

C. RISACHER & P. A. HEBERT.
LIQUID DISTRIBUTING DEVICE.
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1,128,903.

Patented Feb. 16, 1915.

fig. 1.

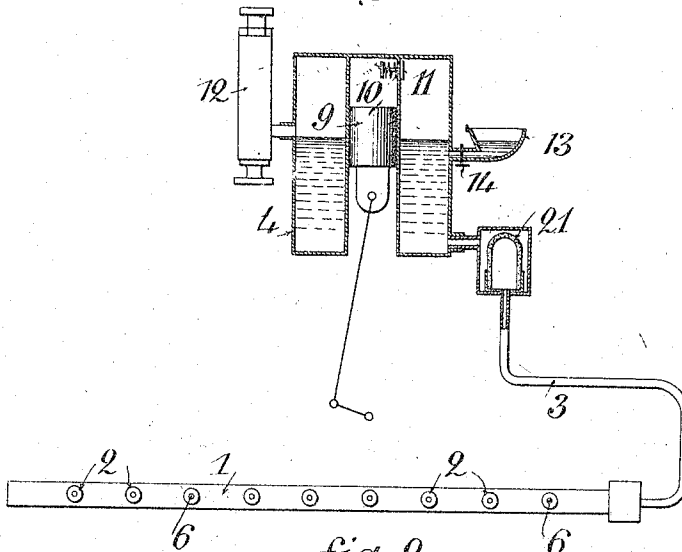


fig. 2.

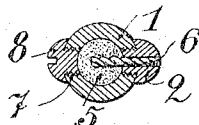
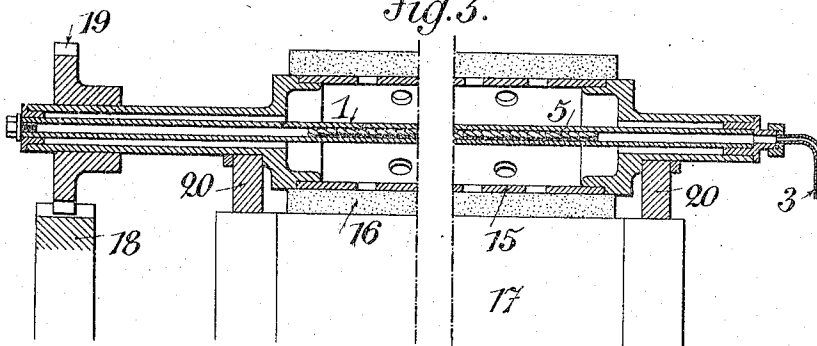


fig. 3.



WITNESSES

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LIQUID-DISTRIBUTING DEVICE.

1,128,903.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, CHARLES RISACHER and PAUL ALBERT HÉBERT, citizens of the Republic of France, residing both at 58 Boulevard Pasteur, Paris, in the Republic of France, engineers, have invented certain new and useful Improvements in Liquid-Distributing Devices, of which the following is a specification.

10 This invention relates to improvements in devices for distributing regularly and at several points small quantities of liquid, and the object of the invention is to so construct a device of this character that it will overcome the difficulties met with in endeavoring to obtain an absolute regularity in the delivery through several inlets supplied from the same source, and especially when such outlets are only to allow the passage of a very small amount of liquid and when they are relatively far from one another; and will also obviate the further difficulty met with after having established a uniform delivery through such inlets for a certain amount of the total delivery, such difficulty being represented by the fact that generally such uniform delivery no longer subsists on the total delivery being increased or decreased.

30 The device according to this invention consists of a tube connected with the source of the supply of liquid and on which are branched lateral ajutages or spouts, in combination with a porous or fibrous material, such as wicks, which fill the bore of the tube and spouts. The phenomena of capillarity resulting from the fibrous nature of the filling having the effect of regulating the delivery of all the spouts even when the spouts are spaced and numerous, or the tube is a long one on that account, and such regularity subsists irrespective of the total delivery, even when the latter is a small one, or only a few drops per minute for a set of ten spouts, for instance. In order to secure a constant total delivery with such a device, it is expedient to maintain a constant pressure of the liquid supplied by the source employed, which is generally a reservoir. It is advantageous, in order to be able to regulate the pressure and hence the supply at will, to compress the air above the liquid in the reservoir and in keeping the pressure of such air constant by any suitable means, for instance by forcing the air continuously into a reservoir provided with a suitably charged

discharge valve. Such a distributing device can be used for distributing any sort of liquid and can be applied in many industries. For instance, we will describe its application to the sprinkling of petroleum on the cylinders used in printing establishments; in such case, the petroleum is distributed in drops on the whole surface of a felt roller turning against the surface of a cylinder of a printing machine.

Such embodiment of this invention is shown as a whole diagrammatically in Figure 1 of accompanying drawings, in which Figs. 2 and 3 are, respectively, a transverse section of the distributing tube on a larger scale, and a longitudinal section of the distributing tube as applied to the sprinkling of petroleum of the second cylinder to a flat or what is called a double or withdrawal printing machine.

In the drawings, 1 designates a distributing tube provided with lateral ajutages or spouts 2 and connected by a pipe 3 with a reservoir 4 for the liquid. According to this invention, the bore of tube 1 is filled by a large wick 5 extending from one end to the other and the spouts 2 are provided with smaller wicks 6 which extend to the interior of the main wick 5.

Fig. 2 shows that an opening 7, closed by a threaded plug 8, is located in front of each ajutage 2; such opening serves for the purpose of inserting the wick 6 through the wick 5 and the ajutage 2, for instance by means of a hook passed previously through the latter, through the wick 6 and the opening 7.

Fig. 1 shows an air pump 9 located at the center of the reservoir 4 and forcing the air above the liquid through an opening 10 provided with a retaining flap valve 11. The pump operates continuously so long as the distribution of the liquid is to be effected, and the pressure is limited by means of a safety valve 12 the charge on which can be regulated at will. There is thus obtained a convenient means whereby to regulate very continuously and very precisely, within any limits, the pressure of the liquid and hence the delivery of the same which is proportional to the said pressure. 13 designates a funnel for the supply of the liquid to the reservoir 4 and which is provided with a stop-cock 14. At the outlet of the reservoir there is arranged a small filter preferably constituted by a hollow body 21 of porous

earthenware, preventing the least impurity from being supplied to the distributing device and permitting the supply of the liquid proportionally to the pressure maintained in the reservoir.

5 In the application shown in Fig. 3, the distributing tube 1 extends from the interior of a hollow roller 15 the perforated surface of which is surrounded by a felt sheath 16
10 serving to allot and deposit the petroleum uniformly on the cylinder 17 in contact with which it revolves. Gear wheels 18 and 19 insure the equality of the circumferential speeds of the cylinder and felt, and rollers
15 20 running on the latter limit the approachment of the parts in an invariable manner. The petroleum is supplied from a reservoir kept under pressure by means of an air-pump, as hereinbefore described, the said
20 air-pump being driven by any suitable operating member of the printing machine, so that it will only operate when the latter is running. By distributing the petroleum within the felted roller, there is the advantage of keeping the mass of felt always
25 clean, the impurities deposited on its outer surface being continuously expelled outwardly by the liquid coming in. Furthermore, the device is very compact.

30 The invention comprises any application of the said device to the allotment of liquid, involving a perforated and felted roller which revolves around a tube or hollow axle supplying the liquid to the same at several
35 points of its length, regardless of the fitting of such tube and of the members distributing the liquid in the roller.

Claims.

1. A device for distributing at several
40 points small quantities of liquid comprising a tube having a series of lateral openings; ajutages or spouts branched on said openings, a porous or fibrous material filling the

tube and the ajutages, and means whereby to force in a continuous manner a liquid 45 through the said tube and the said porous material.

2. The combination of a tube having a series of lateral openings, ajutages branched on said openings, a porous material filling 50 the tube and the ajutages, a liquid reservoir, an air-pump adapted to force the air into the reservoir, an adjustable valve on the said reservoir adapted to allow the escapement of the air when the pressure there- 55 of exceeds a predetermined limit, a connection between the said tube and the said reservoir and a liquid filter intercalated in the said connection.

3. The combination of a hollow rotary 60 roller having a perforated wall, ajutages extending from the perforations, a felt sheath around the roller, a tube placed around the axis of the roller and having a series of lateral openings, a porous material 65 filling the tube and the ajutages, a liquid reservoir connected with the said tube and means whereby to force the air into the said reservoir, such means being driven in register with the rotation of the said roller. 70

4. The combination of a tube having two sets of perforations on respectively opposite sides, ajutages screwed into the perforations on one side of such tube, plugs screwed into the perforations on the opposite side of the 75 said tube, a longitudinal wick in the tube, and transverse wicks in the said ajutages.

In testimony, that we claim the foregoing as our invention, we have signed our names in presence of two subscribing witnesses.

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PAUL ALBERT HÉBERT.

Witnesses:

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