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(54) **COMBINATION WEEDING AND RAKING TOOL**

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(57) **ABSTRACT**

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The present invention relates to hand operated gardening and landscaping tools for use in cultivating soil and/or removing inferior or unwanted plants from a selected area. More particularly, the present invention relates to a combination scuffling hoe and rake assembly. The combination tool allows an operator to cut unwanted weeds below the ground surface and thereafter groom the weeded area without having to use separate tools to complete the task.

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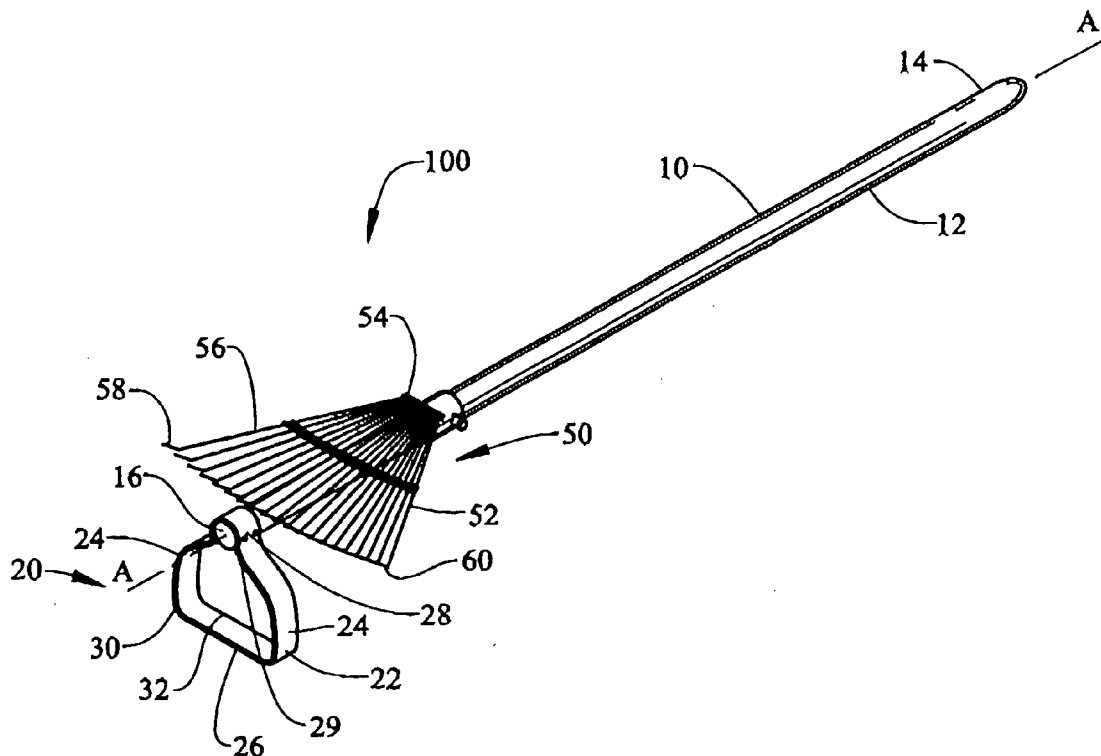


FIG. 1

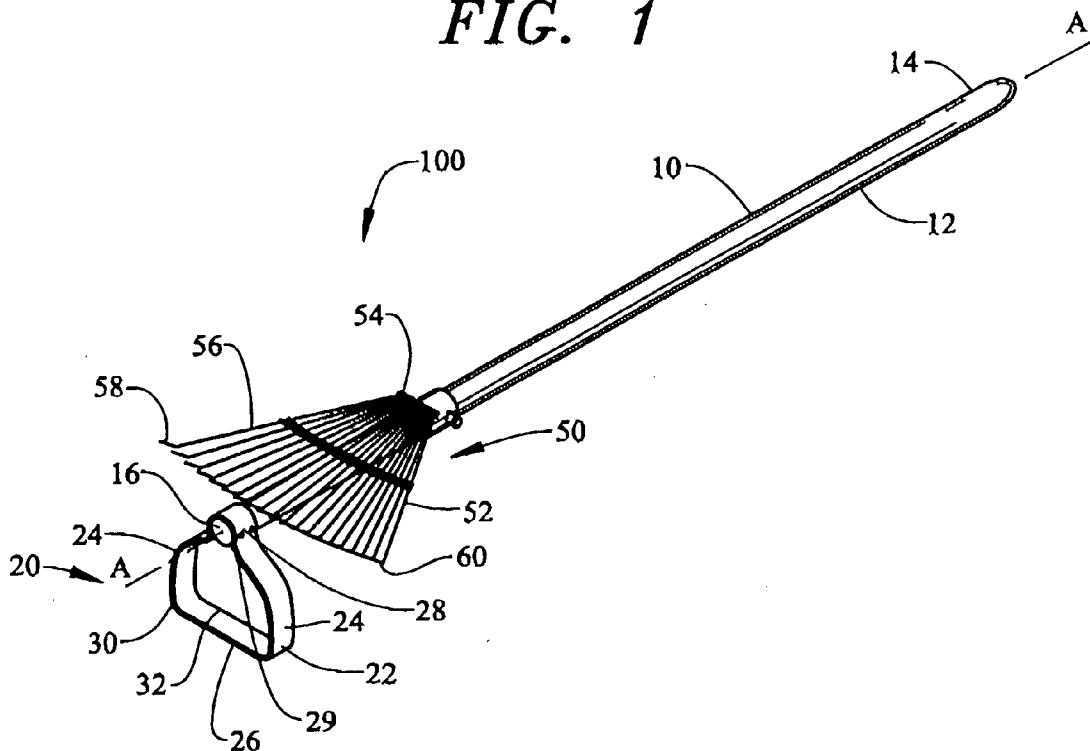


FIG. 2

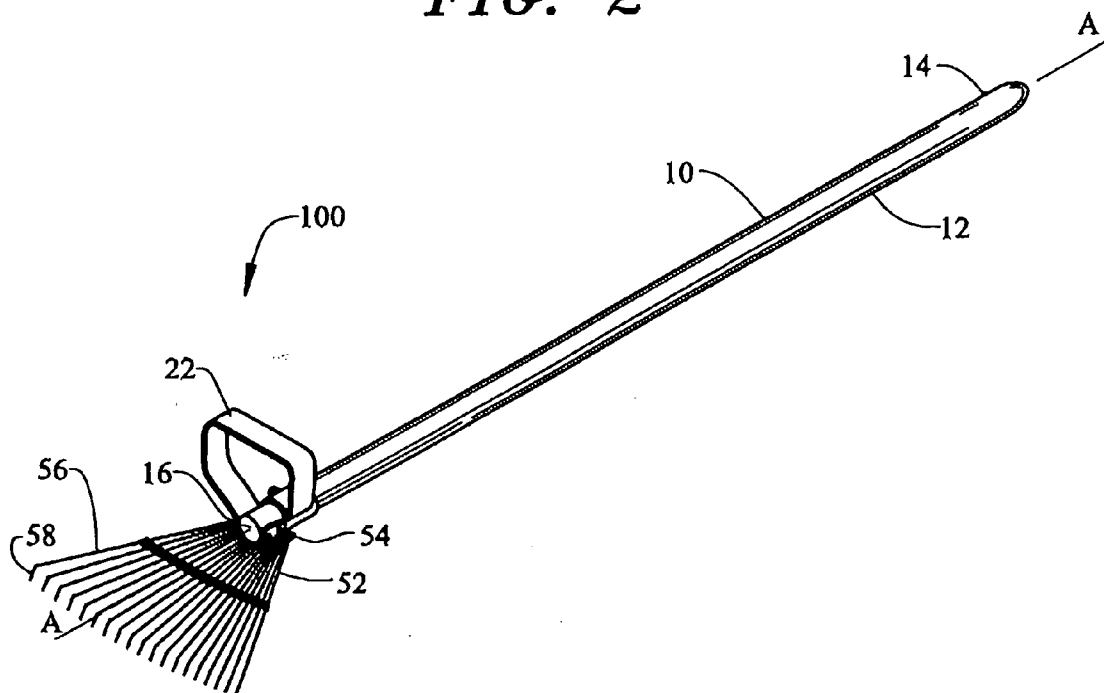


FIG. 3

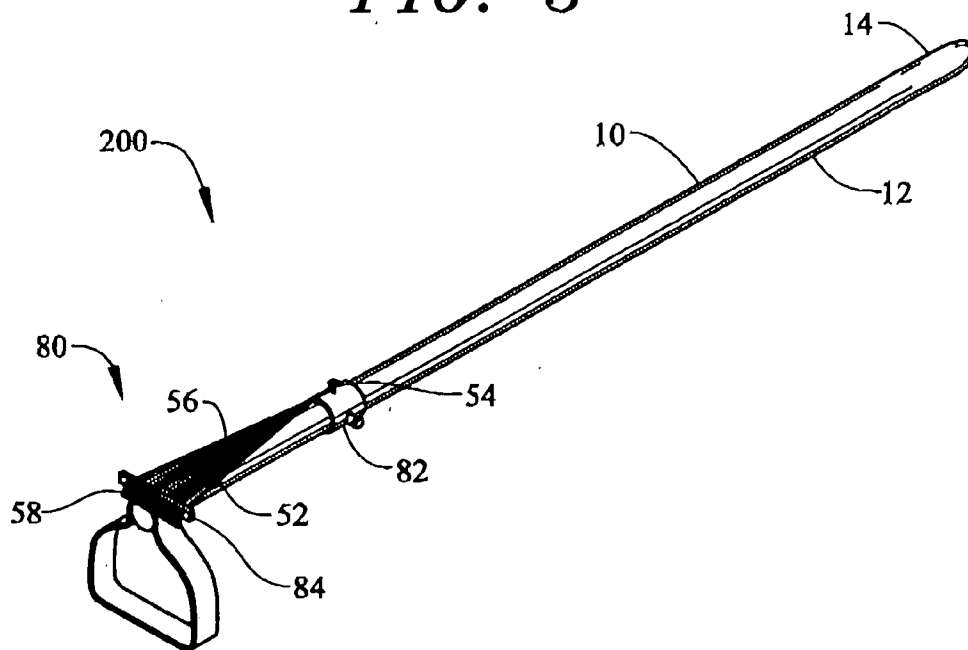


FIG. 4

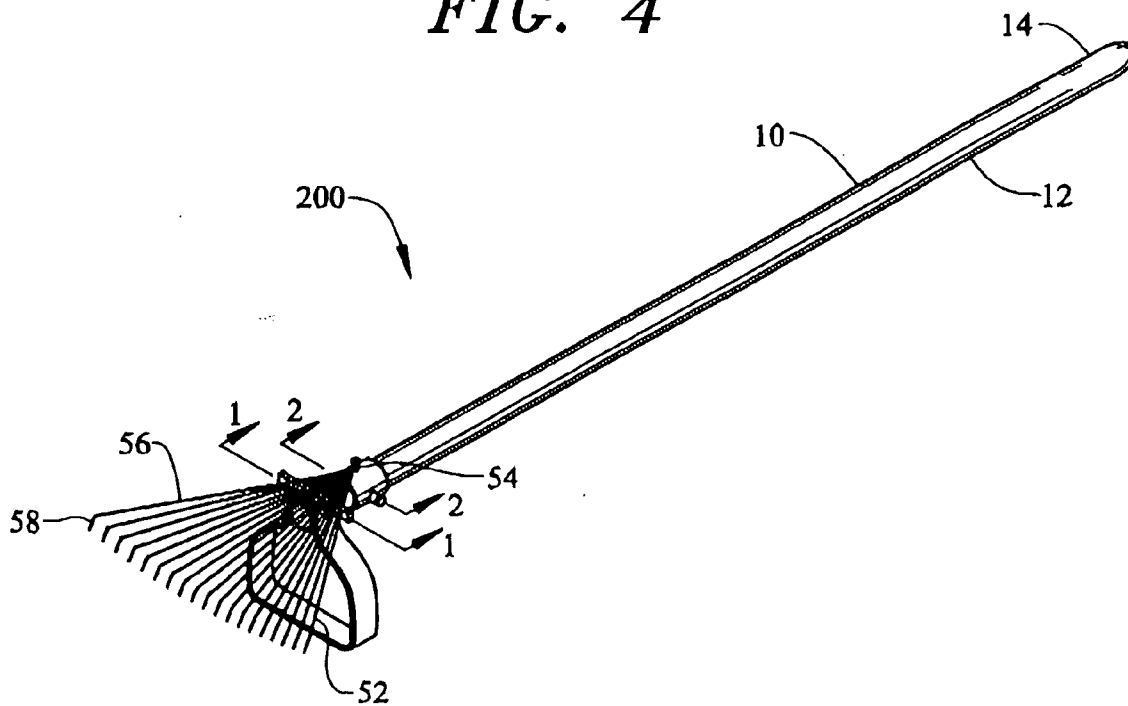


FIG. 5

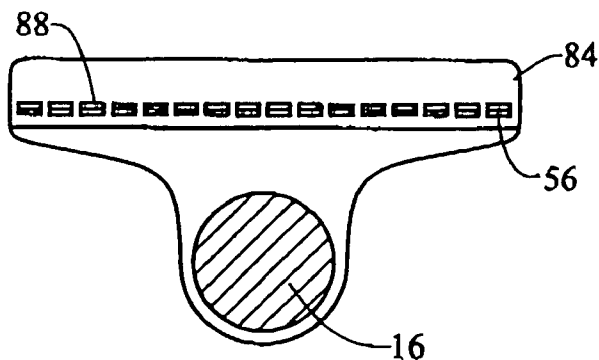


FIG. 6

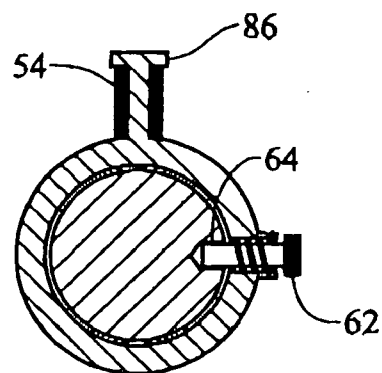
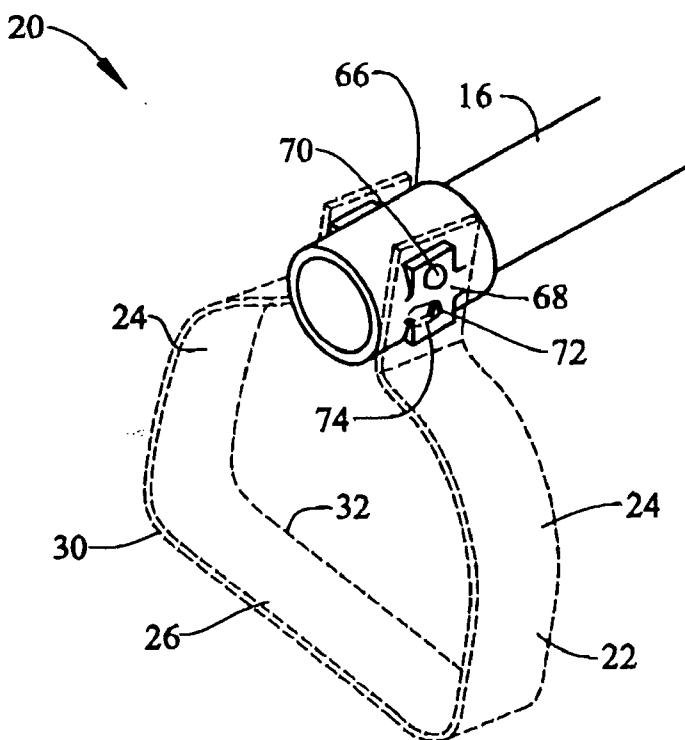


FIG. 7



COMBINATION WEEDING AND RAKING TOOL

FIELD OF THE INVENTION

[0001] This invention is directed toward a manually operable gardening tool which can be used either as a weeder or as a rake whereby the user can weed and/or rake without having to use separate tools for each operation.

BACKGROUND INFORMATION

[0002] Methods and apparatus for expanding the usefulness of hand tools by affixing alternate types of tool heads to a single tool handle have been the subject of much inventive effort over the years. The basic approach of providing multipurpose tools flows naturally from the need to utilize a number of different hand tools serially in time to accomplish a gardening task. In gardening or landscaping uses, a first tool type might be used to precondition the soil, and a second tool type might be needed to further prepare particular areas, or to complete processes which were missed on the initial passes. The use of a long-handled hoe followed by the use of a long-handled rake to collect the debris produced by the hoe gives an example of where iterative uses of alternate tool types are commonly needed. Hence, multipurpose tools of wide varieties abound; as do devices where a number of different tool heads may be affixed to a single, specially adapted handle.

[0003] Common to hand operated gardening tools is the use of a elongated handle. Secured to one end of the handle is an implement for use in cultivating, weeding or grooming of the soil. The tools are typically arranged to complete a specific task and the tool is thereafter exchanged for the tool required to complete the next task. Attempts have been made to combine tools or construct tools with interchangeable implements, however, such attempts typically employ the use of bayonet mounts or clamping devices helping little in the way of efficiency.

[0004] For instance, U.S. Pat. Nos. 2,268,066 and 2,314,685 teach a rake attached to an elongated handle via a spring mechanism. The device further includes a weed cutter attached to the handle in a manner that allows the rake to be stood upright without assistance. The weed cutter is formed of metal having an elongated body which partly surrounds the handle to provide support and a "spoon" shaped and sharpened cutter end.

[0005] U.S. Pat. No. 3,987,609 teaches a manually operable garden tool which combines the functions of a rake and a weeder. The tool employs an elongated handle with a generally flat section coplanar with the handle. A plurality of spring tines essentially coplanar with the section are provided. Each tine is secured at one end to the curved periphery and extends outward at right angles whereby the handle, tines and section define a rake. An elongated weed blade extends in the same direction as the handle and is secured at one end of the handle. The other end of the blade lies in a plane parallel to the tines.

[0006] U.S. Pat. No. 3,921,725 teaches a combination hoe and fork device. The device includes a handle fixed to a blade by means of a tang. The tang curves upwardly from the blade and then generally at a right angle to the blade and is attached by a suitable socket in the usual manner. The fork is of standard construction having an outwardly extending stem which can be attached to the tang of the hoe with U-bolts or hose clamps.

[0007] U.S. Pat. No. 4,236,742 teaches a retractable rake for use as a courtesy rake by a golfer at a sand trap, or for light raking chores in general. The rake has a plurality of projecting tines which diverge outwardly when they are in their extended position. When the rake is not in use, the tines are retractable into the shank of the rake so the rake is compact and may be stored and carried within a golf bag.

[0008] U.S. Pat. No. 4,843,667 teaches a combination broom, rake, and pruning knife for use as a household, yard, garden, or industrial tool. The combination tool includes an elongated handle. The handle has at one end a removable broom assembly that is held in place by a post which fits in a socket and a lock screw. A rake tine support chamber is mounted parallel to the broom support chamber. The rake tine support chamber provides mounting and support for a plurality of retractable rake tines, which may be provided with hooked ends. The retractable rake tines are arranged in two groups, one on each side of the centerline of the tool, each having a similar number of tines. Each group of rake tines is attached by a pivot pin to a sliding linkage. When the tines are extended, they are supported by the flared end of the rake tine support chamber and the broom head serves as a backing for the rake tines limiting their deflection. The rake tines may be retracted into the rake retraction chamber by pulling the sliding hand grip. The opposite end of the handle is provided with a removable knife which may be used by hand or attached to the handle for pruning purposes.

[0009] U.S. Pat. No. 5,185,992 teaches a tool expanding assembly which provides the means for rapidly coupling any one of a number of different tool heads to a preexisting mother tool. The tool expanding assembly includes a pair of cylinder-like portions which are fabricated from metal and rigidly connected together. In use, one of the cylinder-like portions is fitted over the handle of the mother tool and fasteners are inserted to secure the assembly. The second cylinder-like portion is constructed to include a square J-shaped bayonet connector slot, which is adapted to receive corresponding male bayonet connector elements used to terminate the ends of various tool heads.

[0010] U.S. Pat. No. 5,411,101 teaches a combination cultivator and edging tool including a handle and a head attached to one end of the handle. The head includes a transverse support member and a row of long cultivator tines, each tapering from a point of connection to the support member toward a tip. The tines extend in a common plane of extension disposed generally perpendicular to the handle and the transverse support member. The head further includes a blade having a support edge and a sharpened edge opposite the support edge. The blade is disposed in the same plane as the handle and the transverse support member. In use, the handle is disposed at an angle to the ground for cultivating. The handle is alternatively disposed vertically with respect to the ground for edging.

[0011] U.S. Pat. No. 5,743,340 teaches a device for pulling weeds, plants, small trees and the like which includes an elongate handle portion terminating in a first end, with a leveraging head member attached to the first end. This leveraging head member has a first side bearing a weed clamp having at least one pivoting jaw adapted to close proximate to a clamping surface, and a second side opposite the first side bearing a lever arm for mechanical advantage.

[0012] Hand tools utilizing bayonet type mounts have the disadvantage of requiring the user to perform the desired

task using two individual tools, wherein each of the tools has to be handled separately in order to do the job. Often changing tools with a bayonet mount takes longer than exchanging complete tools.

[0013] The prior art also fails to teach a combined tool that allows the operator to cultivate and change tools to groom without bending over to change tools. Standing upright lessens the strain on an individual's back, and combining tools increases efficiency.

[0014] Thus, what is lacking in the art is a combination tool that includes a scuffler hoe and rake for gardening and landscaping. The combination tool should include a loop type scuffler blade and a retractably mounted rake head. The loop shaped scuffler blade should allow weeding and cultivating operations to be performed while pushing or pulling on the elongated handle for increased efficiency. The combination tool should merely require the handle to be rotated to change tools, allowing cut vegetation to be raked or cultivated soil to be groomed without bending over to change tools. The rake head should be retractable and/or collapsible to facilitate weeding operations to be performed in tight areas.

BRIEF DESCRIPTION OF THE INVENTION

[0015] This invention pertains to hand operated gardening and landscaping tools for use in cultivating soil and/or removing inferior or unwanted plants from a selected area. More particularly, the present invention relates to a combination scuffling hoe and rake assembly. The combination tool allows an operator to cut unwanted weeds below the ground surface and thereafter groom the weeded area without having to use separate tools to complete the task.

[0016] The tool employs an elongated handle with a scuffler hoe portion and rake portion attached at a distal end thereof. The scuffler hoe portion comprises a generally elongated metal blade formed into a U-shaped loop and sharpened on both edges. The ends of the metal blade are each secured at the distal end of the handle, via a ferrule, at an obtuse angle with respect to the longitudinal centerline of the handle.

[0017] In one embodiment, the rake assembly is slidably mounted on the elongated handle and includes a locking means to secure the rake assembly in a retracted or an extended position. The rake assembly includes a plurality of tines. Each tine is fixed in a diverging manner generally coplanar to the flat portion of the loop blade and includes a formed tip for drawing together leaves or cut grass as well as smoothing loose soil.

[0018] In an alternative embodiment, the rake assembly includes a plurality of pivotally mounted tines which may be folded inwardly to narrow the profile of the device. In this embodiment the tines are pivotally secured to a sliding member by a pivot pin in an overlapping fashion at one end. The center portion of each tine extends through a guide member secured to the distal end of the handle whereby moving the sliding member toward the distal end of the handle causes the tines to extend and diverge outward. The sliding member includes means to lock the sliding member in an extended or retracted position.

[0019] The construction of the device allows the rake to be locked into the retracted position while cultivating for easy

access to confined areas. The tool can then be turned over and the rake assembly extended so the tool can be used as a rake to gather cut weeds and/or smooth the cultivated surface.

[0020] Thus, an objective of the instant invention is to provide a novel combination tool that is versatile and efficient in use, and lends itself to a variety of gardening and landscaping activities.

[0021] Another objective of the instant invention is to provide a combination hand tool having a scuffler hoe blade and a slidingly retractable rake assembly.

[0022] Yet another objective of the instant invention is to provide a combination hand tool which provides a scuffler hoe and a rake assembly having a set of folding and retracting tines. Other objectives and advantages of this invention will become apparent from the following description taken in conjunction with the accompanying drawings wherein are set forth, by way of illustration and example, certain embodiments of this invention. The drawings constitute a part of the specification and include exemplary embodiments of the present invention and illustrate various objectives and features thereof.

BRIEF DESCRIPTION OF THE FIGURES

[0023] FIG. 1 is a perspective view of one embodiment of the instant invention illustrated with the rake assembly in a retracted position;

[0024] FIG. 2 is a perspective view of one embodiment of the instant invention illustrated with the rake assembly in an extended position;

[0025] FIG. 3 is a perspective view of one embodiment of the instant invention illustrated with the rake assembly in a retracted and folded position;

[0026] FIG. 4 is a perspective view of one embodiment of the instant invention illustrated with the rake assembly in an extended position;

[0027] FIG. 5 is a section view taken along lines 1-1 of FIG. 4 illustrating the guide member utilized in one embodiment of the instant invention;

[0028] FIG. 6 is a section view taken along lines 2-2 of FIG. 4 illustrating the sliding member utilized in one embodiment of the instant invention;

[0029] FIG. 7 is partial perspective view, having the rake assembly omitted for clarity, illustrating an alternative construction of the scuffler hoe utilized in the instant invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0030] While the present invention is susceptible of embodiment in various forms, there is shown in the drawings and will hereinafter be described a presently preferred embodiment with the understanding that the present disclosure is to be considered an exemplification of the invention and is not intended to limit the invention to the specific embodiments illustrated.

[0031] Referring now to the figures, and generally to FIGS. 1-4, there is shown combination weeding and raking devices 100 and 200 embodying the principles of the present

invention. The combination hand tools provide convenience and efficiency by employing a scuffler hoe and rake in a single assembly to minimize operator stooping and tool exchange when landscaping. The combination tool also provides for shipping and storing in a compact manner.

[0032] The combination weeding and raking devices **100** and **200** include an elongated handle **10** of a type well known in the art preferably constructed of wood but alternatively may be constructed of fiberglass or metal or suitable combinations thereof. The elongated handle **10** has a proximal end **14**, a distal end **16** and a gripping surface **12**. The distal end **16** supports means for cultivating a working surface illustrated herein as a scuffler hoe assembly **20** and a means for grooming a working surface illustrated herein as a rake assembly **50** or folding rake assembly **80**. The scuffler hoe and the rake assembly are preferably oriented on opposite sides of axis A extending through the longitudinal centerline of the elongated handle **10**. This construction allows the operator to rotate the handle about the first axis to selectively utilize the scuffler hoe or the rake.

[0033] Referring to **FIG. 1**, in one embodiment the scuffler hoe assembly **20** includes a metal blade **22** formed generally into a U-shape, including two upright portions **24** and a bottom portion **26**. The upright portions each include an upper end **28** formed into a ferrule **29** that is adapted to cooperate with the second end of the elongated handle **16** for securing the metal blade transverse with respect to the first axis A. The metal blade **22** includes a first cutting edge **30** and a second cutting edge **32**. The first cutting edge **30** is generally constructed and arranged to cultivate a working surface during pushing motion of the weeding and raking tool and the second cutting edge **32** is constructed and arranged to cultivate a working surface during pulling motion of weeding and raking tool.

[0034] Referring to **FIG. 7**, an alternative embodiment of the scuffler hoe assembly **20** is shown with the rake assembly omitted for clarity. In this embodiment the distal end **16** of the elongated handle **10** includes a ferrule **66** mounted thereon. The ferrule includes integrally formed bosses **68**. The bosses are constructed and arranged to cooperate with apertures **70** located in each of the two upright portions **24** of the metal blade **22** for attaching the metal blade to the elongated handle. The ferrule may also include stop pins **72** adapted to cooperate with elongated slots **74** to allow the metal blade **22** to pivot slightly during forward and backward movement of the weeding and raking tool.

[0035] Referring to **FIGS. 1 and 2**, one embodiment of the rake assembly **50** includes a plurality of tines **52** fixed in an outwardly diverging position. The tines **52** having a base end **54**, a center portion **56** and a tip end **58**, the tip end including a hook portion **60** for gathering cut vegetation and grooming cultivated soil. In this embodiment the rake assembly **50** is slidably mounted along the first axis A and movable between an extended position (**FIG. 2**) and a retracted position (**FIG. 1**). The rake **50** extends beyond the scuffler hoe while in the extended position and the scuffler hoe extends beyond the rake while the rake assembly is in the retracted position. The rake assembly and elongated handle may include a cooperating guiding means to prevent the rake assembly from rotating around the first axis during movement or use which may include, but should not be limited to keys and key-slots, guide pins, flats or suitable

combinations thereof. The rake assembly also includes a means for locking the rake assembly **50** in the extended or retracted position. The locking means is illustrated herein as a spring pin **62** (**FIG. 6**) which cooperates with at least one pocket **64** in the elongated handle. The spring pin **62** may also cooperate with a key slot (not shown) to prevent unwanted rotation of the rake assembly **50**. Other locking means well known in the art which may include, but should not be limited to, collets, cam locks and the like may also be utilized.

[0036] Referring to **FIGS. 3-6**, an alternative embodiment of the instant invention is shown including a folding rake assembly **80**. The folding rake assembly includes a sliding member **82**, a guide member **84** and a plurality of tines **52**; the tines **52** having a base end **54**, a center portion **56** and a tip end **58**. The base end **54** of the tines is pivotally connected to the sliding member **82**, via a pivot pin **86**, to allow pivotal movement of the tines. The center portion **56** of the tines **52** extend through apertures **88** in the guide member **84**. Utilizing this construction, movement of the sliding member **82** toward the distal end **16** of the elongated handle **10** causes the tines **52** to extend and diverge outward. Moving the sliding member **82** toward the proximal end **14** of the elongated handle causes the tines to fold together and retract.

[0037] All patents and publications mentioned in this specification are indicative of the levels of those skilled in the art to which the invention pertains. All patents and publications are herein incorporated by reference to the same extent as if each individual publication was specifically and individually indicated to be incorporated by reference.

[0038] It is to be understood that while a certain form of the invention is illustrated, it is not to be limited to the specific form or arrangement herein described and shown. It will be apparent to those skilled in the art that various changes may be made without departing from the scope of the invention and the invention is not to be considered limited to what is shown and described in the specification.

[0039] One skilled in the art will readily appreciate that the present invention is well adapted to carry out the objectives and obtain the ends and advantages mentioned, as well as those inherent therein. The embodiments, methods, procedures and techniques described herein are presently representative of the preferred embodiments, are intended to be exemplary and are not intended as limitations on the scope. Changes therein and other uses will occur to those skilled in the art which are encompassed within the spirit of the invention and are defined by the scope of the appended claims. Although the invention has been described in connection with specific preferred embodiments, it should be understood that the invention as claimed should not be unduly limited to such specific embodiments. Indeed, various modifications of the described modes for carrying out the invention which are obvious to those skilled in the art are intended to be within the scope of the following claims.

1. A hand operated combination weeding and raking tool comprising:

an elongated handle having a longitudinal centerline defining a first axis, a proximal end and a distal end, said proximal end constructed and arranged for grip-

ping, said distal end including a means for cultivating a working surface and a means for grooming said working surface, wherein said means for grooming includes a rake assembly, said rake assembly including a plurality of tines, said tines having a base end, a center portion and a tip end, wherein said rake tines are fixed in position having said tips diverging outwardly, wherein said rake assembly is slidably mounted on said first axis and movable between an extended position and a retracted position, wherein said rake assembly extends beyond said cultivation means while in said extended position and wherein said cultivating means extends beyond said rake assembly while in said retracted position, wherein pushing or pulling said elongated handle allows said cultivating means to cut vegetation below said working surface to cultivate said working surface, wherein said grooming means is constructed and arranged to gather said cut vegetation and groom said cultivated working surface.

2. The combination weeding and raking tool according to claim 1 wherein said means for cultivating includes a metal blade, said metal blade formed generally into a U-shape, said metal blade mounted to said distal end of said elongated handle transverse with respect to said first axis, said metal blade having a first cutting edge and a second cutting edge, wherein said first cutting edge is constructed and arranged to cultivate said working surface during pushing motion of said weeding and raking tool, wherein said second cutting edge is constructed and arranged to cultivate said working surface during pulling motion of said weeding and raking tool.

3. The combination weeding and raking tool according to claim 2 wherein said U-shaped metal blade includes two upright portions and a bottom portion, said upright portions each including an upper end, said upper ends formed into a ferrule portion, said ferrule portion adapted to cooperate with said distal end of said elongated handle for securing said metal blade thereto.

4. The combination weeding and raking tool according to claim 2 wherein said distal end of said elongated handle includes a ferrule mounted thereon, said ferrule including at least two integrally formed bosses, said integrally formed bosses constructed and arranged to cooperate with said metal blade;

wherein said two upright portions of said metal blade each including at least one aperture therethrough, said at least one aperture constructed and arranged to cooperate with said ferrule for attaching said metal blade to said elongated handle.

5. The combination weeding and raking tool according to claim 4 wherein said ferrule includes at least one stop pin, said stop pin constructed and arranged to cooperate with at least one elongated slot formed in said upright portions of said metal blade;

wherein said cooperating at least one stop pin and said at least one elongated slot allow said metal blade to pivot slightly during forward and backward movement of the weeding and raking tool.

6. The combination weeding and raking tool according to claim 3 wherein said bottom portion of said metal blade is about flat.

7. The combination weeding and raking tool according to claim 2 wherein said metal blade is oriented at an obtuse angle with respect to said first axis.

8. The combination weeding and raking tool according to claim 1 wherein said means for grooming includes a rake assembly, said rake assembly including a plurality of tines, said tines having a base end, a center portion and a tip end, said tip end including a hook for gathering cut vegetation and grooming cultivated soil.

9. The combination weeding and raking tool according to claim 1 wherein said rake assembly is slidably mounted on said first axis and movable between an extended position and a retracted position, wherein said rake assembly extends beyond said cultivation means while in said extended position and wherein said cultivating means extends beyond said rake assembly while in said retracted position.

10. The combination weeding and raking tool according to claim 8 wherein said rake assembly includes a means for preventing said rake assembly from rotating around said first axis during movement and operation of said rake assembly.

11. The combination weeding and raking tool according to claim 10 wherein said means for preventing rotation of said rake assembly includes a key, said key constructed and arranged to cooperate with a key-slot extending along said elongated handle.

12. The combination weeding and raking tool according to claim 8 wherein said rake tines are fixed in position having said tips diverging outwardly.

13. (canceled)

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