SANITARY SCAVENGING IMPLEMENT

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ABSTRACT
An elongated light weight shaft has at one end a handgrip portion and at the other end a scavenging scoop receptacle with an inlet opening facing transversely of the length of the shaft. An electric light on or near the handgrip portion illuminates the receptacle inlet and the locale adjacent thereto. The implement may be manipulated by one hand of a user while the user is standing in his normal upright position. The scoop receptacle may include, or support, a detachable disposable container or liner. A closure lid is hingedly mounted relative to the scoop receptacle so that the lid can be moved into an open position while the receptacle is in scooping position and into closed position upon completion of the scooping operation, selectively, by manipulation of the shaft by the supporting hand of the user.

A pusher tool or brush is carried by the shaft near the receptacle. Propelling means are provided in the receptacle and are operable manually to propel the material scooped into the entry of the receptacle farther into the receptacle and away from the inlet opening so that the material can be carried in the receptacle without danger of spillage even with the shaft carried substantially upright.

3 Claims, 19 Drawing Figures
SANITARY SCAVENGING IMPLEMENT

BACKGROUND OF INVENTION

1. Field of Invention
Manually supported and manipulated scavenging implement.

2. Description of the Prior Art
In recent years, in densely populated residential areas of cities, especially in the locales adjacent large apartment buildings, the excrement or litter of pet dogs has presented a very serious problem. At first the problem was more in the nature of a nuisance which the tenants living in the locality partially abated by the expedient of "curbing" their dogs while "walking" them. However, the number of pet dogs has increased to such a vast extent that the mere curbing of dogs is no longer a satisfactory expedience, and complete removal of the droppings or litter from lawns, sidewalks, and streets has become a necessity. In many areas, the complete removal has been made mandatory by local ordinances.

It appears that no scavenging implement for this purpose has been provided heretofore, except for a tong-like implement, somewhat in the nature of a manual post-hole digger or retrieving tong. This prior implement has pivoted crossed handles with coacting pick-up elements attached to the lower ends of the handles, respectively. The pick-up elements are adapted to be spread apart by swinging the handles toward each other about the pivotal axis, and to be moved toward each other into a "pick-up" position by swinging the handles away from each other. The pivotal axis is close to the pick-up elements and, consequently, to move the elements into operative position both hands must be used, one gripping each handle. The structure is awkward and heavy to handle as one walks about because the handles must be held spread a considerable distance apart to retain the picked up material between the elements.

The alternative is the disagreeable task of bending over and picking up the litter in a paper or receptacle held directly by the fingers.

SUMMARY

The invention is directed to an implement by which dog litter may be scavenged effectively from lawns and sidewalks by an operator while he stands in his normal upright position. The scavenged material can be sealed in the scavenging implement so that it can be transported readily to a disposal site or carried about unobtrusively during entry into stores and buildings. Furthermore, the scavenged material can be emptied readily merely by removal of a disposable container provided in the implement. In those instances in which no disposable container is provided, the implement may be cleaned readily by dumping the contents in a household toilet bowl and, after flushing, swishing its lower end about in the water and again flushing.

The implement is very light in weight, inexpensive to manufacture, and, in appearance, such that it can be carried about in the manner of a walking stick, without any appreciable physical inconvenience to the dog walker and without likelihood of inducing untoward glances by passersby.

Various specific objects and advantages will become apparent from the following description in which reference is made to the drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a front elevation of a scavenging implement embodying a form of the present invention and showing the implement in its normal carrying and operating position;
FIG. 2 is a right side elevation of the implement illustrated in FIG. 1;
FIG. 3 is a vertical sectional view of the implement taken on the line 3—3 in FIG. 2;
FIG. 4 is an enlarged fragmentary front elevation of the receptacle illustrated in FIGS. 1 and 2;
FIG. 5 is an enlarged right side elevation of the receptacle illustrated in FIG. 4, part thereof being broken away for clearness in illustration;
FIG. 6 is a fragmentary front elevation showing a modified form of the implement in which the receptacle is a detachable container;
FIG. 7 is a right side elevation of the implement illustrated in FIG. 6;
FIG. 8 is a right side elevation of the implement illustrated in FIG. 6 with the container removed;
FIG. 9 is a fragmentary front elevation of another modified form of the implement in which the receptacle is detachable;
FIG. 10 is a right side elevation of the implement illustrated in FIG. 9;
FIG. 11 is a fragmentary enlarged front elevation of a modified form of the implement in which a disposable lining or container is employed;
FIG. 12 is a vertical, longitudinal sectional view taken on the line 12—12 in FIG. 11, part thereof being shown in elevation;
FIG. 13 is a fragmentary enlarged front elevation of the modified form of the implement illustrated in FIGS. 11 and 12, in which the disposable container is a flexible bag;
FIG. 14 is a right side elevation of the structure illustrated in FIG. 13, part thereof being shown in section for clearness in illustration;
FIG. 15 is a top plan view of an implement embodying another modified form of the invention and which includes a lid for the receptacle;
FIG. 16 is a fragmentary front elevation of the implement illustrated in FIG. 15, showing the implement in upright carrying condition;
FIG. 17 is a right side elevation, similar to FIG. 16, but showing the implement in open or scooping position;
FIG. 18 is a front elevation of the implement such as shown in FIG. 15, but embodying a modified lid arrangement; and
FIG. 19 is a vertical longitudinal sectional view of the implement illustrated in FIG. 18, taken on the line 19—19 thereof.

Referring first to FIG. 1, the scavenging implement comprises an elongated handle or shaft 1 which may be in the form of an extruded plastic tube. The shaft is of a length such that, when the upper end portion or hand grip of the shaft is gripped in the hand and the holder stands in his normal upright position, the lower end portion is disposed at a short distance from the ground, so as to accommodate a receptacle therebeneath. Connected to the lower end of the shaft is a scoop receptacle 2. The scoop receptacle 2 may be molded in unitary form of plastic and has an upright open neck portion or socket 3 in which the lower end of the shaft 1 is secured.
by threading, cementing or the like. The socket 3 is positioned so that the axis of the shaft 1 passes close to the scooping open end of the receptacle 2.

The receptacle preferably has a curvilinear top wall 4, side walls 5 with a relatively flat bottom wall 6 which is disposed horizontally when the shaft 1 is upright. The receptacle is closed at its rear end 7, and is open at its front end 8 to provide an inlet or entry into the receptacle through which the scavenged litter can enter. The receptacle 2 is preferably elongated endwise so that the scavenged litter can be disposed near the rear thereof so that it can be carried readily therein without danger of spillage even when the shaft 1 is carried in a substantially upright position.

In order to assist in scooping the litter into the receptacle 2, a forward lip 9 is provided on the receptacle. The lip 9 may be substantially a forward continuation of the bottom wall 6 beyond the front or open end of the receptacle 2.

To dispose the litter in a pile or condition so that it can be readily scooped into the receptacle 2 by manipulating the shaft 1, the implement is provided with cleaning tool means at one or both sides. The cleaning tool means may be in the form of a blade or scraper 10 at one side of the receptacle 2 and a brush 11 at the opposite side. The blade 10 or brush 11 can be disposed in operating position, selectively, by tilting the shaft 1 at the proper angle out of upright position. If desired, the scoop 9 itself may be used as a scraping blade or tool.

Frequently dogs are walked during darkness and to assist the operator in the scavenging operation during darkness a flashight 12 is mounted on the shaft 1. For mounting the light 12, the handgrip portion of the shaft 1 may be a length of tube 13 of larger diameter than the shaft 1 and telescopically received on the upper end thereof and cemented in place. Molded within the tube 13 is a metal flashlight body 14, adapted to hold batteries 15, and closed at its upper end by the usual detachable screw cap 16. Conductors, not shown, such as are conventional in flashlights, are provided in the body 14 and lead to a conventional flashlight socket, switch, bulb and reflector assemblage mounted on the exterior of the tube 13. This assemblage has an external switch 17 positioned so that it is readily accessible to the thumb of an operator for operation thereby while the handgrip portion or tube 13 is held in his hand. The light 12 is directed so that its beam of light illuminates the lip or scoop 9 and the locale adjacent thereto.

If desired, the handgrip portion itself may be a separately formed plastic flashlight body with the socket and reflector housing eccentric thereto so that the shaft 1 can be secured to the lower end of the body, in which case the intermediate portion of the shaft is shortened accordingly.

The implement thus described can be used very effectively. However, in order to assist better in moving the scavenged material from the entry end of the receptacle 2 farther into the receptacle, a plurality of propel ling means or rollers 17 are provided. For this purpose, the bottom wall 6 of the receptacle is provided with a plurality of elongated passages 18 which extend transversely of the receptacle or substantially its full internal width. At the opposite side walls of the receptacle, and at a level adjacent the bottom wall 6, elongated bosses 19 are provided and extend forwardly and rearwardly of the receptacle and are provided with suitable bearing bores in which reduced diameter ends of the rollers 17 are mounted for free rotation. The rollers 17 are supported with their upper peripheral surfaces just above the upper face of the bottom wall 6 and their lower peripheral surfaces extending downwardly beyond the wall 6. The rollers can be caused to rotate merely by positioning the receptacle with the rollers in touch with the ground and then moving the receptacle rearwardly away from the scooping position. This causes the rollers 17 to rotate clockwise, as indicated by the arrows in FIG. 5, so that any materials striking their upper surfaces is thereby propelled backwardly beyond the rearmost of the rollers 17 and into the rear portion of the receptacle. With the scavenged material in this position, the receptacle can be carried with the shaft substantially upright without fear of spilling.

Referring next to FIGS. 6 and 7, a modification of the implement is shown. In this modification, the receptacle includes a detachable container; for example, an empty dog food can of which one end has been cut out so it provides an entry opening. In this form the shaft, indicated at 20, carries at its lower end an open end cup 21 of a diameter to receive readily with close clearance the closed end of the can or other disposable container 22. Extending from the forward open rim of the cup 21 are fingers 23 which are resilient and which may be molded integrally with the cup 21. The cup and fingers may be of suitable resilient synthetic plastic material. As best illustrated in FIG. 8, the fingers 23 preferably have an inwardly curvunt portion 24 near their outer ends which define an entry way of less diameter than the container 22 so that when a container is moved therepast endwise and into the cup 21, it first passes between the portions 24 of the fingers 23, spreading the fingers apart so that they resiliently grip the container 22 a substantial distance outwardly from the open end of the cup 21. The fingers and cup assure that the container 22 is held securely in position.

A suitable lip member or scoop 25 may be provided on the container 22. This lip member may be of sheetlike plastic with fingers 26 at one face thereof resiliently biased so that when pressed against the face of the scoop 25 near its inner end the forward edge of the container wall can force the fingers away from the face sufficiently to permit the margin of the container wall to enter and be gripped, thereby to hold the scoop 25 in place.

Referring next to FIGS. 9 and 10, another form of the implement incorporating a disposable container is illustrated. In this form, a handle or shaft 30 has at its lower end a clamp 31 having a pair of resilient arms 32. These arms distinguish from the fingers 27 heretofore described in that, instead of extending endwise of the receptacle or container which they are to hold, they extend generally transversely and circumferentially thereof, and are curvilinear and inwardly concave, so as to receive a container 33 radially therewith and firmly grip its circumferential wall. Each arm 32 preferably has an entry portion 34. These portions flare away from each other and are positioned so that a container lying on its side can be installed therebetween by pushing the arms downwardly onto the container, causing the container to engage the entry portion 34 and spread the arms apart so that the container can pass therebetween. Thereupon, the arms 32 return and resiliently grip the container beyond the diameter, thus assuring that the container is held firmly in place on the shaft.
If desired, a scoop such as the scoop 25 of FIG. 7 may be employed and used as a cleaning blade or tool to pre-arrange the material to be scavenged so that it can be scooped up readily.

In all forms, the receptacle has substantial depth endwise from its open end so that the scavenged material can readily be pocketed and retained for carriage to a disposal site without danger of spillage.

Referring next to FIGS. 11 and 12, the modification therein shown is similar to that illustrated in FIG. 1 except that a disposable liner or container is employed. As illustrated, in FIGS. 11 and 12, the implement comprises a shaft 40 having at its lower end a scoop receptacle 41 in the form of an open end cup with an integral lip or scoop portion 42 at the lower portion of the rim at its open end. The receptacle 41 is adapted to receive a disposable cup or liner 43 which preferably is a conventional paper drinking cup with the usual bended rim 44. The cup is of a depth to reach from the bottom of the receptacle 41 substantially to its rim. In order to hold the cup 43 in the receptacle, the receptacle is provided at its inlet end with small bosses or fingers 45 which are spaced from each other about the periphery of the rim of the receptacle and extend radially of the receptacle beyond the outer periphery of the bead of the cup rim, so as to present shoulders facing inwardly of the receptacle for engaging the outer end surface of the bead or rim of the installed cup 43 for holding the cup in place with its bottom seated against the bottom of the receptacle 41. An additional shoulder 46 is provided at the rear edge of the scoop or lip portion 42 for engaging the bead of the cup in like fashion. The radial extent of the shoulder 46 and the shoulders on the bosses 45 are such that they restrict entry into the receptacle 41 so that when the cup 43 is inserted therein, bottom end foremost, the bead 46 must be distorted slightly inwardly radially in order to pass the bosses 45 and the innermost edge of the upper face of the lip 42. The resiliency of the cup is sufficient so that when the bead passes behind these shoulders, it self-restores to its original shape and thus engages the inner end faces of the shoulders and is constrained thereby from slipping out of the receptacle 41.

In order that the cup 43 can be removed readily from the receptacle, the receptacle is provided with a hole 47 in its bottom. The hole 47 is sufficiently large so that the finger of the operator can be pushed through the hole and against the bottom of the cup 43 sufficiently to push the cup 43 forwardly a distance sufficient to free the bead 44 from the shoulder 46 and bosses 45, whereupon the cup can readily be dumped bodily out of the receptacle.

Also, to assist in handling the removed cup 43, it is provided, adjacent its rim, with flexible tabs 48 which in the installed position of the cup, overlie the outer surface of the receptacle 41, and which can be swung forwardly and gripped in face to face relation by the fingers of the operator and thereby assist in freeing the bead from the bosses 45 and serve as a carrying handle for pulling the cup out of the receptacle and carrying it to the disposal site.

Referring next to FIGS. 13 and 14, the scoop receptacle includes a shaft 50 to the lower end of which is secured a scoop sleeve 51 which is open both at the front and rear ends. A flexible, impervious open end bag 52 of synthetic plastic, receives through its open end the rear portion of the scoop 51 and completely embraces it. The scoop 51 has an external annular groove 54 near its rear end. A suitable snap clamping member, or rubber band, 55 detachably embraces the neck of the bad 52 and holds it in firm embracing relation to the rear portion of the scoop sleeve 51 so that material scavenged within the scoop will, by tilting the scoop, be caused to pass into the bag 52.

Referring next to FIGS. 15 through 17, a modification is shown in which the receptacle can be closed and carried in an upright closed position. In this form, the implement comprises a handle 60 with lid 61 secured in fixed position on the lower end of the handle. Carried by, and preferably integral with, the lid 61 are integral bearing ears 62. A receptacle 63 is provided and has an integral hinge pin or support member 64, the ends 65 of which are in the form of trunnions received in the bearing portions 62 for supporting the receptacle 63 for swinging with respect to the lid 61 from a closed position, such as illustrated in FIG. 16, to an open position such as illustrated in FIG. 17. Preferably the ears 62 are so fashioned that they can be spread apart sufficiently to install the trunnion ends 65 of the member 64 therein. A stop lug 66 is formed integral with the receptacle 63 and is shaped and positioned so that when the receptacle 63 is moved to the scooping position, illustrated in FIG. 17, the stop lug 66 engages the integral supporting socket 67 on the lid and to which the shaft 60 is connected. The coaction of the lug 66 and socket 67 constrains the receptacle 63 from swinging in a direction away from the closed position beyond one in which the axis of the receptacle 63 is at a right angle to the axis of the shaft 60. Thus for placing the receptacle 63 in scooping position, all that is necessary is to tilt the receptacle by manipulation of the shaft 60 to place the forward edge X of the bottom of the receptacle against the ground and then push forwardly and downwardly on the shaft 60 sufficiently to swing the receptacle to the scooping position indicated in FIG. 17. Upon completion of the scooping operation, the shaft 60 is lifted so that the receptacle can swing by gravity downwardly and forwardly whereupon the forward edge of its bottom can be engaged with the ground. Then, by a downward and rearward push on the shaft 60, the receptacle 63 is caused to swing relatively upwardly and in closed relation with respect to the lid 61.

The receptacle 63 preferably has a bead 68 about its rim. Resilient clamping fingers 69 are provided on, and preferably are integral with, the lid 61 and are shaped and arranged so that, upon swinging of the receptacle 63 toward closed position, the fingers 69 are first sprung outwardly by the bead passing therebetween. When the receptacle reaches closed position, the fingers 69 resiliently return to their normal position and engage the rear of the bead for holding the receptacle in the closed position, illustrated in FIG. 16. The gripping of the fingers 69 is such that it can readily be overcome by manipulating the shaft to swing the receptacle 63 to open or scooping position.

In FIGS. 18 and 19, a modification is shown in which a lid is provided and is operated by an over center spring. In this form of the invention, a shaft 70 is connected at its lower end to a receptacle 71 which is open at the forward end. Formed integral with the receptacle 71 are spaced bearings 72 for supporting a lid 73. The lid 73 has an integral member 74 with trunnions 75 at its outer ends. The trunnions are received in suitable coaxial bores in the bearings 72 for supporting the lid
for swinging about the axis of the trunnions to open and closed positions. In order to hold the lid yieldably in open and closed positions, an over center leaf spring is carried mounted on the receptacle, preferably being secured thereto by molding a portion of the receptacle thereabout during manufacture. The member has peripherally extending cam surfaces and which preferably extend chordally of the axis of the trunnions and which are at right angles to each other. They are positioned circumferentially of the axis of the trunnions so as to be engaged by the spring. The spring is biased forwardly of the receptacle so that in the closed position of the lid, illustrated in FIG. 19, the spring bears against the cam surface and yieldably holds the lid in closed position.

Generally, the lower edge of the lid extends below the rim of the receptacle a slight amount, as indicated at 79, so that the lid can be opened readily. To open the lid, the lower edge is engaged with the ground and the shaft is manipulated to force the container rearwardly and slightly downwardly. This movement of the receptacle causes a relative swinging of the lid upwardly toward open position which is continued until the peak or intersection of the surfaces and pass the point of engagement with the spring, whereupon the spring, having been deflected rearwardly during this initial movement of the lid toward open position, becomes effective to swing the lid to fully open position by the pressure or biasing force the now over center spring exerts on the cam surface.

Having thus described my invention, I claim:

1. A scavenging implement comprising:
   an elongated shaft having a hand grip portion near one end adapted to be gripped in the hand of an operator for manipulating the shaft;
   a rigid receptacle having an inlet opening at one end;
   connecting means fixedly connecting the receptacle to the shaft near the other end of the shaft so that the length of the receptacle is disposed at an abrupt angle to the length of the shaft, and the inlet opening faces transversely of the length of the shaft; said receptacle being of a shape and depth to retain loose material therein while the shaft is suspended by the hand grip in substantially upright position;
   said shaft being of such length that with the hand grip held in the hand of a user standing upright and the shaft depending vertically from the user's hand, the receptacle is close to the ground;
   said receptacle has a scoop portion protruding endwise of the receptacle from its lower portion at its open end and leading into the interior of the receptacle;
   characterized in that:
   a separate container, which has an open end and is closed at the other end, is carried in the receptacle with the open end of the container aligned with the inlet opening of the receptacle;
   said container has, about its open end, a rim which, along with the adjacent portion of the container, is resiliently distortable laterally and is self-restoring;
   abutment means are provided on the receptacle adjacent the opening thereof and face inwardly endwise of the receptacle, and restrict the opening into the receptacle so that the rim of the container can pass the abutment means by being distorted laterally by the abutment means upon pushing the container, closed end foremost, into the receptacle, and the container rim, upon restoration within the receptacle, is constrained by the abutment means from removal, open end foremost, from the receptacle while the rim is self-restored, but can be removed, open end foremost, by pushing or pulling on the container with resultant distortion of the rim.

2. The structure according to claim wherein the rim, the container, and the receptacle, are shaped and arranged so that when the container is fully in the receptacle, the rim is juxtaposed endwise against the abutment means at the inside limits thereof and fits snugly against the inner peripheral wall of the receptacle near the open end of the receptacle.

3. The structure according to claim wherein finger grip tabs are provided on the container at the open end thereof and are disposed outside of the receptacle when the container is fully installed in the receptacle.

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