FORM 2

THE PATENT ACT 1970

(39 of 1970)

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THE PATENTS RULES, 2003

COMPLETE SPECIFICATION

(See Section 10, and rule 13)

MULTIPURPOSE AGRICULTURE APPARATUS

APPLICANT(S)

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The following specification particularly describes the invention and the manner in which it is to be performed

BACKGROUND

Field of the invention

[001] Embodiments of the present invention generally relate to an agriculture apparatus and particularly to a multipurpose agriculture apparatus for sowing seeds and applying manure.

Description of Related Art

[002] Food is one of a basic and important necessity of every human being and what so ever be the food consumed, it goes through a long pre-processing chain. Even before going to the pre-processing chain, there is an intensive hard work and perseverance from a farmer's end. Farmers are considered as a backbone of nation as they grow crops that later are received by people on their plates. Farming and crop production is one of fundamental livelihood activities across a world. Farming methods adopted by the farmers include a set of activities such as plowing, sowing, watering, protecting, and harvesting crops. With an introduction of modern technology, all the above-said activities have been automated up to a certain extent. Tools and equipment such as threshers, combiners, harvesters, irrigators have become advanced in less time with less effort invested.

[003] However, above said tools and equipment are expensive and not suitable to operate in small to medium scale farming activities. Additionally, they consume heavy power by either means of fuel or electricity. They further need real estate for storage and warehousing purposes. Periodically maintenance and overhauling also add to a cost of farming which is deducted from a profit earned by the farmers.

[004] There is thus a need for a multipurpose agriculture apparatus for sowing seeds and applying manure in a more efficient manner.

SUMMARY

[005] Embodiments in accordance with the present invention provide a multipurpose agriculture apparatus. The apparatus comprising: a frame to provide a rigid support to components of the apparatus. The apparatus further comprising: a container arranged on the frame. The container is having a first chamber and a second chamber to store seeds and manure respectively. The apparatus further comprising plowing heads attached to the container, and to be in contact with a land to plow soil of the land. The apparatus further comprising a first dispensing tube arranged underneath the first chamber of the container, to dispense the seeds. The apparatus further comprising a second dispensing tube arranged underneath the second chamber of the container, to dispense the manure. The apparatus further comprising a handle attached with the frame, to enable a user to pull the apparatus in a backward direction. The handle comprises a left brake applied to actuate a seed valve to dispense the seeds from the first chamber of the container through the first dispensing tube. The handle further comprises a right brake applied to actuate a manure valve to dispense the manure from the second chamber of the container through the second dispensing tube.

[006] Embodiments in accordance with the present invention further provide a method of operating a multipurpose agriculture apparatus. The method comprising steps of: enabling a user to move the multipurpose agriculture apparatus in a backward direction; plowing soil of a land using plowing heads while moving the multipurpose agriculture apparatus; applying a left brake to actuate a seed valve for dispensing seeds stored in a first chamber of a container; and applying a right brake to actuate a manure valve for dispensing manure stored in a second chamber of the container.

[007] Embodiments of the present invention may provide a number of

advantages depending on its particular configuration. First, embodiments of the present application may provide a multipurpose agriculture apparatus for sowing seeds and applying manure.

[008] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that uses no fuel and/or electricity for operating the multipurpose agriculture apparatus.

[009] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that is small, efficient, portable, and versatile.

[0010] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that is lightweight and easy to handle.

[0011] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that minimizes manpower and reduces hard work.

[0012] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that is suitable for low and medium-scale farmers.

[0013] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that has a long tenure validity and long period suitability.

[0014] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that provide solutions for labor shortage and reduces a labor cost.

[0015] Next, embodiments of the present application may provide a multipurpose agriculture apparatus that is cost-effective.

[0016] These and other advantages will be apparent from the present

application of the embodiments described herein.

[0017] The preceding is a simplified summary to provide an understanding of some embodiments of the present invention. This summary is neither an extensive nor exhaustive overview of the present invention and its various embodiments. The summary presents selected concepts of the embodiments of the present invention in a simplified form as an introduction to the more detailed description presented below. As will be appreciated, other embodiments of the present invention are possible utilizing, alone or in combination, one or more of the features set forth above or described in detail below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018] The above and still further features and advantages of embodiments of the present invention will become apparent upon consideration of the following detailed description of embodiments thereof, especially when taken in conjunction with the accompanying drawings, and wherein:

[0019] FIG. 1A illustrates a front view of a multipurpose agriculture apparatus, according to an embodiment of the present invention;

[0020] FIG. 1B illustrates a side view of the multipurpose agriculture apparatus, according to an embodiment of the present invention; and

[0021] FIG. 2 depicts a flowchart of a method of operating the multipurpose agriculture apparatus, according to an embodiment of the present invention.

[0022] The headings used herein are for organizational purposes only and are not meant to be used to limit the scope of the description or the claims. As used throughout this application, the word "may" is used in a permissive sense (*i.e.*, meaning having the potential to), rather than the mandatory sense (*i.e.*, meaning must). Similarly, the words “include”, “including”, and “includes” mean including but not limited to. To facilitate understanding, like

reference numerals have been used, where possible, to designate like elements common to the figures. Optional portions of the figures may be illustrated using dashed or dotted lines, unless the context of usage indicates otherwise.

DETAILED DESCRIPTION

[0023] The following description includes the preferred best mode of one embodiment of the present invention. It will be clear from this description of the invention that the invention is not limited to these illustrated embodiments but that the invention also includes a variety of modifications and embodiments thereto. Therefore, the present description should be seen as illustrative and not limiting. While the invention is susceptible to various modifications and alternative constructions, it should be understood, that there is no intention to limit the invention to the specific form disclosed, but, on the contrary, the invention is to cover all modifications, alternative constructions, and equivalents falling within the spirit and scope of the invention as defined in the claims.

[0024] In any embodiment described herein, the open-ended terms "comprising", "comprises”, and the like (which are synonymous with "including", "having”, and "characterized by") may be replaced by the respective partially closed phrases "consisting essentially of", “consists essentially of", and the like or the respective closed phrases "consisting of", "consists of”, the like.

[0025] As used herein, the singular forms “a”, “an”, and “the” designate both the singular and the plural, unless expressly stated to designate the singular only.

[0026] FIG. 1A illustrates a front view of a multipurpose agriculture apparatus 100 (hereinafter referred to as the apparatus 100), according to an embodiment of the present invention. In an embodiment of the present

invention, the apparatus 100 may be configured to enable a user to plow land, sow seeds and apply manure. According to embodiments of the present invention, the user may be, but not limited to, a farmer, an agriculturalist, a rancher, a labor, and so forth. Embodiments of the present invention are intended to include or otherwise cover any type of the user.

[0027] According to an embodiment of the present invention, the apparatus 100 may comprise a frame 102. In an embodiment of the present invention, the frame 102 may provide a rigid support to components of the apparatus 100. The components may be, but not limited to, a wheel shaft 104, and a pair of wheels 106a-106b (hereinafter referred to as the wheels 106), and a container 108.

[0028] According to embodiments of the present invention, the frame 102 may be constructed of any material such as, but not limited to, a wooden material, a hard plastic material, a metallic material, a casted material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the frame 102, including known, related art, and/or later developed technologies.

[0029] In an embodiment of the present invention, the wheel shaft 104 may be attached to the frame 102. According to embodiments of the present invention, the wheel shaft 104 may be constructed of any material such as, but not limited to, an alloy steel, a mild steel, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the wheel shaft 104, including known, related art, and/or later developed technologies. The wheel shaft 104 may further be provided with the wheels 106 to generate a rotary motion in the apparatus 100, in an embodiment of the present invention. In an embodiment of the present invention, the wheels 106 may be framed with iron strips for easy movement in the land. According to embodiments of the present invention, the wheels 106 may be constructed of any material such as, but not limited to, the

wooden material, the hard plastic material, the metallic material, the casted material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the wheels 106, including known, related art, and/or later developed technologies.

[0030] In an embodiment of the present invention, the container 108 may be arranged on the frame 102. According to embodiments of the present invention, the container 108 may be constructed of any material such as, but not limited to, the wooden material, the plastic material, the metallic material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the container 108, including known, related art, and/or later developed technologies. In another embodiment of the present invention, the container 108 may be having a first chamber 110 and a second chamber 112. In an exemplary embodiment of the present invention, the first chamber 110 and the second chamber 112 may be fixedly arranged within the container 108. In another exemplary embodiment of the present invention, the first chamber 110 and the second chamber 112 may be detachably arranged within the container 108.

[0031] In an embodiment of the present invention, the first chamber 110 may be configured to store the seeds. The stored seeds may further be sowed into the land, in an embodiment of the present invention. According to embodiments of the present invention, the seeds may be of any type such as, but not limited to, crop seeds, fruit seeds, vegetable seeds, flowering seeds, plantation seeds, and so forth. In a preferred embodiment of the present invention, the seeds may be maize seeds. Embodiments of the present invention are intended to include or otherwise cover any type of the seeds, including known, related art, and/or later developed technologies.

[0032] In an embodiment of the present invention, the second chamber 112 may be configured to store the manure. The stored manure may further be applied onto the land, in an embodiment of the present invention. According

to embodiments of the present invention, the manure may be of any type such as, but not limited to, a fertilizer, a cow dung, a chemical-based manure, a naturally prepared manure, and so forth. Embodiments of the present invention are intended to include or otherwise cover any type of the manure, including known, related art, and/or later developed technologies.

[0033] FIG. 1B illustrates a side view of the apparatus 100, according to an embodiment of the present invention. The apparatus 100 may comprise plowing heads 114a-114b (hereinafter referred to as the plowing heads 114) that may be attached to the container 108, and may further be in contact with the land to plow the soil of the land. The plowing heads 114 may be detachably attached to the container 108, in an embodiment of the present invention. In another embodiment of the present invention, the plowing heads 114 may be fixedly attached to the container 108. According to embodiments of the present invention, the plowing heads 114 may be of any type such as, but not limited to, a beam type, a vertical regular type, a hitch type, a chisel type, a share type, a moldboard type, and so forth. In a preferred embodiment of the present invention, the plowing heads 114 may be having v-cut plow edges. Embodiments of the present invention are intended to include or otherwise cover any type of the plowing heads 114, including known, related art, and/or later developed technologies.

[0034] In an embodiment of the present invention, the apparatus 100 may further comprise a first dispensing tube 116 arranged underneath the first chamber 110 of the container 108. The first dispensing tube 116 may dispense the seeds stored in the first chamber 110 of the container 108, in an embodiment of the present invention. In another embodiment of the present invention, a height of the first dispensing tube 116 may be adjustable to achieve an optimal height for the land. According to embodiments of the present invention, the first dispensing tube 116 may be constructed of any material such as, but not limited to, a High-Density Polyethylene (HDPE) material, a metallic material, a Polyvinyl Chloride

(PVC) material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the first dispensing tube 116, including known, related art, and/or later developed technologies.

[0035] In an embodiment of the present invention, the apparatus 100 may comprise a second dispensing tube 118 arranged underneath the second chamber 112 of the container 108. The second dispensing tube 118 may dispense the manure stored in the second chamber 112 of the container 108, in an embodiment of the present invention. In an embodiment of the present invention, a height of the second dispensing tube 118 may be adjustable to achieve an optimal height for the land. According to embodiments of the present invention, the second dispensing tube 118 may be constructed of any material such as, but not limited to, the High-Density Polyethylene (HDPE) material, the metallic material, the Polyvinyl Chloride (PVC) material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the second dispensing tube 118, including known, related art, and/or later developed technologies.

[0036] In an embodiment of the present invention, the apparatus 100 may comprise a handle 120 that may be attached to the frame 102. The handle 120 may enable the user to pull the apparatus 100 in a backward direction, in an embodiment of the present invention. According to embodiments of the present invention, the handle 120 may be constructed of any material such as, but not limited to, the wooden material, the hard plastic material, the metallic material, the casted material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the handle 120, including known, related art, and/or later developed technologies. In a further embodiment of the present invention, the handle 120 may further comprise a left brake 122 and a right brake 124.

[0037] In an embodiment of the present invention, the left brake 122 may be

applied to actuate a seed valve (not shown). The seed valve may further provide a passage for dispensing the seeds from the first chamber 110 through the first dispensing tube 116, in an embodiment of the present invention. The left brake 122 may be connected to the seed valve using a first brake wire 126, in an embodiment of the present invention. In an embodiment of the present invention, the first brake wire 126 may actuate the seed valve by applying a tension on the seed valve. The actuation of the seed valve may be varied as per the tension applied from the left brake 122 through the first brake wire 126, in an embodiment of the present invention. According to embodiments of the present invention, the first brake wire 126 may be constructed of any material such as, but not limited to, a copper material, an aluminum material, an iron material, a fiber material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any material of the first brake wire 126, including known, related art, and/or later developed technologies.

[0038] In an embodiment of the present invention, the right brake 124 may be applied to actuate a manure valve (not shown). The manure valve may further provide a passage for dispensing the manure from the second chamber 112 through the second dispensing tube 118, in an embodiment of the present invention. In an embodiment of the present invention, the right brake 124 may be connected to the manure valve using a second brake wire 128. In an embodiment of the present invention, the second brake wire 128 may actuate the manure valve by applying a tension on the manure valve. The actuation of the manure valve may be varied as per the tension applied from the right brake 124 through the second brake wire 128, in an embodiment of the present invention. According to embodiments of the present invention, the second brake wire 128 may be constructed of any material such as, but not limited to, the copper material, the aluminum material, the iron material, the fiber material, and so forth. Embodiments of the present invention are intended to include or otherwise cover any

material of the second brake wire 128, including known, related art, and/or later developed technologies.

[0039] FIG. 2 depicts a flowchart of a method 200 for operating the apparatus 100, according to an embodiment of the present invention.

[0040] At step 202, the apparatus 100 may enable the user to move the apparatus 100 in the backward direction.

[0041] At step 204, the apparatus 100 may plow the soil of the land using the plowing heads 114.

[0042] At step 206, the apparatus 100 may enable the user to apply the left brake 122 to actuate the seed valve for dispensing the seeds stored in the first chamber 110 of the container 108 onto the plowed soil of the land.

[0043] At step 208, the apparatus 100 may enable the user to apply the right brake 124 to actuate the manure valve for dispensing the manure stored in the second chamber 112 of the container 108 onto the plowed soil of the land.

[0044] While the invention has been described in connection with what is presently considered to be the most practical and various embodiments, it is to be understood that the invention is not to be limited to the disclosed embodiments, but on the contrary, is intended to cover various modifications and equivalent arrangements included within the spirit and scope of the appended claims.

[0045] This written description uses examples to disclose the invention, including the best mode, and also to enable any person skilled in the art to practice the invention, including making and using any devices or systems and performing any incorporated methods. The patentable scope of the invention is defined in the claims, and may include other examples that occur to those skilled in the art. Such other examples are intended to be

within the scope of the claims if they have structural elements that do not differ from the literal language of the claims, or if they include equivalent structural elements within substantial differences from the literal languages of the claims.

CLAIMS

I/We Claim:

1. A multipurpose agriculture apparatus (100), the apparatus (100) comprising:

a frame (102) to provide a rigid support to components of the apparatus (100);

a container (108) arranged on the frame (102), wherein the container (108) is having a first chamber (110) and a second chamber (112) to store seeds and manure respectively;

plowing heads (114a-114b) attached to the container (108), and to be in contact with a land to plow soil of the land;

a first dispensing tube (116) arranged underneath the first chamber (110) of the container (108), to dispense the seeds;

a second dispensing tube (118) arranged underneath the second chamber (112) of the container (108), to dispense the manure; and

a handle (120) attached with the frame (102), to enable a user to pull the apparatus (100) in a backward direction, wherein the handle (120) comprises:

a left brake (122) applied to actuate a seed valve to dispense the seeds from the first chamber (110) of the container (108) through the first dispensing tube (116); and

a right brake (124) applied to actuate a manure valve to dispense the manure from the second chamber (112) of the container (108) through the second dispensing tube (118).

2. The apparatus (100) as claimed in claim 1, wherein the plowing heads (114a-114b) are v-cut plow edges.

3. The apparatus (100) as claimed in claim 1, wherein the left brake (122) is connected to the seed valve using a first brake wire (126).

4. The apparatus (100) as claimed in claim 1, wherein the right brake (124) is connected to the manure valve using a second brake wire (128).

5. The apparatus (100) as claimed in claim 1, further comprising a wheel shaft (104) attached to the frame (102), wherein the wheel shaft (104) is provided with a pair of wheels (106a-106b) to generate a rotary motion in the apparatus (100).

6. The apparatus (100) as claimed in claim 5, wherein the pair of wheels (106a-106b) are framed with iron strips for easy movement in the land.

7. A method (200) for operating a multipurpose agriculture apparatus (100), wherein the method (200) comprising steps of:

   enabling a user to move the multipurpose agriculture apparatus (100) in a backward direction;

   plowing soil of a land using plowing heads (114a-114b);

   applying a left brake (122) to actuate a seed valve for dispensing seeds stored in a first chamber (110) of a container (108) onto the plowed soil of the land; and

   applying a right brake (124) to actuate a manure valve for dispensing manure stored in a second chamber (112) of the container (108) onto the plowed soil of the land.

8. The method (200) as claimed in claim 7, wherein the plowing heads (114a-114b) are v-cut plow edges.

9. The method (200) as claimed in claim 7, wherein the left brake (122) is connected to the seed valve using a first brake wire (126).

10. The method (200) as claimed in claim 7, wherein the right brake (124) is connected to the manure valve using a second brake wire (128).

Date: 14 Februrary, 2022

Place: Noida

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Title: MULTIPURPOSE AGRICULTURE APPARATUS

ABSTRACT

A multipurpose agriculture apparatus (100), comprising: a frame (102) to provide a rigid support to components of the apparatus (100); a container (108) having a first chamber (110) and a second chamber (112) to store seeds and manure respectively; plowing heads (114a-114b) to be in contact with a land to plow soil of the land; a first dispensing tube (116) to dispense the seeds; a second dispensing tube (118) to dispense the manure; a handle (120) to enable a user to pull the apparatus (100) in a backward direction, wherein the handle (120) comprises: a left brake (122) applied to actuate a seed valve to dispense the seeds from the first chamber (110) through the first dispensing tube (116); and a right brake (124) applied to actuate a manure valve to dispense the manure from the second chamber (112) through the second dispensing tube (118).

Claims: 10, Figures: 3

Figure 1A is selected.