

L. Mendelson. App: for Bleaching 117796

Fig. 1. *Fabrics*

PATENTED AUG 8 1871

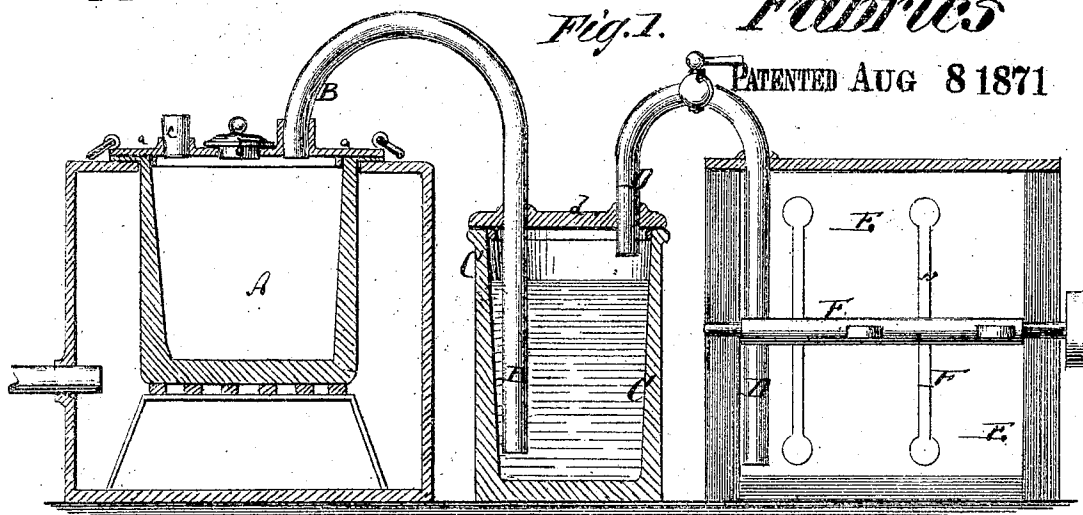


Fig. 2.

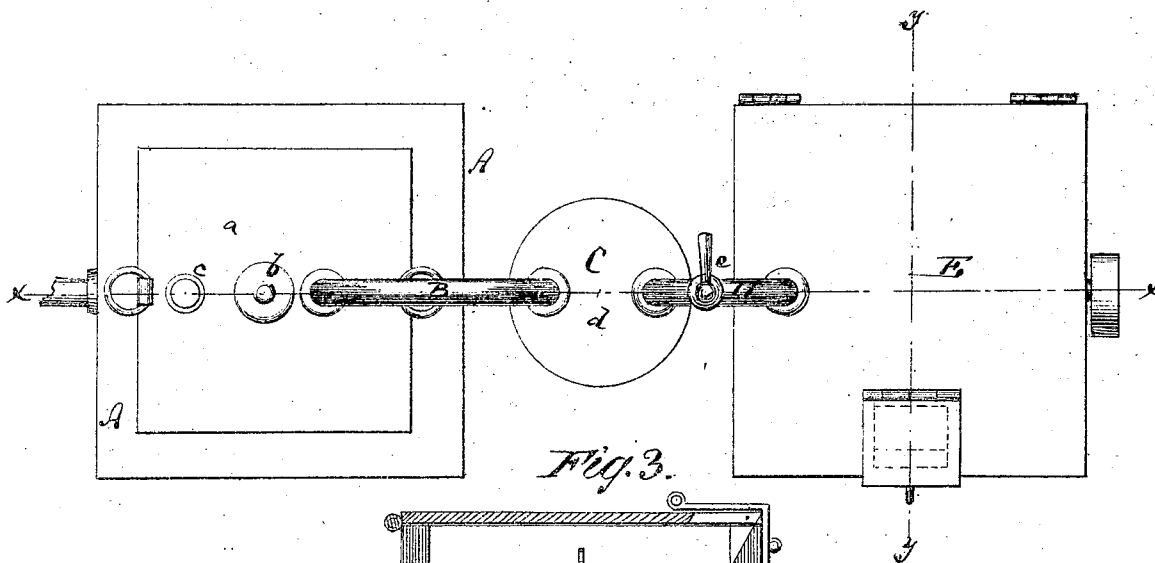
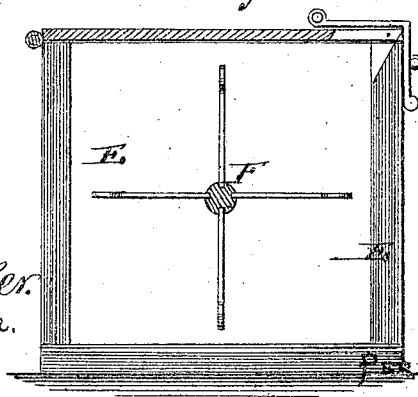


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

LEOPOLD MENDELSON, OF NEW YORK, N. Y.

IMPROVEMENT IN APPARATUS FOR BLEACHING FABRICS.

Specification forming part of Letters Patent No. 117,796, dated August 8, 1871.

To all whom it may concern:

Be it known that I, LEOPOLD MENDELSON, of New York city, in the county and State of New York, have invented a new and Improved Apparatus for and Process of Bleaching Fabrics; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

Figure 1 represents a vertical section of my improved bleaching apparatus taken on the plane of the line *xx*, Fig. 2. Fig. 2 is a plan or top view of the same. Fig. 3 is a vertical tranverse section of the agitating-box, the plane of section being indicated by the line *yy*, Fig. 2.

Similar letters of reference indicate corresponding parts.

This invention relates to a new means of restoring the fiber of paper, woven, and other fabric to use for making new fabric therefrom; and consists principally in the application of chlorine to the fabric for bleaching the same, such chlorine being produced, during the bleaching process, in apparatus connected with the agitator. The invention also consists in the combination of the agitator or bleaching-vessel with a filter and boiler, the chlorine being created in the latter, purified in the filter, and conducted to the agitator. By the use of this invention the process of bleaching printed paper, printed or dyed woven goods, and other fabrics, is considerably simplified.

I am aware that chlorine has already been used or rather proposed for bleaching purposes, and do, therefore, not consider its mere use as my invention. Heretofore, however, it was not produced during and as part of the bleaching process, but only applied to the agitator, where it acted most destructively unless its quantity and time of contact with the fabric were regulated with the utmost exactness. In fact, the great danger of destroying the fabric by the chlorine has made its use in a pure state an impracticability. By my invention the supply of the gas to the agitator can, without effort, be so nicely regulated that all the ordinary objections to its use are entirely overcome.

A in the drawing represents a vessel made of strong metal or other suitable material, and closed

by a cover, *a*, in which there may be two apertures, *b* and *c*, that can be closed by plugs or lids. A pipe, B, extends from the cover *a* to the lower part of a second vessel, C, which is also closed tight by a cover, *d*. A second pipe, D, leads from the cover *d* to the lower part of the bleaching-vessel E, which contains the agitator F, of suitable construction. The vessel A receives brownstone or other matter containing manganese. Muriatic acid is then poured into it and heat applied by putting fire under the vessel A, or enveloping it with steam or heated fluid. Chlorine is thereby created. This gas escapes by the pipe B to the lower part of the vessel C, and arises therein through the water, by which it is entirely purified. From the vessel C the pure chlorine is conducted to the agitator, where it serves to bleach the fabric contained in the vessel E. The rotary or other agitating implement mixes the acid well with all parts of the fabric and with the water contained in the vessel E. When the fabric has been exposed to the gas a sufficient length of time the supply is cut off by closing a cock, *e*, of the pipe D. This can be easily done, and requires no more than ordinary attentiveness. The opening *b* is used for the introduction of the manganese, the smaller opening *c* for pouring in the acids; but such openings can be dispensed with, if desired.

The manganese and muriatic acid are used in equal proportions in the first vessel to generate chlorine gas. This is conducted to the second vessel, passed through the water thereof, and purified. It is then transferred to the third vessel to the water-steeped fabrics, and applied. Thus the amount of chlorine evolved is regulated according to the quantity needed on any particular occasion, while the rapidity of admission of the purified gas from the second and third vessel is nicely graduated by the cock *e*.

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

The arrangement and application of chlorine-generator A, purifier B, and fabric-steep E with pipe B and cocked pipe D *e*, as and for the purpose specified.

L. MENDELSON.

Witnesses:

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