

No. 629,513.

Patented July 25, 1899.

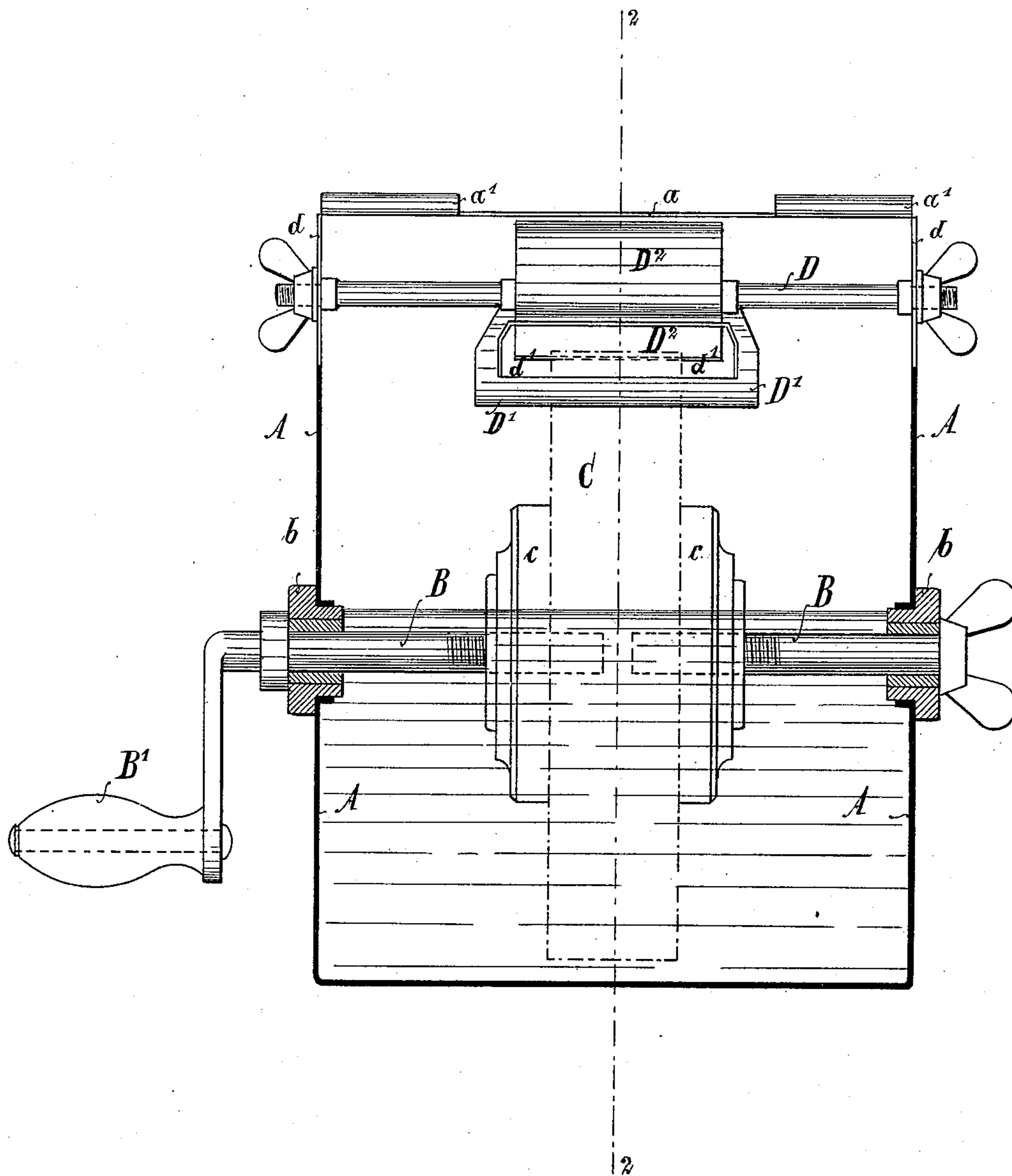
E. LIEBSCHER.  
SPRAYING DEVICE FOR PAINTS.

(Application filed Nov. 30, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses:  
*G. F. H. H. H. H. H.*  
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Inventor:  
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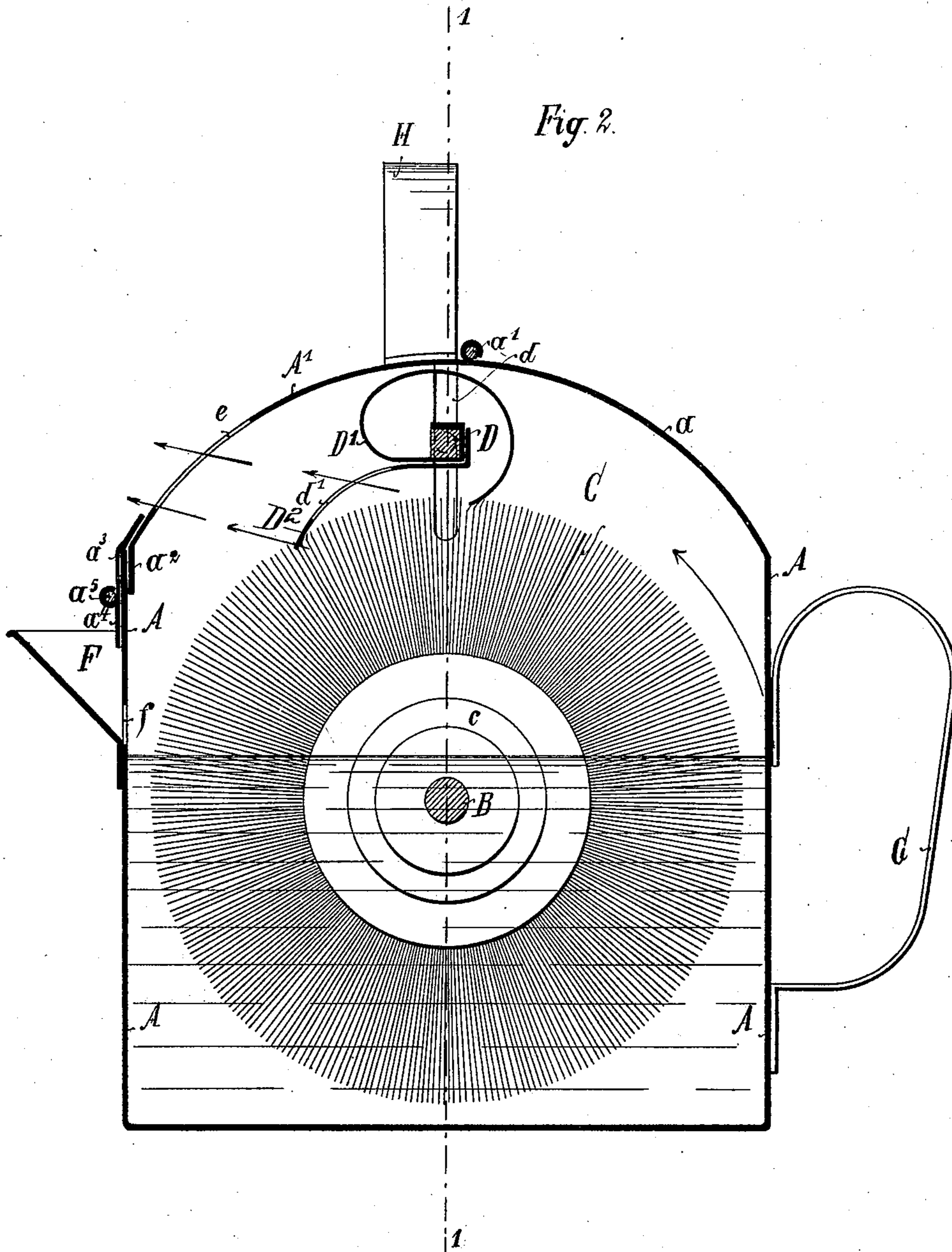
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(No Model.)

2 Sheets—Sheet 2.



Witnesses:

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# UNITED STATES PATENT OFFICE.

ERNST LIEBSCHER, OF GEORGENDORF, AUSTRIA-HUNGARY.

## SPRAYING DEVICE FOR PAINTS.

SPECIFICATION forming part of Letters Patent No. 629,513, dated July 25, 1899.

Application filed November 30, 1898. Serial No. 697,900. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST LIEBSCHER, a subject of the Emperor of Austria-Hungary, residing at Georgendorf, Bohemia, Austria-Hungary, have invented certain new and useful Improvements in Spraying Devices, of which the following is a specification.

The portable spraying device forming the subject of this invention may be used for various purposes—as, for instance, for applying a coloring substance to wood or other surfaces, for sprinkling floors, for dampening the air of rooms, for sprinkling linen, flowers, or other articles—the device being suitable both for very fluid and thick liquids and can be readily adjusted to give a more or less fine spray and to project it to a greater or less distance. These are the main advantages of the new spraying device over those hitherto used, the action of which is based on the use of compressed air, and from which this device differs, its action depending on centrifugal force. In the liquid-reservoir there is arranged a brush rotatable from the outside, the bristles of which as the brush rotates strike a spring, and thus project the liquid upon them at a given point and in a given direction. A slot in the reservoir forms an outlet for the spray produced.

A convenient form of the invention will now be described by way of example.

In the accompanying drawings, Figure 1 is a longitudinal view, partly in section, on the line 1 1 of Fig. 2, with the cover removed and the bristles omitted. Fig. 2 is a vertical cross-section on the line 2 2 of Fig. 1.

The reservoir A is closed at the top down to the central vertical longitudinal plane by an arched cover  $\alpha$ . On the top is mounted on hinges  $\alpha'$  an arched cover or flap A'. A flange  $\alpha^2$  at the front edge of the flap engages on the inner side with the front wall of the reservoir, Fig. 2, so as to prevent the projection of the liquid through the joint. The flap may be secured in position by lugs or extensions  $\alpha^3$  on the cover and lugs  $\alpha^4$  on the front wall, a pin  $\alpha^5$  being passed through said lugs when they are in line to hold them in engagement, or the connection may be in any other suitable manner.

The spindle B of the circular brush rotates in bearings  $b$  in the lateral walls of the res-

ervoir A. This spindle is preferably made of two pins screw-threaded at the ends, which are screwed into the hub  $c$  of the brush, so as to enable the latter to be readily replaced. To one of the pins is secured a crank-handle B'. The joints of the journals of the spindle in the bearings could be easily made airtight by means of stuffing-boxes or the like; but owing to the small pressure of the liquid, and more particularly with liquids of thick consistency, such packing of the joint is not necessary. Besides, the reservoir need not be filled to such an extent as to bring its contents up to the level of the bearings, as shown in the drawings.

The circular brush C is of greater or smaller width, in accordance with the quantity of liquid to be projected at each revolution of the crank. The bristles need not form a closed or compact cylinder. They may be arranged in separate bundles. For many purposes a single series of bristles extending all around will be found sufficient. The word "bristles" is here to be understood in its widest sense. They need not be animal-bristles, but may be wires, teeth, fibers of piassava, or the like arranged in bundles or single. Of course the kind and arrangement of bristles influences the quantity of liquid, &c., taken up and the distance to which it is projected.

A rod D is adjustable by means of screws in slots  $d$  in the lateral walls of the reservoir, (see Fig. 1,) said slots being open at the top, (see Fig. 2,) whereby when the cover is open the rod D may be removed. This rod carries a spring or springs D' D<sup>2</sup> for acting on the bristles in order to spray the liquid adhering to them. These springs project to a greater or less extent into the path of the ends of bristles, according to the position of the rod D. In this way the distance to which liquid is projected can be also regulated. The bristles striking the edge of the springs and being thus bent back spring forward again after passing them and project the liquid which they carry. This liquid is projected in the direction of, say, the arrows, Fig. 2, through a slot  $e$ , provided for the purpose in the flap or cover A'. One spring only may be used; but a second spring is found to increase and complete the action. According to Fig. 2 the spring D<sup>2</sup> acts first. Were this (or D') the

only spring present, a certain portion of the liquid would still adhere to the bristles; but in the two-spring construction said remaining portion is shaken off by the second spring.

5 To enable the liquid projected by the first spring  $D^2$ , arranged at the back, to pass through the spring arranged in front, the latter is provided with a slot  $d'$ , the width of which is at least equal to that of the back

10 spring. The liquid running down on the outside of the cover A is caught by a trough F and returned to the reservoir through a slot  $f$ .

A handle G is provided for holding the device in the left hand, the crank being rotated

15 by the right hand. A top handle H may be added for carrying the apparatus in a convenient manner.

I claim—

1. In a portable spraying device, the combination with the reservoir, having the slots

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in the lateral walls, open at the top, the rod adjustable in said slots and adapted to be removed therefrom, the spring carried by this rod, the brush rotatable within the reservoir; substantially as described.

2. In a spraying device, the combination with the reservoir, the brush rotatable therein, the rod, the springs carried thereby, one arranged behind the other, the forward spring provided with a slot, whereby the liquid projected by the back spring will pass through the forward spring; substantially as described.

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In testimony whereof I have hereto set my hand in the presence of the two subscribing witnesses.

ERNST LIEBSCHER.

Witnesses:

M. JOCKWICH,

G. A. ALWIN ARLETT.