Jan. 24, 1956 R. BELFORD 2,732,242

GATHERING DEVICE

Filed March 28, 1952

Fig. 1

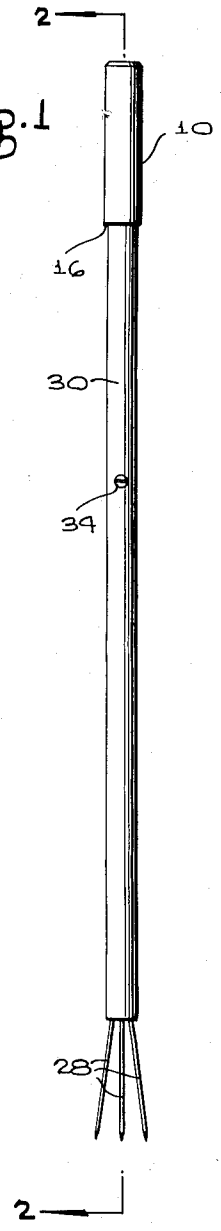


Fig. 2

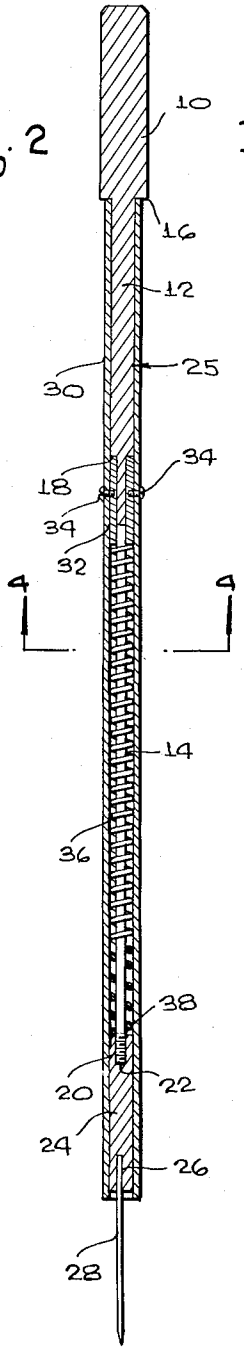


Fig. 3

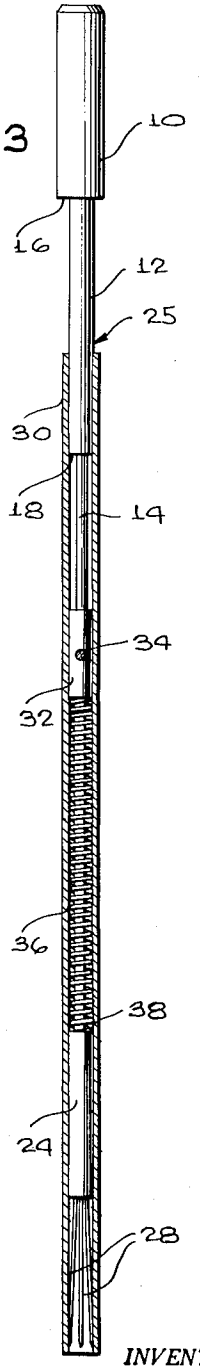
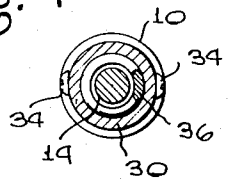


Fig. 4



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GATHERING DEVICE

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1 Claim. (Cl. 294—61)

This invention relates to gathering devices, and more particularly, has reference to a manually operable gathering device or tool adapted to pick up trash such as leaves, loose papers, etc., and facilitate the deposit of the trash in a suitable receptacle.

The main object of the present invention is to provide an improved implement of the character referred to, which will be of simple construction, so as to permit its manufacture at relatively low cost, said implement being nevertheless formed in a manner whereby it will operate efficiently in impaling pieces of paper, leaves, and the like, and will act with equal efficiency in stripping the impaled trash from the impaling means provided on the implement, for deposit of said trash in a suitable receptacle.

Another important object is to provide a gathering device of the type stated which, when being used for the purpose of impaling trash, will be provided with a rigid assembly extending fully from the handle to the impaling pins, thus to insure the impaling of the trash on the exertion of downward pressure against the handle.

Another important object is to provide an implement as stated which, while being provided with the aforementioned rigid assembly, will nevertheless be equipped with means capable of being grasped whenever the trash is to be stripped from the impaling pins, and adapted when grasped to be shifted longitudinally of said rigid assembly, for stripping of the trash from the pins.

Yet another important object is to provide a construction, in a device of the type stated, wherein the gathering pins will be formed of a springable material, said material being so tensioned as to normally bias the pins away from one another, thereby to cause said pins to be spaced over an area of substantial size, the pin stripping means being so proportioned relative to the pins as to be shiftable into longitudinal contact with the pins, when the pins are to be stripped, thus to insure the stripping of all of the material impaled by the pins, while at the same time biasing the pins inwardly to confine the pins within said stripping means.

Still another object of importance is to provide an implement of the character referred to wherein spring means will be provided at a particular location relative to said rigid assembly and pin strippng means, said spring being arranged to bias the pin stripping means to a normally inoperative positon in which it will not interfere with the picking up of the trash.

Still another important object is to provide an implement of the character stated that will be rugged and durable, while still being designed in a manner to permit its manufacture at a low cost.

Summarized briefly, the invention includes a rigid assembly having a handle at one end, said assembly further including an elongated shank having end portions equal in diameter and an intermediate portion reduced in diameter relative to that of the end portions. That end portion remote from the handle is provided with a series of gathering pins, said pins being of a

springable material and being tensioned in such a manner as to normally bias the pointed, free ends of the pins away from one another. Slidably mounted on the large diameter end portions of the shank, and extending the length of the shank, is a tubular member, which is normally held in a retracted position in which the pins are exposed, but which can be shifted longitudinally of the shank for the purpose of engaging the pins and stripping the accumulated trash therefrom. An internal sleeve is provided on the tubular member, intermediate the opposite ends of said member, a spring being interposed between said sleeve and one end portion of the shank for normally biasing the tubular member to a retracted position. Means are provided on the shank adapted to engage said sleeve in the retracted position of the tubular member for limiting movement of the tubular member in one direction.

Other objects will appear from the following description, the claim appended thereto, and from the annexed drawing, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is an elevational view of a gathering device formed in accordance with the present invention;

Figure 2 is a longitudinal sectional view taken on line 2—2 of Figure 1, the scale being enlarged above that of Figure 1;

Figure 3 is a view partly in elevation and partly in longitudinal section, wherein the pin stripping means has been shifted to its extended position; and

Figure 4 is a transverse sectional view, the scale being enlarged still further, taken on line 4—4 of Figure 2.

Referring to the drawings in detail, the invention includes a relatively elongated, cylindrical handle **10** of solid constructon. The handle is so proportioned as to length as to be adapted to be gripped by one hand of a user, and integral or otherwise rigid with said handle, at one end of the handle, is an elongated, cylindrical body **12**. The body **12**, as will be noted from Figure 2, is reduced in diameter relative to the diameter of the handle **10**.

Integral or otherwise made rigid with the body **12**, at one end of said body, is an elongated rod **14**, said rod being reduced in diameter relative to the diameter of the cylindrical body **12**.

By reason of the changing diameters referred to above, an annular shoulder is defined between the body **12** and handle **10**, said shoulder being designated by the reference numeral **16**, and another annular shoulder **18** is defined between the upper end of the rod **14** and the lower end of the body **12**.

That end of the rod **14** remote from the body **12** is formed with threads **20**, for engagement of the rod within an axial, internally threaded recess **22** formed in a cylindrical, relatively elongated, head **24**. The head **24** is formed to a diameter equal to that of the body **12**, for a purpose to be made presently apparent.

That end of the head **24** remote from the rod **14** is formed with a plurality of longitudinal sockets **26**, said sockets being disposed obliquely to one another, and receiving the inner ends of a series of gathering pins **28**. The pins **28**, in this connection, are imbedded in the sockets **26** or are otherwse fixedly secured to the head **24**.

By reason of the arrangement of the sockets **26**, the pins **28** are normally disposed obliquely to one another, as may be noted from Figure 1, and I propose to form said pins of a relatively springable material, the springable material of which the pins are formed being so tensioned as to normally bias the pointed, free ends of the pins outwardly from one another. In this way, the pins have their free ends disposed over a substantial area, thus to insure the impaling of leaves, loose bits of paper, and other trash. The cylindrical body **12**, rod **14**, and head

24 cooperate to define an elongated shank rigid with the handle 10, said shank being designated generally by the reference numeral 25 and having its opposite end portions formed to an equal diameter, the intermediate portion of the shank being defined by the rod 14 and being formed to a diameter reduced relative to that of the respective end portions.

Slidably mounted upon the shank 25 is an elongated tubular member 30, formed open at its opposite ends. The tubular member 30 is in slidable contact, at opposite ends thereof, with the body 12 and head 24 and due to the fact that said body and head are relatively elongated, the tubular member will be retained in slidable contact therewith whether said tubular member is in the retracted position thereof illustrated in Figure 2, or in the extended position thereof illustrated in Figure 3.

Secured to the tubular member, intermediate the opposite ends thereof, is an interiorly disposed sleeve 32, said sleeve being secured in proper position by means of diametrically opposite screws 34 or equivalent fastening means, that extend through the wall of the tubular member and are threaded into the sleeve.

The sleeve 32 provides an abutment, within the tubular member, for one end of an elongated coil spring 36. The spring 36 is circumposed about the rod 14, and at its other end, abuts against an annular shoulder 38 defined between the head 24 and said rod. The spring 36 is normally held under compression within the tubular member, and thus acts to urge the tubular member in the direction of the handle 10, to the position illustrated in Figure 2. In this position of the tubular member, which can be conveniently termed a retracted position, the sleeve 32 will abut against the shoulder 18 provided on the shank 25, thus to limit movement of the tubular member beyond the retracted position thereof.

When the parts are positioned as is shown in Figure 2, the implement is usable for picking up leaves, paper, and other trash, the user being required to merely grasp the handle 10 and exert a downward movement of the handle toward the trash to be picked up. It will be noted, in this connection, that the construction which I have devised is such as to define a completely rigid assembly extending fully from the handle 10 to the gathering pins 28, thus to promote the efficiency of the device in picking up accumulated trash.

After a substantial quantity of trash has accumulated on the pins 28, the user grasps the handle 10 with one hand, and the tubular member 30 with his other hand. He then shifts the tubular member to the position illustrated in Figure 3, against the action of the spring 36, and this movement of the tubular member will cause said member to engage the several pins adjacent their bases, thus to bias the pins inwardly to the position of said pins illustrated in Figure 3. At the same time, the movement of the tubular member longitudinally of the pins will cause the accumulated trash to be stripped efficiently from said pins, for deposit in a suitable receptacle, not shown. In the fully extended position of the tubular member, all the pins will be confined within the member, as shown in Figure 3.

It is believed to be important that the device is of exceedingly simple construction, thus to permit its manufacture at relatively low cost. By reason of the construction illustrated, however, certain notable advantages are obtained, as for example, the provision of a rigid assembly extending from the handle to the gathering pins that promotes efficiency in the gathering of accumulated trash. Further, despite the simplicity of the construction illustrated and described, the entire implement is so formed as to be provided with a pin stripping means that is rugged, durable, and efficient in respect to carrying out its intended functions.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any minor change in construction that may be permitted within the scope of the appended claim.

What is claimed is:

A trash spear comprising: an elongated handle; an elongated, cylindrical body rigid at one end with the handle and formed to a reduced diameter as compared to the diameter of the handle to define therebetween a first shoulder; an elongated rod rigid at one end with the other end of said body and reduced in diameter as compared to the diameter of the body; a cylindrical, elongated head rigid at one end with the other end of said rod and formed to a diameter equal to that of the body to define, between the head and rod, a second shoulder, the other end of the head having a plurality of longitudinal sockets related obliquely to one another; a series of gathering pins embedded in and projecting out of said sockets, said pins being spring tensioned in a direction to bias the projecting portions thereof away from one another; an elongated tubular member formed to an inner diameter equal to the diameter of said body, and to a length closely approximating the distance between said first shoulder and said other end of the head, said tubular member being slidably mounted on the body and head with the elongated formation of the body and head being adapted to permit sliding of the tubular member in opposite directions for substantial distances without disengaging the same from the body and head, the tubular member, when slidably adjusted in one direction, being adapted to contact the pins to strip trash therefrom while biasing the pins inwardly to a position in which they are recessed in the tubular member; an internal sleeve fixedly secured to the tubular member intermediate said body and head, the rod extending through the sleeve and the sleeve having an inner diameter substantially equaling that of the rod to provide a guide for the rod during said slidable movement of the tubular member; and a spring surrounding the rod within the tubular member and abutting at its ends against the sleeve and the second shoulder respectively, said spring being under continuous compression in each position to which the tubular member is shifted, and normally urging the tubular member into engagement with said first shoulder, to a pin-exposing position.

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