Nov. 15, 1927. 1,649,445

C. CLARK ET AL

APPARATUS FOR DYEING ARTICLES OF CLOTHING, FABRIC, AND THE LIKE

Filed July 12, 1926 2 Sheets-Sheet 1

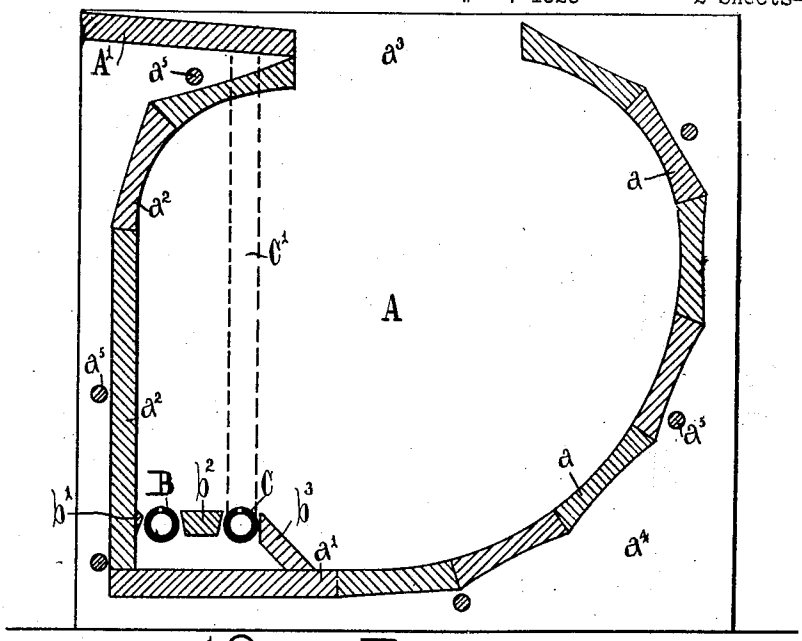


Fig.1.

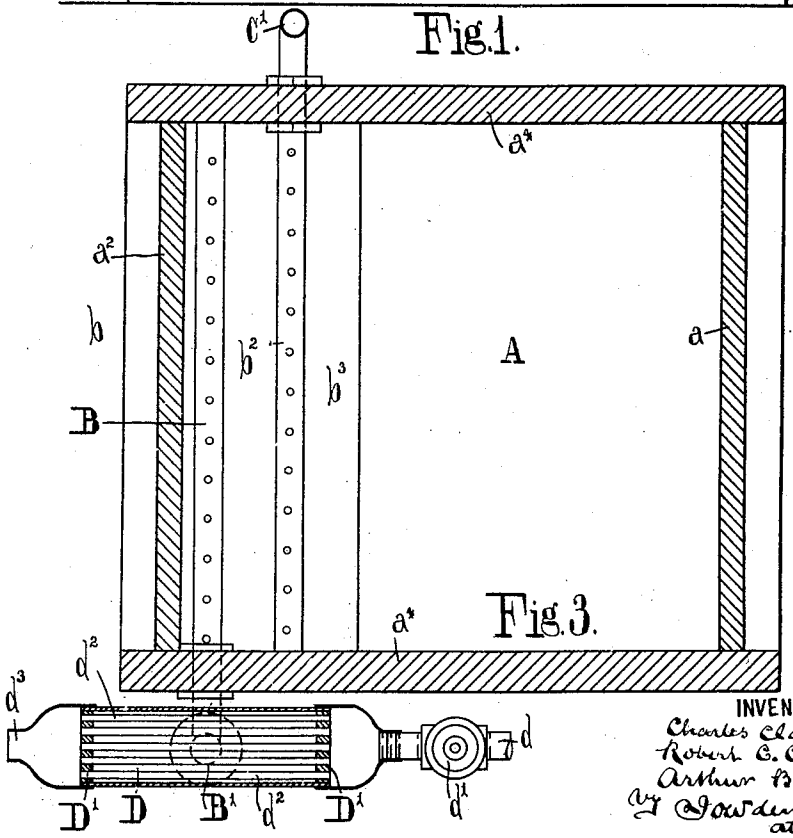


Fig.3.

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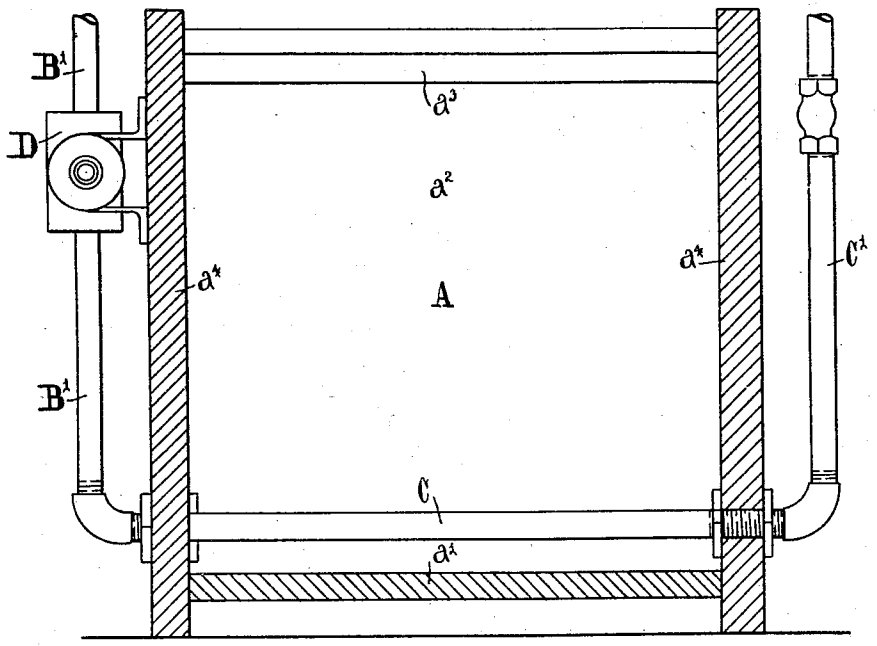


Fig. 2.

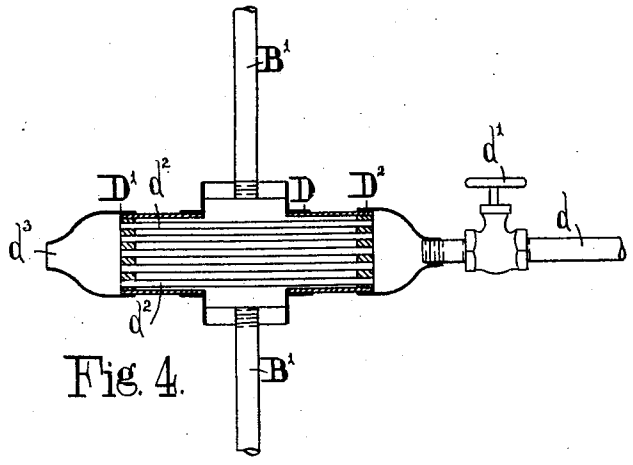


Fig. 4.

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UNITED STATES PATENT OFFICE.

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APPARATUS FOR DYEING ARTICLES OF CLOTHING, FABRIC, AND THE LIKE.

Application filed July 12, 1926, Serial No. 122,005, and in Great Britain December 8, 1925.

This invention relates to improvements in apparatus for dyeing articles of clothing, fabrics and the like.

According to the invention the apparatus comprises a vat constructed with one side of curved formation, the curvature extending upwards and outwards from a horizontal portion of the bottom and with the other side extending vertically upwards for some distance and then curving inwards towards the other side, a space being left at the top between the two sides through which the dye liquor and the garments or fabrics to be dyed can be inserted.

This construction of vat enables the dye liquor to circulate with the articles or fabric, without the use of mechanical stirring devices when compressed air with or without steam is forced into the vat near the bottom where the horizontal portion of the latter meets the vertical portion of the side.

Another feature of the invention consists in forcing compressed air for the circulation into the vat in front of the supply of steam for heating purposes, the compressed air keeping the articles or fabrics being dyed from coming into contact with the live steam or the steam pipe.

The invention will be described with reference to the accompanying drawings.

Fig. 1 is a transverse section of the vat.

Fig. 2 is a longitudinal section of same.

Fig. 3 is a plan of same.

Fig. 4 is a detail section of drying and testing device.

The vat A is constructed with one side a of curved formation, the curvature extending upwards and outwards from the horizontal bottom a^1 and then inwards again towards the top as shown in Fig. 1. The other side a^2 is perpendicular for part of its height and then curves inwards towards the side a. An aperture or space a^3 is left between the sides a and a^2 through which the dye liquor and the articles to be dyed can be introduced into the vat.

The ends a^4 of the vat are arranged vertically and the whole vat is held together by rods a^5 passing through the ends but arranged outside the sides a and a^2. A drain pipe with cock (not shown in the drawings) is arranged at the bottom of the vat for draining off the liquor.

A board or cover A^1 is arranged over the top of the side a^2 to partially enclose the latter and form a ledge or table on which the articles to be dyed can be placed before being inserted into the vat.

Two perforated pipes B and C are arranged near the bottom of the vat in the angle between the horizontal bottom a^1 and the vertical portion of the side a^2. The pipe B nearer to the side a^2 is connected to the supply of steam for heating the dye liquor and the pipe C is connected to a fan or blower for supplying air under pressure for circulating the dye liquor. Bars or battens b^1, b^2 and b^3 are provided respectively between the side a^2 and the pipe B between the pipe B and the pipe C and between the pipe C and the bottom a^1 to prevent the articles being dyed from passing under the pipes.

This arrangement of separate pipes for the compressed air and for the steam with the pipe C for the compressed air in front of the pipe B for the steam prevents the articles being dyed from coming into contact with the live steam or the steam pipe.

In the steam supply pipe B^1 there is arranged a device D connected to the compressed air supply pipe C^1 through the pipe d fitted with the valve d^1. The device D is arranged adjacent to the top of the vat A and is employed for rapidly drying a small portion of the article or fabric being dyed for matching or testing purposes. The device D comprises a number of tubes d^2 connected at each end to headers D^1, D^2 through which tubes compressed air passes when the valve d^1 is turned on, the air being heated by the passage of the steam through the device and around the tubes.

Thus when it is desired to dry a small portion of the article or fabric for matching, this portion is held in front of the outlet d^3 from the device D and the supply of air turned on, the portion in front of the orifice d^3 being then rapidly dried.

What we claim as our invention and desire to protect by Letters Patent is:—

1. A dye vat comprising the combination with a base, sides, and ends, of a perforated pipe for supplying steam to the contents of the vat and a second perforated pipe for supplying compressed air arranged in front of the first perforated pipe to keep the articles being dyed from coming into contact with the steam pipe.

2. A dye vat comprising in combination,

a base, a side of curved formation, the curvature extending upwards and outwards from the base, a second side extending vertically upwards from the base and then curving inwards towards the other side, two vertical ends, a cover extending over the second side, a perforated pipe for supplying steam to the contents of the vat and a second perforated pipe for supplying compressed air arranged in front of the first perforated pipe.

In testimony whereof we have hereunto set our hands.

CHARLES CLARK.
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