Oct. 1, 1963 L. P. HAPP 3,105,715

PICK-UP DEVICE

Filed April 25, 1960

Fig. 1.

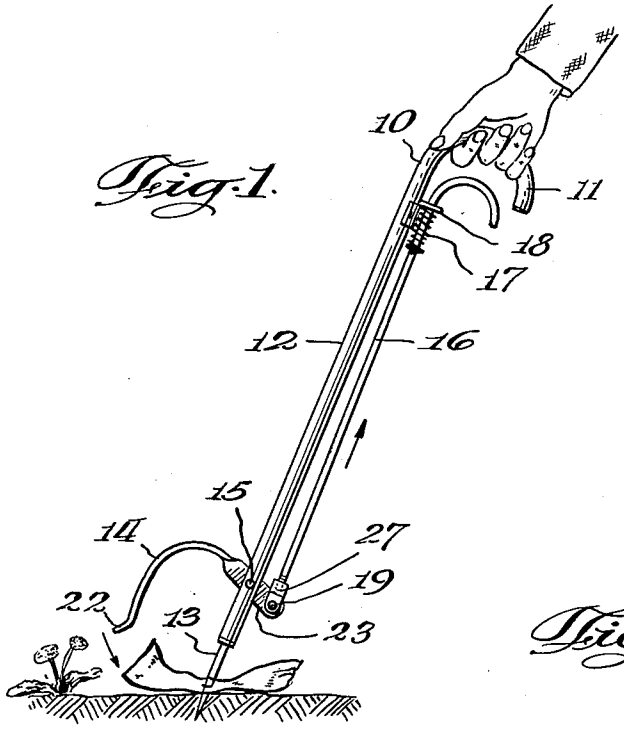


Fig. 2.

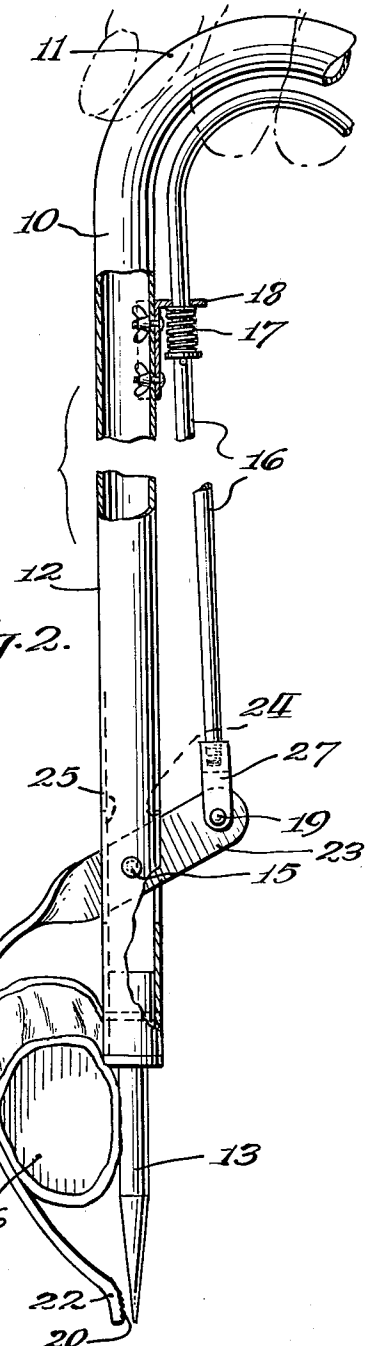


Fig. 3.

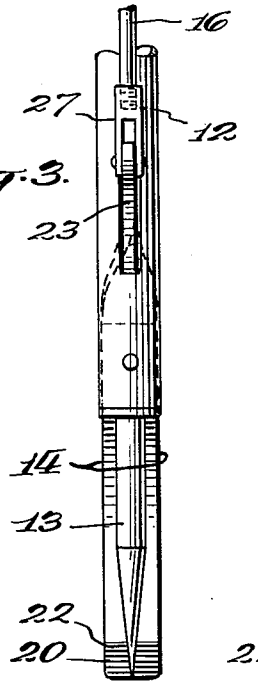
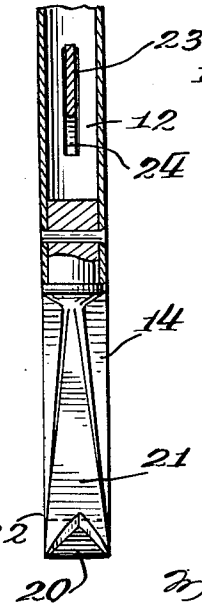


Fig. 4.



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PICK-UP DEVICE

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This invention relates to a device for picking up litter such as paper, trash and other debris and securely holding such matter until it is desired that it be placed in receptacles or otherwise disposed of. More particularly, the device is of a type having an impaler for piercing paper and other easily penetrable objects and having an associated arcuate finger pivotably mounted on the shank of said device movable relative to said impaler for the purposes of picking up and gripping objects which are difficult to penetrate due to the hard surface underlying such objects or due to the hardness of the material of which said objects are constructed.

The pick-up device of the present invention is especially useful for retrieving objects such as bottles, or the like, which are not readily pierceable by the impaler. The present invention not only provides an impaler for piercing paper and other penetrable objects, but in addition thereto, provides an associated arcuate finger having an intermediate curved portion forming a bulge for coacting with the impaler in retaining the objects picked up in a secure manner. The action of said finger with said impaler is much the same as that of a finger moveable relative the thumb of a human hand for the purposes of picking up and gripping objects.

The improved pick-up device of the present invention being cane-like in construction permits objects to be picked up without any bending movement required on the part of the operator, so that it is especially useful for people who are unable to bend freely for the purpose of picking up objects.

The invention will now be described in conjunction with the attached drawings in which:

FIG. 1 is a side-elevational view of the pick-up device in its normal operating position for impaling penetrable objects as shown with the associated arcuate finger in the normally open position relative the impaler.

FIG. 2 is an enlarged drawing of the pick-up device showing the lower portion in a closed gripping position picking up and retaining an object of litter, the shank being broken for the convenience of the enlargement, the pull-rod being in a retracted position.

FIG. 3 is a side view of the lower portion showing, in detail, the impaler and associated arcuate finger with serrations thereon.

FIG. 4 is another embodiment of the present invention with the impaler being replaced by a double-pronged spading head, the drawing being of the lower portion of the device and partly broken away to show the head in assembly with the shank of the device.

Now referring to the drawings, and specifically to FIG. 1 thereof, the pick-up device 10 of the present invention has extending from an arcuate handle 11, an elongated shank 12, which terminates in a removably attached, axially aligned, spicate impaler 13 having a pointed end for piercing paper and other easily penetrable objects. The associated arcuate finger 14 as shown in FIG. 1 is biased in a normally open position relative to the impaler 13, in which position the finger 14 does not interfere with the piercing action of the impaler 13 for use in picking up easily penetrable objects.

The associated arcuate finger 14 is pivotable about pivot pin 15 on the shank 12, and moveable relative the impaler 13 in a direction as shown by the arrow.

In addition to the bulge portion in the finger 14, the terminal portion 22 is bent as shown in FIGS. 1 and 2 to

provide a gripping surface thereon, which is substantially parallel to the sloping surface of the impaler 13 when in a gripping relationship therewith and provides a substantial gripping surface on both sides of the object being picked up. The closer the gripping association between the finger terminal portion 22 with the impaler 13 the more parallel are the gripping surfaces, so that thinner objects such as scraps of paper and the like are capable of being picked up and when the surface of the terminal portion 22 and the impaler 13 are in contact, the contacting sloping surfaces of the impaler 13 and the terminal portion 22 are parallel.

The shank portion 23 of the finger 14 is pivotably mounted in the shank 12 through the elongated slots 24 and 25 provided in the shank for that purpose. A pull-rod 16 is slidably mounted in guide means 18, which is securely attached to the shank 12, said guide means 18 having an opening through which the pull-rod 16 is permitted to slide upon being retracted by hand pressure applied thereto and through which it slides upon being relieved of the pressure. The pull-rod 16 is spring biased by a compression spring 17 to maintain the associated finger 14 in the normally open position to permit the impaler to be used for piercing and picking up paper, trash or other debris which is easily penetrable. When the pull-rod 16 is retracted as shown in FIG. 2, the associated arcuate finger 14 will be in the gripping position relative the impaler 13 and be capable of retaining hard surfaced objects such as the object of litter 26.

The operation of the present pick-up device 10 is such that the spring means 17 biases the pull-rod 16 in a downwardly direction so that the associated arcuate finger 14 remains in its normally open position. The finger 14 pivots about pivot pin 19 of the clevis member 27 attached to the lower end of the pull-rod 16 and, simultaneously therewith pivots about pivot point 15 on the shank 12. The shank portion 23 of the finger 14 is straddled by the clevis member 27. Upon the application of hand pressure to the handle of the pull-rod 16, the rod is retracted toward the handle 11 of the cane-like pick-up device, causing the spring 17 to be compressed and the finger 14 to be pivoted about the pivot pin 19 of the clevis member 27 attached to the pull-rod and pivot pin 15 of the shank 12, thereby causing the arcuate finger 14 to move in an arc toward the impaler 13 and into a gripping position therewith for the purposes of picking up objects which are not readily penetrable and for securely holding said objects in a manner as such objects would be held by a finger coacting with the thumb of a human hand. The associated finger 14 is provided with serrations 20 as shown in FIG. 3 to permit a more positive gripping action to occur.

FIG. 4 shows another embodiment of the present invention with the impaler 13 being replaced by a double-pronged spading head 21 which is especially useful for digging up plants such as dandelions or the like, wherein the spading head is inserted into the ground beneath the plant to be dug up, thereby severing the root of said plant. When this has been accomplished, the associated arcuate finger 14 is selectively drawn toward the spading head so as to grip the plant, permitting its removal from the ground.

The pick-up device of the present invention is preferably constructed of lightweight metals except for the impaler and the spading head which are constructed of heavier metal which can endure the heavier usage to which they are to be put.

There are several attachments which are to be utilized with the present device and it is intended that they be so used. One such attachment is a pair of scoops which are designed to be slidably attached, one onto the impaler

and the other onto the arcuate finger for the purpose of picking up soft trash or debris which would normally crumble under the gripping action of the arcuate finger and impaler.

Various changes and modifications of the present invention can be made and to the extent that such variations incorporate the operation of this invention, they are intended to be included within the scope of the following claims.

What is claimed is:

1. A pick-up device comprising an elongated shank having a handle at one end thereof and a spicate impaler at the other end thereof, said impaler having a tapered free end portion with a generally sloping surface which terminates in a pointed end, guide means attached to said elongated shank intermediate said handle and said spicate impaler, a pull-rod mounted in and guided by said guide means, said pull-rod having a handle at one end thereof adjacent said handle of said shank and coacting therewith to permit manual manipulation of said pull-rod, a finger including an arcuate portion and a terminal portion, said finger pivotally mounted on said shank adjacent said spicate impaler, spring means for biasing said finger into a normally open position away from said sloping surface of said impaler, means for coupling said pull-rod to said finger, said terminal portion extending along and substantially parallel to said sloping surface of said impaler, being adapted to contact said sloping surface along the length of said terminal portion when said finger is in the normally closed position and terminating coextensively with the sharp pointed end of said impaler whereby thin objects such as scraps of paper and the like are capable of being picked up when the terminal portion of the finger and the sharp pointed end of the impaler are in contact.

2. A pick-up device comprising an elongated shank having a handle at one end thereof and a spicate impaler at the other end thereof, said impaler having a tapered free end portion with a generally sloping surface which terminates in a pointed end, guide means attached to said elongated shank intermediate said handle and said spicate impaler, a pull rod mounted in and guided by said guide means, said pull-rod having a handle at one end thereof adjacent said handle of said shank and coacting therewith to permit manual manipulation of said pull-rod, a finger

including an arcuate portion and a terminal portion, said finger pivotally mounted on said shank adjacent said spicate impaler, means for coupling said pull-rod to said finger, stop means on said pull-rod spaced from said guide means, spring means encircling said pull-rod and disposed between said guide means and said stop means for biasing said finger into a normally open position away from said sloping surface of said impaler, said terminal portion extending along and substantially parallel to said sloping surface of said impaler, being adapted to contact said sloping surface along the length of said terminal portion when said finger is in the normally closed position and terminating coextensively with the sharp pointed end of said impaler whereby thin objects such as scraps of paper and the like are capable of being picked up when the terminal portion of the finger and the sharp pointed end of the impaler are in contact.

3. The invention defined in claim 2, said terminal portion having serrations to provide positive gripping action between said finger and said sloping surface of said impaler.

4. The invention defined in claim 2, wherein said coupling means includes a clevis member.

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