

A. HUILLARD.
TREATMENT OF FABRICS.
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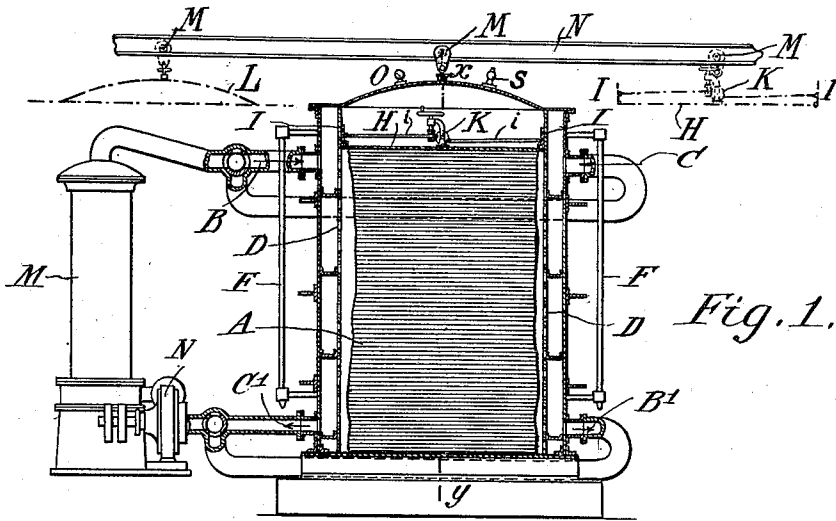


Fig. 1.

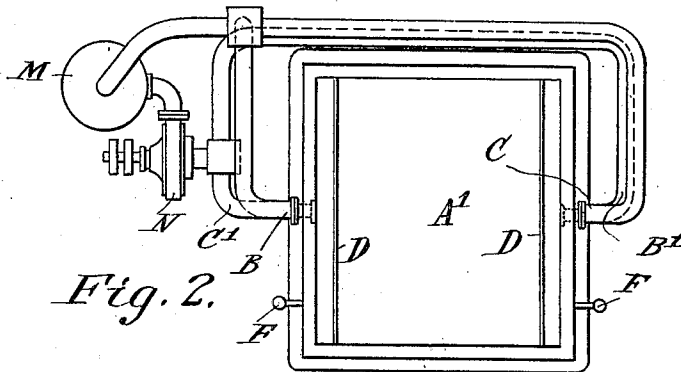
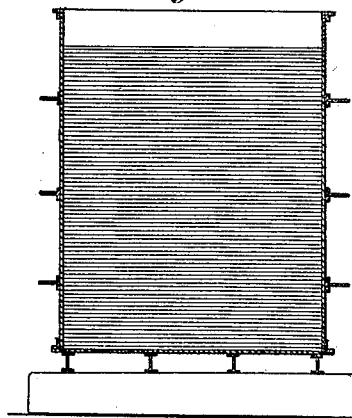


Fig. 2.

Fig. 3.



WITNESSES:

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TREATMENT OF FABRICS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALFRED HUILLARD, a citizen of the Republic of France, residing in Paris, France, have invented certain new and useful Improvements in and Relating to the Treatment of Fabrics, of which the following is a specification.

This invention relates to improvements in the treatment of fabrics.

1) Heretofore the scalding of fabrics, an operation which comprises the bleaching, has generally been carried out on piece goods which have been placed in a vat or tank in such a manner that the lye does not penetrate every part of the fabric uniformly so that the result obtained is unsatisfactory; for instance breaks or creases and deformations are produced which are extremely difficult to remove. It is in order to obviate these defects that I have introduced the idea of effecting the scalding in the width and in accordance with the present invention a rectangular vat is provided in which the fabric to be treated is by means of a spreading device arranged and extended flat not only in the direction of their length but also of their natural width. In this manner the lye or other suitable liquid which is introduced at either end of the vat is allowed in passing through perforated partitions to circulate laterally from one end of the vat to the other in such a manner that the liquid traverses the fabrics horizontally throughout their entire length and width so that the bleaching is uniform throughout and superior to results hitherto obtained. Moreover in order that the stacking may be maintained and the displacement of the fabric prevented, a plate is arranged at the upper part of the vat and fitted with end plates by suitable means which are adapted to press vigorously against the two perforated partitions provided in such a manner that an excellent joint is obtained which is absolutely necessary for the proper and successful working of the improved construction. The vat is provided with two internal partitions or perforated metal plates arranged in proximity to the ends of same thus constituting narrow intervals or compartments and it is through the perforations in these plates that the liquid passes in the transverse direction and reaches every part of the fabric.

55 In connection with the working of the improved apparatus any suitable pump may

be employed for forcing or drawing the lye or other liquid through the tank and the lye or other liquid used may be heated by any appropriate method.

In order that the invention may be clearly understood I will now proceed to describe same with reference to the accompanying drawing in which:—

Figure 1 is a vertical elevation in section showing the interior of vat and arrangement of fabric. Fig. 2 is a plan with the cover removed. Fig. 3 is a side sectional elevation taken on the line $x-y$ of Fig. 1 showing the fabric folded and stacked inside the vat.

The improved vat is rectangular in form and is preferably 2.50 meters in length, 2.50 meters in height and in width slightly greater than that of the fabric to be treated. As already stated the vat A comprises two longitudinal vertical partitions D which are arranged in fairly close proximity to the end walls of the vat and perforated throughout the part corresponding to the normal height of the fabric to be bucked whereby the vat is divided into three compartments of which the middle is much wider than the other two. The vat is also provided with two inlets, C B for the liquid and two outlets, C' B' for the same.

A plate H arranged at the upper part of the fabric enables its stacking to be maintained and prevents its displacement in the vertical direction. An adequately tight joint is obtained by the two plates I which are connected to the plate H and pressed vigorously against the perforated partitions D by means of screw pressure mechanism K, which mechanism operates upon turning of the hand-wheel to press the plates I outwardly through the intermediary of the rods i attached to the plates I.

The cover L which is held by means of hinged bolts is removable and is removed by a tensioning screw M and a carriage running on rails N arranged at each extremity of the vat. The lid or cover L is provided with a pressure gage O and with an air cock S.

Operation of the apparatus.—Upon the lid or cover L and the screw plate and pressure means H K being removed the vat is filled with fabric which by means of a spreading device is stacked and laid flat in the direction of both the length and the width. After this has been accomplished

the sheet metal plate H is arranged in position upon the fabric and its side plates I are pressed against the partitions D by means of the screw system K so as to insure a tight joint. The vat is then filled with lye until the fabric is immersed and the lid L is replaced and fixed to the tank by means of suitable hinged bolts. The lye or other liquid raised to the necessary temperature in traversing an ordinary heating device is introduced into the vat through the inlet C arranged at the top of the vat on the right hand side; the lye is drawn by means of an appropriate pump through the orifice C' situated at the bottom of the vat on the left hand side thereby producing the necessary circulation from right to left throughout the entire height of the vat in horizontally traversing the fabric stacked flat inside the same. If it be desired to reverse the direction of the circulation of the liquid it is caused to enter through the orifice B at the top of the left hand side of the vat and leave it through the orifice B' arranged at the bottom of the right hand side of same. In the movement of circulation the liquid before it comes in contact with the fabric is obliged to pass through the perforated partitions D which serve to regulate its course. It is to be understood that this improved vat for lateral circulation may be employed with lime, chlorin, acid or the like or even plain water.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. In a process for bleaching piece goods, stacking the piece goods flatwise in a vat, maintaining said stack of goods against displacement, and circulating a bleaching fluid transversely through the stacked goods.

2. The process of bleaching piece goods, which consists in stacking the piece goods flat-wise in a vat, maintaining the stacked goods against displacement, and causing a bleaching fluid to circulate transversely through the stacked goods from end to end throughout the entire height and breadth of the stack.

3. The process of bleaching piece goods, which consists in stacking the piece goods flat-wise in a vat, maintaining the stacked goods against displacement, causing a bleaching fluid to circulate transversely through the stacked goods from end to end throughout the entire height and breadth of the stack, and then reversing the direction of flow of the bleaching fluid.

In witness whereof, I have hereunto signed my name in the presence of two subscribing witnesses.

ALFRED HUILLARD.

Witnesses:

DEAN M. MASON,
GABRIEL BELLARD.