W. C. WATSON.

DEVICE FOR WATER SURFACING PAPER.

APPLICATION FILED OCT. 15, 1909.

952,852. Patented Mar. 22, 1910

Fig. 1.

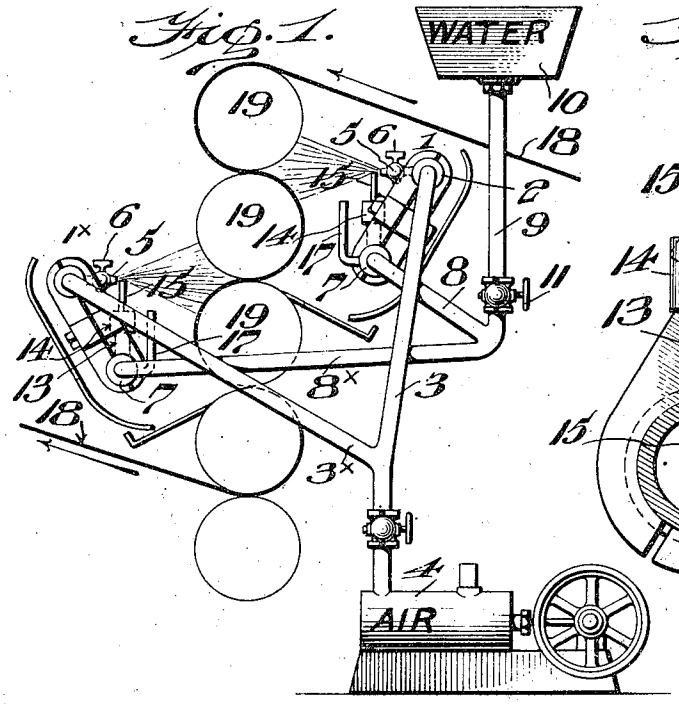


Fig. 3.

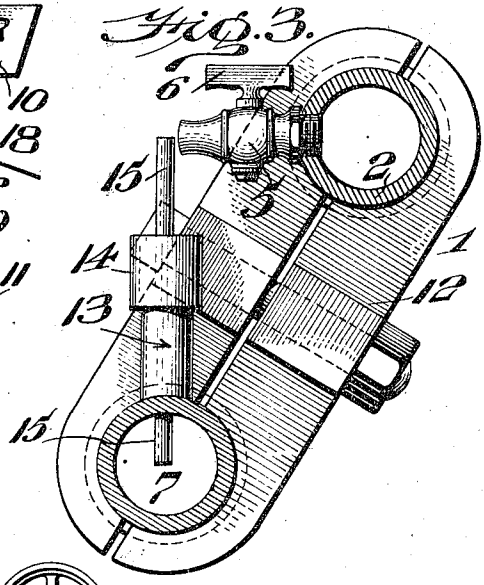
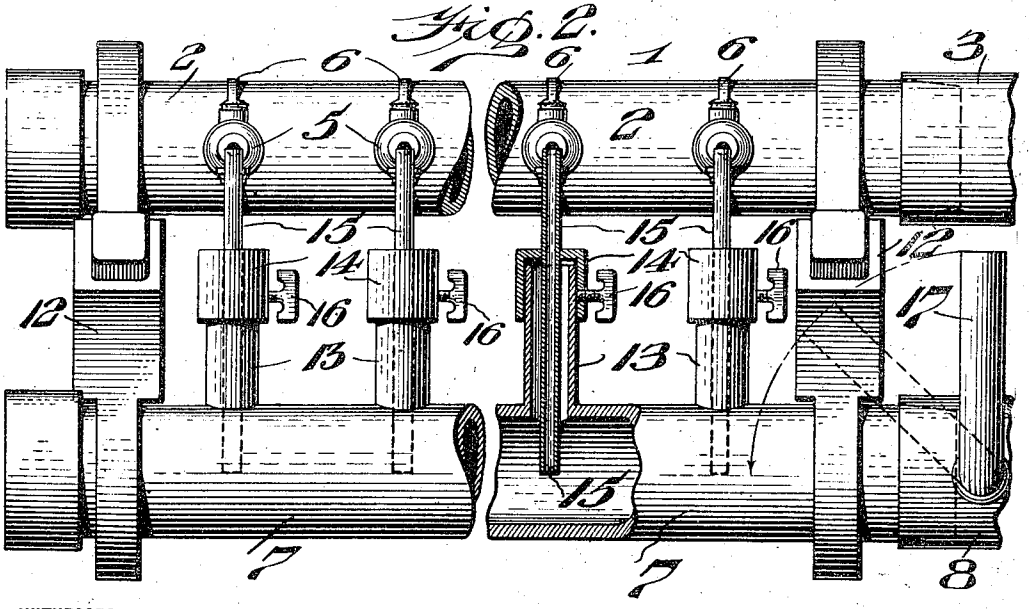


Fig. 2.



WITNESSES

H. G. Dieterich

P. F. Nagle.

INVENTOR

William C. Watson.

BY Wiedersheim & Fairbanks.

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM C. WATSON, OF CAMDEN, NEW JERSEY.

DEVICE FOR WATER-SURFACING PAPER.

952,852. Specification of Letters Patent. Patented Mar. 22, 1910.

Application filed October 15, 1909. Serial No. 522,604.

To all whom it may concern:

Be it known that I, WILLIAM C. WATSON, a citizen of the United States, residing in the city and county of Camden, State of New Jersey, have invented a new and useful Device for Water-Surfacing Paper, of which the following is a specification.

My invention relates to a new and useful device for water surfacing paper and consists in providing an adjustably mounted pipe or pipes for conveying water to a point adjacent the discharge.

It further consists of means for regulating the height of the water in the pipe or pipes.

It further consists of other novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents a diagrammatic view of a device for water surfacing paper embodying my invention. Fig. 2 represents a partial elevation and partial sectional view of a portion of the device. Fig. 3 represents a vertical sectional view thereof.

I have found in water surfacing paper, it is essential that the proper amount of water is applied. In the drawing, I have shown a construction which I have found in practice to give satisfactory and reliable results, although it is to be understood that changes may be made in the construction, the arrangement of the parts may be varied and other instrumentalities may be employed which will come within the scope of the invention and I do not therefore desire to be limited in every instance to the exact construction as herein shown and described but desire to make such changes as may be necessary.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates the device for applying the water which consists of a tank or receptacle 2 to which air is adapted to be supplied in any suitable manner, in the present instance, through a pipe 3, which leads from an air pump 4 of any suitable construction. At intervals, I provide the air nozzles 5 each of which is provided with a valve 6, said nozzles communicating with the interior of the air chamber 2 and the air supply through said nozzles being regulated and controlled by the valves 6, so that any number of the nozzles may be placed in operation as may be necessary.

7 designates a water pipe or tank which is of any suitable construction and to which water is supplied in any desired manner, in the present instance, through a pipe 8 which is in communication with the pipe 9 which leads to a suitable source of water supply 10, the flow of water in said pipe 9 being controlled by the valve 11.

12 designates brackets which serve to support the air tank 2 upon the water tank 7 and hold the same in proper position with respect to each other. Extending at suitable intervals from the water tank 7 are the stand pipes or extensions 13, each of which carries a closure 14 which supports a pipe 15 which passes downwardly through the extension 13 a suitable distance into the water tank 7. A set screw 16 serves to hold the closure or cap 14 in its adjusted position on the extension 13 in order that the position of the end of the pipe 15 carried thereby can be adjusted with respect to the discharge of one of the nozzles 5 carried by the air tank 2 and so that any number of these pipes 15 can be lowered to remove the same from operative position.

17 designates a regulator or regulating device carried by the water tank 7, said regulator, in the present instance, being shown as a pipe and being movably mounted in order that the height of the water in the pipes 15 can be regulated.

As shown in Fig. 1 the paper 18 is fed from a suitable supply and suitably passed around rollers 19 and one of the water surfacing devices 1 being situated upon one side and another surfacing device 1^x being situated upon the other side in order that both sides of the paper can be treated as understood from Fig. 1. In this event the said water surfacing device 1^x is of the same construction as the one already described and I provide a pipe 8^x to supply the water to the water tank and a pipe 3^x to supply the air to the air tank.

The operation of the device is as follows:—The air is forced into the tank 2 and water into the water tank 7, the pipes 15 having been adjusted in order that the end of each is adjacent the opening of one of the nozzles. As the air passes from a nozzle it forms a suction in a pipe 15 drawing up a sufficient quantity of water to discharge the same in the form of spray against the surface of the paper. As it is necessary, as before stated, to supply the right quantity of

water, the pipes 15 can be raised and secured in order to adjust the position of the end thereof with respect to its nozzle so that the same is always in the proper position. In addition, the height of the water standing in the pipes 15 can be controlled by adjusting the position of the regulator 17, for example, when the same is in the position seen in full lines Fig. 2 the water in the pipes 15 will stand the same height as the top of the regulator but by moving the regulator 17 in the direction indicated by the arrow it will be seen that water can escape therefrom, or will exhaust, so that the water in the pipes 15 will then stand the same height as the adjusted position of the top of the regulator which will be lower, the effect of which is evident.

By reason of the adjustability of the pipes 15 the same can be raised as above stated and held in their adjusted position with respect to the nozzles should the end of any of the pipes wear down as is the case after the said pipes have been used for a certain length of time. In addition the pressure from the air pump can be varied in order to vary the supply of spray supplied to the paper.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character described, a longitudinally extending air tank, means for forcing air thereinto, nozzles extending at suitable intervals from said tank, a water tank, pipes communicating with said water tank, each pipe being situated at a suitable point with respect to a nozzle on said air tank, independent means for adjusting the position of said pipes on said water tank whereby the end thereof is adjustable with respect to the discharge of its nozzle on said air tank, and a regulator for controlling the height of the water in said pipe.

2. In a device of the character described, an air tank, means for forcing air thereinto, nozzles extending from said tank, a water tank, a plurality of pipes communicating with said water tank and extending therefrom, means for vertically adjusting the position of said pipes on said water tank whereby the end of each thereof is adjustable with respect to the discharge of a nozzle on said air tank, and an exhaust pipe for said water tank for regulating the height of the water in said pipe.

3. In a device of the character described, an air tank, a water tank, means for holding the same in proper position with respect to each other, a nozzle communicating with the interior of said air tank, a pipe extending upwardly from said air tank, a second pipe extending through said first mentioned pipe and into said water tank, and means for adjusting the position of said last named pipe with respect to the first mentioned pipe.

4. In a device of the character described, an air tank, a water tank, means for holding the same in proper position with respect to each other, a nozzle communicating with the interior of said air tank, a pipe extending upwardly from said water tank, a second pipe extending through said first mentioned pipe and into said water tank, and a cap carrying said second mentioned pipe and adjustably mounted on said first mentioned pipe for adjusting the positions of said pipes with respect to each other.

5. In a device of the character stated, a longitudinally extending air tank, means for forcing air thereinto, a plurality of nozzles extending at suitable intervals from said air tank, a separate valve for each nozzle, a longitudinally extending water tank, means for suitably supporting said tanks with respect to each other, means for supplying said tank with water, a plurality of pipes communicating with said water tank and extending at suitable intervals therefrom corresponding to the nozzles on said air tank, and independent means for each pipe on said water tank, whereby the end thereof may be adjusted with respect to the discharge of the adjacent nozzle on the air tank.

WILLIAM C. WATSON.

Witnesses:
WM. CANER WIEDERSEIM,
C. D. MCVAY.