The release of the cord 8 from the groove behind the lip 4 may be further understood by reference to Figs. 5 and 6, showing details of the lip portion of the device. During the period in which the handle device is being employed to lift, carry and swing the bundle, the cord 8 is seated or engaged in the notch 7 behind the lip as seen in Fig. 5. When a sudden twist is applied in the direction indicated by arrow 10, raising leg 2 and dropping leg 3 as they appear in Fig. 5, the cord or wire 8 rides up along the upper edge 6 of lip 4 as seen in Fig. 6. As the twisting motion of the handle device continues, the cord becomes completely detached from the handle device. Usually, approximately a forty-five degree rotation of the handle device will be entirely sufficient to effect release, although up to the ninety degree rotation as seen in Fig. 4 may be conveniently accomplished and will insure release.

The notch 7 behind the lip is preferably sufficiently curved at the bottom of the notch to prevent the cord or wire of the bundle from wedging therein. The radius of curvature of the bottom of the notch may be, for example, about 1½ to 2 times the radius of the cord or wire. The lip 4 should form an angle with the plane of legs 2 and 3 of between about 45 degrees and 25 degrees taken between the surface of the web portion 5 formed at the apex portion of the device where the legs meet, and the inner surface of the lip 4 which generally faces the web 5.

It has been found important that the lip and notch be disposed opposite the center of the handle portion 1, that the finger rest 2 be positioned between the end of the handle portion and the center of the lip, and that the end of the handle portion engaged by the little finger be approximately as far from the lip at its side as the thumb and forefinger end of the handle portion is toward the opposite side of the lip. Such arrangement not only balances the load comfortably in the hand but provides that the twist applied in releasing the load will be about substantially an axis passing through the center of the notch and through the center of the handle portion, as suggested by the arrow 10 of Fig. 5.

It has been found suitable to fabricate the device from an aluminum casting, either forming the notch 7 in the casting or milling the notch from a lip 4 cast solid with the web 5. It may be desirable to form the handle portion 1 hollow to conserve some weight and material. Other preferable light weight metals or alloys would be satisfactory, however, and the stronger molded plastic materials may be employed if desired. Alternatively, the device may be punched from heavy sheet metal, the lip bent from the blank, and comfortable wooden or metal grip blocks may be riveted or otherwise attached to the sides of the handle member. Any sharp edges remaining along the upper edge of the lip should be rounded off, as with a file or grinding wheel, to insure proper operation of the device in releasing the cord as explained above, and sharp edges which might cut the hands should be rounded off as well.

While only certain preferred embodiments of this invention have been shown and described by way of illustration, many modifications will occur to those skilled in the art and it is, therefore, desired that it be understood that it is intended in the appended claims to cover all such modifications as fall within the true spirit and scope of this invention.

What is claimed as new and what it is desired to secure by Letters Patent of the United States is:

1. A quick-releasable handle device comprising a generally equilaterally triangular structure, and said structure comprising an elongated handle portion as the base leg of said triangular structure, two side legs extending from respective ends of said handle portion meeting in a web portion at the apex of said triangular structure, a lip extending from said apex at an angle of between about 45 degrees and 20 degrees to said web and forming a cord receiving notch between said lip and web, said lip having a rounded upper edge curving in a continuous arc from one end of said edge to the other end and at its respective said ends meeting each of the respective ends of said notch at an angle not greater than approximately 60 degrees to the axis of said notch, whereby a bundle cord engaged in said notch is released over said lip in response to a rapid twist of said handle device.

2. A cord-engageable, quick-releasable handle device comprising an elongated hand grip portion, a pair of legs extending from respective opposite ends of said grip portion and meeting in a web portion opposite and spaced from the center of said hand grip portion, said web having a generally straight edge along its far side from said hand grip portion, a lip extending from said edge over said web and forming an elongated notch between said lip and web, said lip having a curved free edge forming a substantially continuous arc between respective ends of said curved free edge and meeting at its said ends corresponding respective ends of said straight edge of said web portion and forming therewith angles of between approximately 20 and 60 degrees.

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