

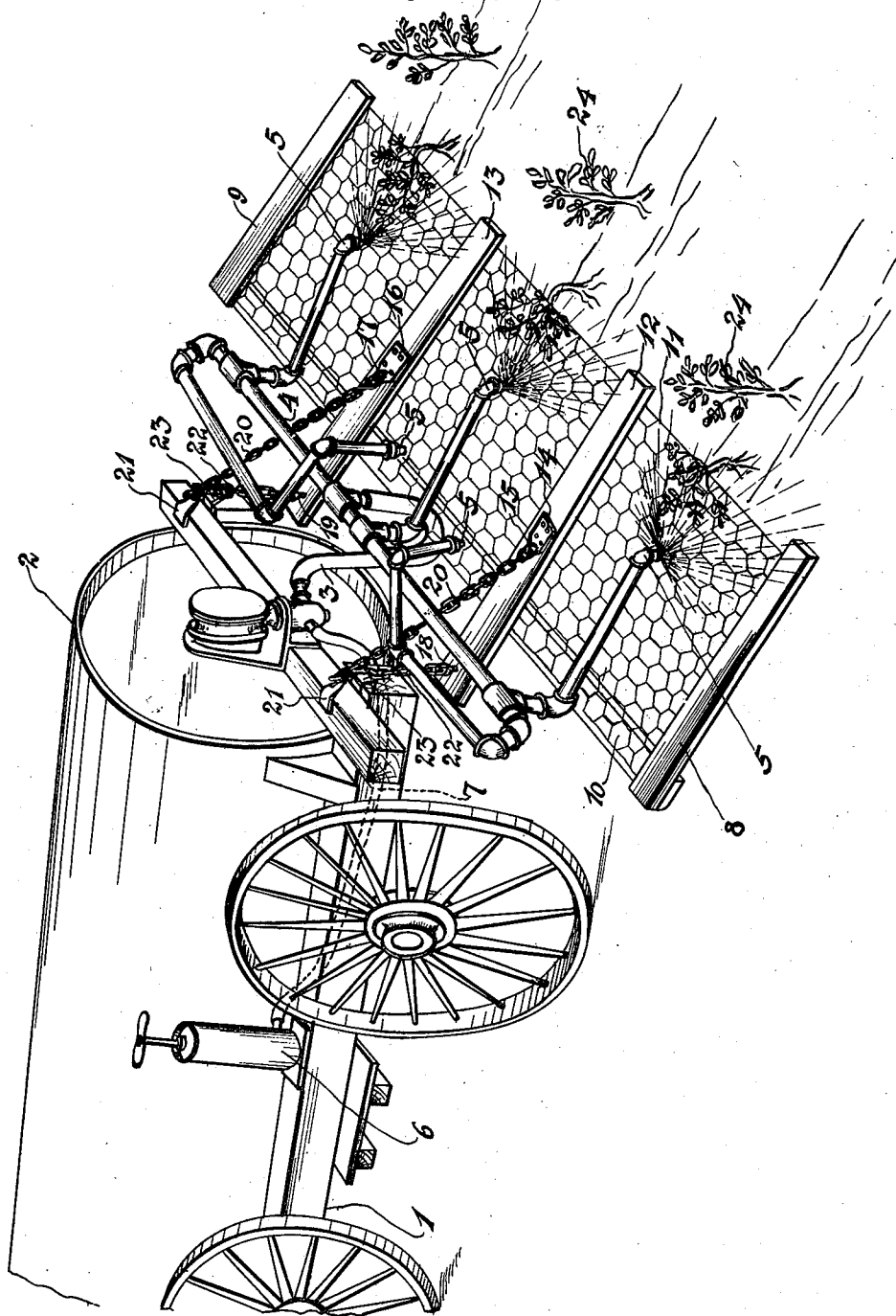
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SPRAYING DEVICE

Filed Sept. 30, 1921



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SPRAYING DEVICE.

Application filed September 30, 1921. Serial No. 504,362.

To all whom it may concern:

Be it known that I, ARENTH A. STUBFORS, a citizen of the United States, and a resident of Spooner, in the county of Washburn and State of Wisconsin, have invented a new and useful Improvement in Spraying Devices, of which the following is a full, clear, and exact description.

My invention relates to devices for use in spraying a liquid upon plants in a field, and it consists in the combinations, constructions, and arrangements herein described and claimed.

An object of my invention is to provide an attachment for a movable spraying machine which will co-act with the latter to bend standing plants at the time a liquid is discharged upon such plants.

A further object of my invention is to provide an attachment of the character described that can be adjusted relatively to a movable sprayer to which attached for operative engagement with plants of various heights.

A further object of my invention is to provide an attachment having means for flexibly attaching the same to a vehicle, whereby the attachment is capable of a limited movement vertically to compensate for irregularities in the surface traversed by the vehicle.

A further object of my invention is to provide an attachment of the character described that is adapted for use in connection with a movable spraying machine of an ordinary construction without any extensive changes, if any, in the construction of the latter being required.

Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings forming part of this application, in which—

The figure is a perspective view of a sprayer equipped with my invention.

Referring now to the drawing, 1 denotes a vehicle provided with a tank 2 adapted to receive a liquid. A delivery conduit 3, supported on the frame of the vehicle, communicates with the tank 2 and leads to a manifold 4 which is provided with a plurality of spaced apart nozzles 5. A pump 6 is operatively connected by a tube 7 with the delivery conduit 3 and may be operated to cause the

liquid from the tank 2 to be discharged from the nozzles 5 under pressure. The parts described so far are ordinary in construction and form no part of my invention except in so far as they cooperate with the parts which will now be described.

In carrying out my invention, I provide a frame having substantially parallel end members 8 and 9 connected at one end by a transverse member 10. A piece of wire screen 11, or like material, is cut to a size adapted to be stretched between the end members 8 and 9 and to extend for the length of these members, as shown. The wire screen 11 is attached to the end members 8 and 9 and to the connecting member 10 by any suitable known means, such as staples or the like, no means being shown in the drawings, and may be clamped between the end members 8 and 9 and the transverse member 10 at certain points, as shown.

A pair of spaced apart attaching members 12 and 13 are secured to the transverse member 10 in parallel relation with respect to each other and to the frame members 8 and 9. These attaching members extend at one side of the frame beyond the corresponding ends of the frame members 8 and 9. A plate 14 formed with an eyelet 15 is attached to the frame 12 intermediately of its length. A screw eye 18 is attached to the member 12 adjacent to the end thereof that projects beyond the corresponding end of the frame member 8. The attaching member 13 likewise carries a screw eye 19 adjacent to the end thereof that projects beyond the corresponding end of the frame member 9. Similar flexible members, such as the chains which are indicated at 20—20, are attached at one end to the eyelets 15 and 17 and are detachably secured at their other ends to means, such as the hooks 21—21, which are carried by the frame of the vehicle. Other flexible connecting means, such as the chains 22—22, connect the eyelets 18 and 19 with hooks 23—23 carried by the frame of the vehicle in positions adjacent to the hooks 21—21 and slightly below the level of the latter, as clearly shown in the drawings.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. The frame of the attachment is initially adjusted at a desired height above the surface to be traversed and at a desired inclination from the horizontal by adjusting the effec-

tive lengths of the chains 20—20 and 22—22. It is important to observe that the frame of the attachment is arranged so that the several nozzles 5 are positioned above the attachment and that the liquid from the storage tank 2 will be discharged through the screen upon plants 24 which are arranged in rows in a field. The inclination of the screen 11 from the horizontal is such that the edge thereof nearest to the vehicle 1 will not engage the plants, since the plants might be injured by such a contact. However, the screen 11 will "float" on the plants and the weight of the screen and of its supporting frame will cause the plants to be bent over at the time the liquid solution from the tank 2 is discharged thereon. It will therefore be manifest that all portions of the plants will be subjected to the action of the solution used and in consequence insects and parasites clinging to the under surface of the plant will be drenched with the spraying solution. When an ordinary spraying device is used, the plants are not bent over at the time the solution is discharged and therefore the insects and parasites on the under surfaces of such plants are not subjected to the action of the spraying solution. Another advantage of my device is derived from the fact that the frame to which the screen is attached is flexibly and movably supported and the screen 11 will depress the plants uniformly. The frame of the attachment may be positioned at various heights and at different angles to the horizontal at will by adjusting the lengths of the chains 20—20 and 22—22 extending between the hooks carried by the frame and the attaching bars 12 and 13.

The device is simple in construction and can be operatively applied to any horse drawn sprayer of ordinary construction, of which I am aware, without any extensive changes, if any, in the construction of the latter being required.

I claim:

1. The combination with a vehicular spraying machine having a plurality of nozzles arranged to discharge a liquid downwardly, of a flat perforate member, and means for adjustably attaching the perforate member to the machine to support the member in a desired position between the nozzle orifices and the surface to be traversed by the machine.

2. The combination with a vehicular spraying machine having a plurality of nozzles arranged to discharge a liquid downwardly, of a flat perforate member, and means for adjustably and flexibly attaching the perforate member to the machine to support the member in a desired position between the nozzle orifices and the surface to be traversed by the machine.

3. The combination with a spraying machine, a wire screen frame, chains secured to the middle and sides of said frame and being secured to said machine for holding the frame in a substantially horizontal plane, the end of said frame disposed next to the machine being raised higher with respect to the supporting surface than the other end, and spray nozzles communicating with said machine and terminating above said frame, said frame being adapted to be moved upwardly by the plants over which the frame travels.

ARENTH A. STUBFORS.