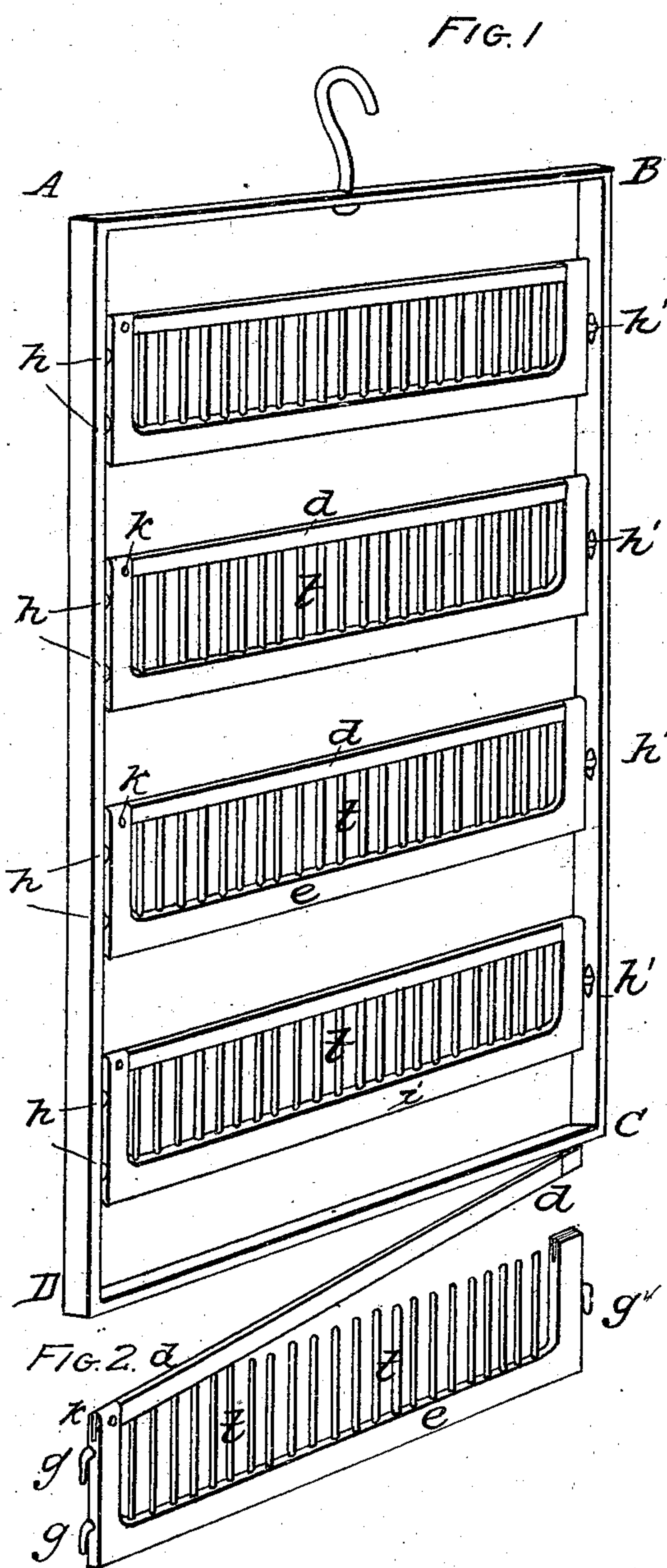


ROTH & LEA.
Bleaching Flax.

No. 10,808.

Patented April 18, 1854.



UNITED STATES PATENT OFFICE.

J. A. ROTH AND JOS. LEA, OF PHILADELPHIA, PENNSYLVANIA.

PROCESS FOR BLEACHING FLAX.

Specification of Letters Patent No. 10,808, dated April 18, 1854.

To all whom it may concern:

Be it known that we, J. AUGUSTUS ROTH and JOSEPH LEA, of the county of Philadelphia and State of Pennsylvania, have discovered a new and useful Art or Process of Bleaching Flax, Either in the State of Fiber or of Yarn, in Order to Prepare it for Manufacturing Purposes; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, forming part of this specification, in which drawing—

Figure 1 represents a side view of the arrangement of combs and frame by which our process is carried out. Fig. 2 represents a single detached comb.

In the manufacture of flax it has been heretofore customary to bleach the yarn or fabric by boiling them in alkaline solutions and then exposing them successively and for considerable lengths of time to the action of the atmosphere while extended on the grass. This process of bleaching linen goods by exposure to the atmosphere has been hitherto deemed essential and been commonly used in the manufacture of flaxen or linen fabrics and requires numerous boilings and repeated washings and handlings and a large area of field or meadow land on which the fabrics may be spread.

Our improvement consists in a process or mode of treating the flax in the state of fiber or that of yarn and before it is woven, whereby the operation of bleaching may be effected with a great economy of time and labor.

The nature of our improved process consists in suspending the flax fiber or yarn from a series of combs or similar contrivances, whereby the fiber or yarn may be kept in separate and distinct parcels and so agitated as to be thoroughly and rapidly acted upon by any chemical bleaching solutions to which they may be exposed.

In the drawing, Fig. 1, A B C D represent a side view of a frame with four flax combs attached. The frame A B C D may be made of wood or metal of a size proportioned to the number of combs which it is desired to attach. The combs are made of brass, copper or hard wood and are shaped

like an ordinary straight hair comb. A single comb is shown at Fig. 2.

$t t t t$ represent a series of metallic teeth projecting from a metallic back e . Upon these teeth the flax fiber or yarn is suspended by being bent over at its middle, so as to hang with its fibers straight and vertical or nearly so. In front of these teeth a strip d, d is placed, working upon a hinge h , so as to open and close against the extremities of the teeth and thus keep the flax on the combs after it has been once placed there. To the sides of each comb small hooks $g g$ and g' are attached. These hooks fit into corresponding sockets $h h$ and h' in the frame A B C D.

The flax or yarn is attached to the combs by being bent at its middle and suspended by the hook thus formed in the manner above described. The strip $d d$ is then closed on to the teeth $t t$ and the combs are suspended on the frame A B C D by means of the hooks $g g$ and g' and the sockets $h h$ and h' . After the flax or yarn is thus suspended on the combs and the combs inserted in the frame the frame is then to be immersed in any of the ordinary chemical solutions used for bleaching and moved up and down by hand or by machinery. The advantage of this mode of treating the flax fiber and yarn is that they can be suspended in large quantities and so distributed as to be thoroughly exposed to the action of the chemical solutions without extending the fiber, this frame being then moved up and down while the fiber or yarn is immersed in the chemical bleaching solutions and the action of such solutions greatly expedited.

Having thus described our improved process, what we claim is—

The process of distributing the flax fiber or yarn upon combs or equivalent devices and agitating the same when immersed in chemical bleaching solutions in the manner and for the purpose substantially as hereinbefore described.

J. A. ROTH.
JOS. LEA.

Witnesses:

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