F. P. MURPHY.

WHEELED BROADCASTING APPARATUS.

APPLICATION FILED AUG. 6, 1913.

1,102,786.

Patented July 7, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

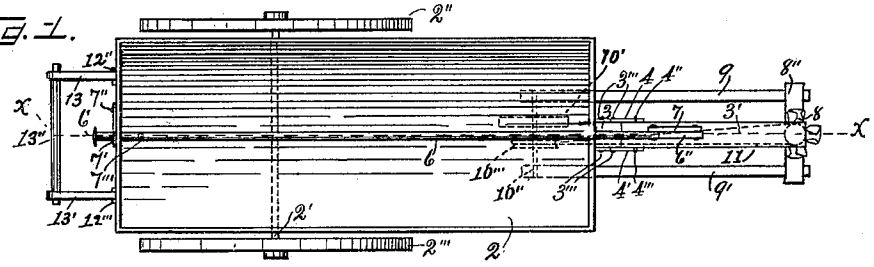


Fig. 2.

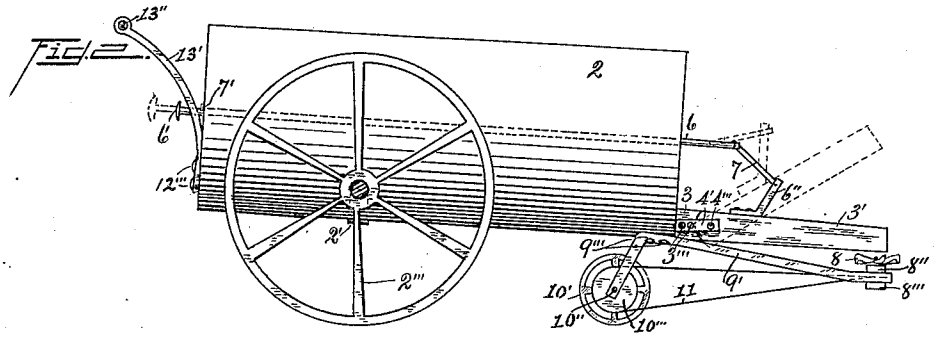


Fig. 3.

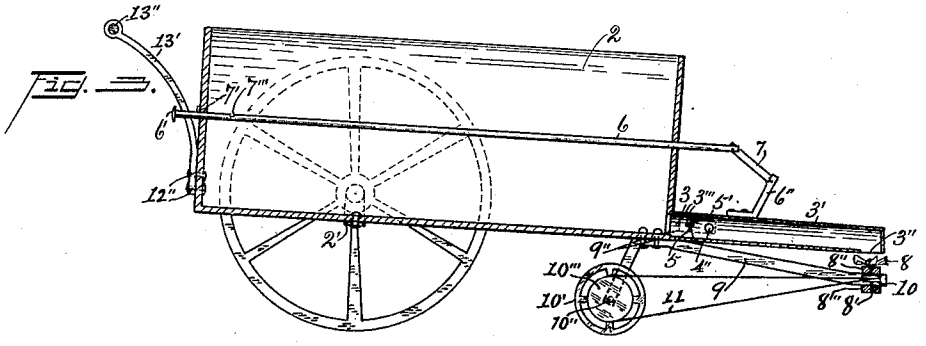
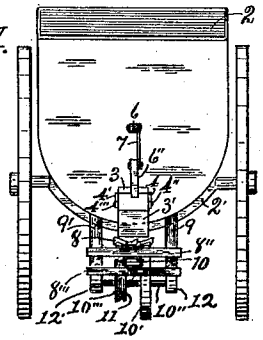


Fig. 4.



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2 SHEETS—SHEET 2.

Fig. 4.

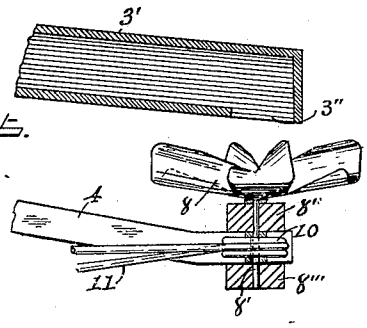


Fig. 6.

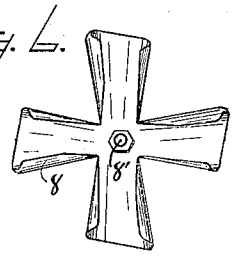


Fig. 7.

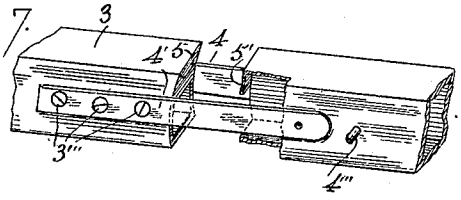
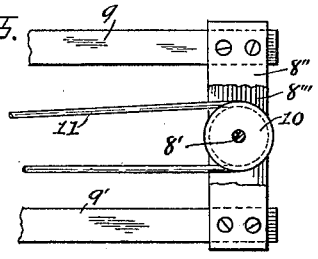


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANCIS P. MURPHY, OF OAKVILLE, CONNECTICUT.

WHEELED BROADCASTING APPARATUS.

1,102,786. Specification of Letters Patent. Patented July 7, 1914.

Application filed August 6, 1913. Serial No. 783,252.

To all whom it may concern:

Be it known that I, FRANCIS P. MURPHY, a citizen of the United States, and a resident of Oakville, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Wheeled Broadcasting Apparatus, which improvements are fully set forth in the following specification.

This invention relates to improvements in wheeled constructions of that class quite widely availed of for broadcasting granular and similar commodities, such constructions being well designated wheeled broadcasting apparatus; and its object is to provide a wheeled broadcasting apparatus which shall be simple and comparatively inexpensive as regards its construction; durable, efficient and reliable in practical service; which shall embody a charger, together with novel features pertaining more particularly to the control of the delivery of the contents of said charger; and which shall possess certain well-defined advantages over prior analogous structures.

The invention consists in the combinations, details and parts whereby, together with the novel disposition and relative arrangement of said parts, the attainment of the foregoing object is rendered practicable, all of which will be hereinafter more specifically referred to and set forth in the claims hereto annexed.

The invention is clearly illustrated in the accompanying drawings, wherein similar reference-characters denote like parts as the same appear in each of the several views, the latter comprising—

Figure 1, a plan view of a wheeled broadcasting apparatus embodying my said improvements. Fig. 2, a side elevation of same. Fig. 3, a central, vertical, longitudinal section of the apparatus, as along the broken line *x*—*x* of Fig. 1. Fig. 4, a front elevation of the construction. Fig. 5 is an enlarged detail view, showing, partly in section and as illustrated in Fig. 3, a fragment of the movable discharge-spout section, with the spreader made use of duly positioned and supported thereunder. Fig. 6, an enlarged plan view of the spreader made use of, detached. Fig. 7, an enlarged detail view, showing in perspective fragments of the discharge-spout sections, in readiness to be assembled, and details at the joint therebetween. Fig. 8, an enlarged detail view, illustrating the mode of supporting the spreader aforenamed, and parts involved in the driving of same.

In carrying out my invention, reference being had to the accompanying drawings, I make use of a charger or hopper 2, box-like in general form, and mounted on an axle 2′, there being mounted on the latter, at the opposite ends thereof and in the usual manner, opposite carrying-wheels 2″, 2‴, The charger 2 is, by preference, approximately semi-circular in cross-section, with its bottom describing an arc of a circle; and to the end that the axle 2′ may conform to the bottom of said charger, the same is bowed downwardly midway its length, substantially as shown in the drawings.

The charger 2 may be secured to the axle 2′ by means of bolts, rivets, or other suitable fasteners, and is provided at its front end with a jointed discharge-spout, consisting of an initial, fixed section 3, and a final, swinging section 3′, the latter provided at its delivery end, with a discharge-nozzle 3″, and pivotally attached, near its opposite end, to said fixed section 3, and in a manner to be brought into and out of alinement therewith. More specifically, there is attached, as by means of fasteners 3‴, to the section 3, at its sides, opposite, forwardly-projecting supports 4, 4′, between the free-end portions of which is interposed the butt-portion of section 3′, the latter being pivotally attached at its opposite sides to the free-end portions of said supports, respectively, as at the opposite points 4″, 4‴.

The section 3 is provided with a bridge-wall 5, which closes at all times, the upper portion of the advance end of section 3, but leaves the lower portion thereof open, at all times, said bridge-wall 5 having a general curvature concentric to the axis of movement of the section 3′, as between the points 4″, 4‴; and section 3′ being provided with a bridge-wall 5′, which closes at all times the butt-end of section 3′, but leaves the lower portion thereof open, at all times, said bridge-wall 5′ also having a general curvature concentric to the axis of movement of the section 3′, as between said points 4″, 4‴. The bridge-wall 5′ lies, when the section 3′ is brought into alinement with the section 3, in close relation to, and in advance of, the bridge-wall 5, the abutting ends of said respective spout-sections, when so relatively adjusted, being open, respectively, be-

neath the registering bridge-walls thereof, for the passage, as by its own gravity, from the charger 2, interiorly along said spout-sections, of the contents of said charger, and the delivery of such contents as at the outlet 3″, at the advance end of said section 3′; and when the latter shall have been rocked or moved upwardly, as on its axis of movement between the opposite points 4″, 4‴, and as to the position indicated in dotted lines in Fig. 2, bridge-wall 5′ spans the open space beneath the bridge-wall 5, closes the same, and accordingly checks all further outflow of the contents of the charger 2. Then, to permit a further outflow of the contents of the charger 2, it is only necessary to return the section 3′ to its delivery position, approximately in alinement with the fixed section 3, as clearly indicated in Figs. 2 and 3 of the drawings.

Any appropriate part or parts may be availed of for moving the section 3′ out of and into its delivery position, though, as markedly convenient means to this end, I provide an operating-rod 6, traversing longitudinally the interior of the charger 2, bearing in the opposite front and rear end-walls thereof, for movement to and fro endwise, and projecting at one end-portion thereof rearwardly beyond the rear end-wall of said charger, to receive a finger-piece 6′, and forwardly beyond the front end-wall of said charger, suitably to permit the connection of its advance end with the section 3′, this being accomplished, in the present instance, by means of an arm 6″, fixedly attached to the section 3′, and rising more or less upwardly therefrom, and a link 7, the latter interposed between and loosely connecting the free end of arm 6′ with the advance end of said operating-rod. Hence, upon a suitable pull being exerted endwise on the operating-rod 6, as through the medium of the finger-piece 6′, section 3′ will be elevated, as to its position indicated in dotted lines in Fig. 2, the outflow of the contents of the charger 2 being checked accordingly, as hereinbefore explained. The section 3′ may be locked in its said elevated position in any common and well known manner, as through the medium of a latch 7′, pivotally attached, as at the point 7″, to the rear end-wall of the charger 2, at the outer face thereof, and overlying the adjacent end-portion of the operating-rod 6, the latter having a notch 7‴, within which said latch may rest, as by its own gravity. It is further important that means be provided for disseminating the charger-contents upon the delivery thereof as and at the outlet 3″; and in this connection I provide a rotatable spreader 8, fixed to a vertical pintle 8′, at the upper end thereof, said pintle projecting freely downward through a pair of bearing-strips 8″, 8‴, which overlie and underlie, respectively, the opposite, forward end-portions of a pair of frame-rails 9, 9′, the latter bolted, riveted, or otherwise fastened to the charger 2, at its bottom, as at the opposite points 9″, 9‴, projecting in due relative arrangement forwardly therefrom, and constituting with the strips 8″, 8‴, or either thereof, a spreader-supporting frame.

A driven sheave 10 is removably keyed to the spindle 8′, and turns therewith, within the space intervening between the strips 8″, 8‴. I further provide a drive-wheel 10′, fast on a secondary axle 10″, and a drive-sheave 10‴, the latter also fast on the axle 10″, said drive-sheave and driven sheave being connected by a belt, 11, or the like, in the usual manner. Suitable bearings, as 12, 12′, are provided for the secondary axle 10″, the same being obtained in this instance by turning and extending downwardly the rear-end portions of the frame-rails 9, 9′, respectively, said secondary axle being arranged to turn freely therein, at its opposite end-portions, as will be readily understood.

While I have shown the spreader 8 as consisting, in the main, of a central portion from which radiate a plurality of distributing wings, each semi-convoluted upwardly at its opposite edges thereof, the same may be varied materially as to its form, and as to the specific details of its construction.

Power for the propulsion of the construction along the surface over and upon which it may be desired to disseminate more or less of the contents of the charger 2, may be applied thereto in any appropriate manner. However, to facilitate the propulsion of the construction by manual efforts, along a surface such as above alluded to, I contemplate bolting, or otherwise affixing, to the charger 2, at its rear end, and as at the opposite points 12″, 12‴, a pair of upwardly and rearwardly projecting arms 13, 13′, whose free ends are connected by a hand-bar 13″.

In the practical operation of my improved broadcasting apparatus, a quantity of the commodity to be disseminated having been placed in the charger 2, the user, first releasing the operating-rod 6 and thereby permitting the spout-section 3′ to swing downwardly into its delivery position, with respect to the spout-section 3, propels, as through the medium of the hand-bar 13″, the construction forwardly on its carrying-wheels 2″, 2‴, with the drive-wheel 10′ in contact with the surface thereunder, the contents of the charger 2, said charger being suitably inclined forwardly and downwardly, passing therefrom, as by its own gravity, along the interior of the now alined spout-sections, and escaping in a suitable flowage from the spout-section 3′, as by way of its outlet 3″, onto the rapidly moving spreader 8, the latter in turn, swirling and disseminating the charger-contents so deliv-

ered thereto, in all directions taken radially therefrom; the result being a uniform and efficient distribution of more or less of the contents of the charger 2, over and upon the surface undergoing treatment. When it becomes desirable to check the outflow of the contents of the charger 2, it is needful only that a pull be exerted on the operating-rod 6; such pull causing the section 3′ to rise, for the closure of the section 3, the user then locking said section 3′ in its elevated position, all as hereinbefore explained.

While my improved broadcasting apparatus is more particularly intended for municipal or private use in the distribution of sand, or the like, on ice-coated sidewalks, crosswalks, and the like, it will be apparent that the same may be advantageously availed of for the broadcasting of various grains, as in the process of seeding previously prepared soil.

It will be seen that my improved broadcasting apparatus is well adapted for the purposes for which it is intended, and further that the same may be modified to a considerable extent, particularly as regards the means availed of for checking the outflow of the contents of the charger 2, the form and details of the spreader 8, and the part or parts whereby said spreader may be driven, together with minor details of the general construction, without departing from the scope of the claims hereto appended.

I claim:

1. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and, at its forward end, with a discharge-spout, said charger inclined forwardly and downwardly; an element for opening and closing said discharge-spout; and a connection extending from the element aforenamed in a direction generally rearward along said charger, and whereby said element may be actuated.

2. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and, at its forward end, with a sectional discharge-spout, said charger inclined forwardly and downwardly, said spout-sections being jointedly assembled, and one thereof, when duly actuated, controlling the opening and closing of the other; and a connection extending from such controlling section of said discharge-spout in a direction generally rearward along said charger, and whereby said controlling spout-section may be actuated.

3. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and, at its forward end, with a sectional discharge-spout, one of the sections of said discharge-spout being movable relatively to, and controlling, the other; and an operating-rod, the latter extending from said movable discharge-spout section in a direction generally rearward along said charger, lying mainly therein, and bearing essentially in the rear wall thereof.

4. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and, at its forward end, with a sectional discharge-spout, one of the sections of said discharge-spout being movable into and out of alinement with the other, for controlling the opening and closing thereof, accordingly; and means for actuating said movable, discharge-spout section, said means embodying an operating part extending from the latter in a direction generally rearward along the charger aforenamed.

5. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and, at its forward end, with a sectional discharge-spout, one section of the latter projecting fixedly from said charger, and the other thereof conjoined with said fixed section in a manner to be movable, pivotally, into and out of alinement therewith, the contiguous ends of said sections, at the joint therebetween, being, each, partially bridged, and having, each, a general transverse curvature concentric to the axis of movement of said movable section, whereby communication between said sections is established and checked accordingly as said movable section is brought into or out of alinement with said fixed section; and means for duly actuating said fixed section.

6. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and, at its forward end, with a discharge-spout; an element for controlling the opening and closing of said discharge-spout; an operating-rod, bearing in the opposite end-walls of, and lying mainly within said charger; and a link, the latter connecting the free-end of said operating-rod with the element aforenamed.

7. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and, at its free end, with a discharge-spout; a rotatably supported drive-wheel; a drive-sheave rotatably supported contiguous to said drive-wheel, and turnable correlatively therewith; a spreader rotatably supported in line with the outlet of said discharge-spout; a driven-sheave, rotatably supported contiguous to said spreader, and turnable correlatively therewith; a flexible, endless connection operating on said drive-sheave and said driven-sheave; and means for controlling the delivery, by way of the discharge-spout aforenamed, of the contents of said charger.

8. A broadcasting apparatus comprising a charger provided with opposite carrying-wheels, and at its forward end, with a controlled discharge-spout; a spreader-supporting frame, projecting forwardly from said

charger and underlying said discharge-spout; a spreader, supported rotatably by said frame at the forward end thereof and in line with the outlet of said discharge-spout; a duly supported drive-wheel, adapted to rotate when in contact with the surface thereunder, and under propulsion of the construction as a whole along such surface; and connections between said drive-wheel and the spreader aforenamed, whereby the latter will be caused to rotate upon said drive-wheel being rotated.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."