E. BLOCH-PIMENTEL.

PRESS VAT.

APPLICATION FILED APR. 1, 1912.

1,135,757. Patented Apr. 13, 1915.

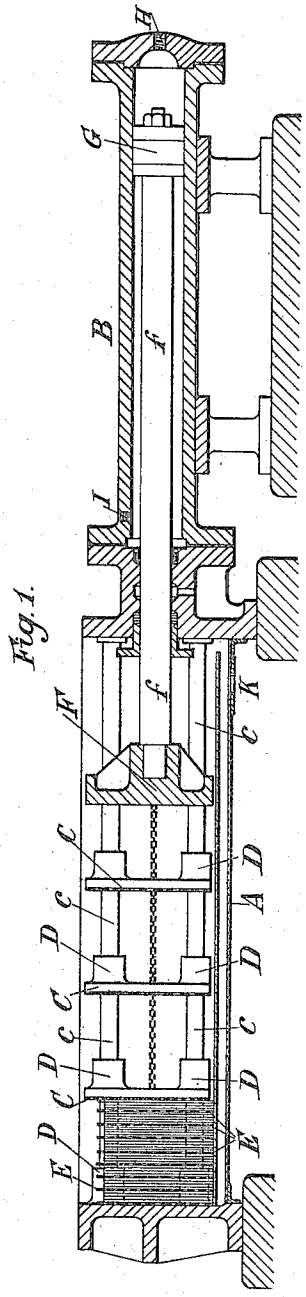


Fig. 1.

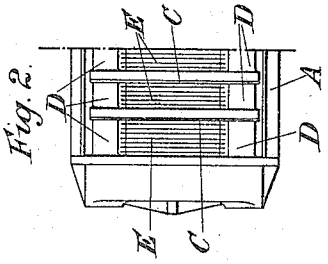


Fig. 2.

WITNESSES
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UNITED STATES PATENT OFFICE.

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PRESS-VAT.

1,135,757. Specification of Letters Patent. Patented Apr. 13, 1915.

Application filed April 1, 1912. Serial No. 687,823.

To all whom it may concern:

Be it known that I, EMILE BLOCH-PIMENTEL, a citizen of the Republic of France, and resident of 83 Boulevard de Sébastopol, Paris, in the Republic of France, have invented a new and useful Improved Press-Vat, of which the following is a specification.

This invention relates to apparatus for use in treating articles, or matter, requiring to be steeped and afterward pressed, especially adapted for use where handling of the articles, or matter, containing caustic, or corrosive, liquors is to be avoided, such for instance as in the preparation of alkali-cellulose, for which purpose, for the purposes of description it is presumed that the apparatus is to be used, and it is also presumed that the cellulose treated is in the form of wood pulp.

It is known that, in order to make the product known as viscose, it is necessary to alter the cellulose by means of caustic alkali for which purpose the cellulose is steeped in a vat containing alkaline lye the surplus of which is afterward removed, the alkali-cellulose being pressed, or subjected to centrifugal action, to remove the last portions of the excess.

The present invention provides an apparatus by means of which both the operations of steeping and removal of the surplus alkaline lye can be performed in such a way as to reduce the cost of labor and avoid the dangers of manipulating articles, or matter, charged with caustic alkali.

The following is a description of the said invention with reference to the accompanying drawing, the figure of which illustrates, in longitudinal section, an apparatus in accordance with this invention, which however is not limited to the precise arrangement, construction and disposition, of the parts illustrated, the essentials being a steeping vat and a press combined and operated so that, after the articles, or matter, have been steeped for the requisite time, the surplus alkaline lye can be removed without removing the articles, or matter, from their position after the steeping and before the pressing.

The steeping vat A, is shown as being divided into a number of compartments by movable perforated, or reticulated, plates C (preferably of perforated sheet iron) guided by bars *c* upon which travels the press plate F, carried by the piston rod *f* of the pump B.

The sheets of wood pulp on which the alkaline lye is to act are placed between the plates C, which travel on the rods *c*, and in order to insure that the sheets of wood pulp keep in position, as well as to facilitate their removal from the vat at the end of the operation, they are separated at intervals by removable perforated, or reticulated, plates E (preferably also of perforated sheet iron) in each of the spaces between the plates C and rods *c*.

Pressing is effected by means of the aforesaid press plate F, and the required travel of the piston G of the press is limited by distance pieces which may be bosses D, on the plates C, or pieces mounted on the rods *c* separately from the said plates.

The operation is as follows:—The sheets to be steeped are placed in any suitable number between the removable plates E in the spaces between the plates C and the steeping lye is run into the vat A, and left for the necessary time. Then the surplus lye is run off and the press is started and the forward movement of the press is stopped when the plates C and the press plate F, respectively, come into contact with the distance pieces D. Fig. 2 illustrates the position at the end of the vat A after pressing has been effected. The excess lye runs away by the outlet K, at the bottom of the bath, which outlet is provided with means for opening and closing. The piston of the press pump then moves back and the sheets of wood pulp can be easily removed.

H and I are the inlet and outlet for the water, or other fluid, used to operate the press.

What I claim is:—

1. A combined steeping and pressing vat comprising a substantially horizontal trough-like receptacle open at its top and adapted to receive in vertical position cellulose material in sheet form, guide rods extending longitudinally of the vat, a plurality of press plates vertically arranged in the vat and slidably mounted on said guide rods between which press plates the cellulose material is adapted to be arranged, and a presser adapted to advance said press plates horizontally toward one end of the vat to compress the material arranged between the same, said vat having a drainage

aperture in its bottom, for the purpose described.

2. A combined steeping and pressing vat comprising a substantially horizontal trough-like receptacle open at its top and adapted to receive in vertical position cellulose material in sheet form, guide rods extending longitudinally of the vat, a plurality of reticulated press plates vertically arranged in the vat and slidably mounted on said guide rods between which press plates the cellulose material is adapted to be arranged, and a presser adapted to advance said press plates horizontally toward one end of the vat to compress the material arranged between the same, said vat having a drainage aperture in its bottom, for the purpose described.

3. A combined steeping and pressing vat comprising a substantially horizontal trough-like receptacle open at its top and adapted to receive in vertical position cellulose material in sheet form, guide rods extending longitudinally of the vat, a plurality of press plates vertically arranged in the vat and slidably mounted on said guide rods between which press plates the cellulose material is adapted to be arranged, relatively light reticulated plates adapted to be supported in vertical position on the bottom of the trough between adjacent presser plates and serving to subdivide the cellulose material between said plates into smaller units for the purpose described, and a presser adapted to advance said press plates horizontally toward one end of the vat to compress the material arranged between the same, said vat having a drainage aperture in its bottom.

4. A combined steeping and pressing vat comprising a substantially horizontal trough-like receptacle open at its top and adapted to receive in vertical position cellulose material in sheet form, guide rods extending longitudinally of the vat, a plurality of press plates vertically arranged in the vat and slidably mounted on said guide rods between which press plates the cellulose material is adapted to be arranged, bosses on the rear faces of said plates surrounding the guide rods and serving to space said plates apart, relatively light reticulated plates adapted to be vertically arranged in the vat to subdivide the cellulose sheet groups between adjacent press plates, said reticulated sheets being of such width only that they may be laterally confined between the said bosses on the press plates, and a presser adapted to advance said press plates horizontally toward one end of the vat to compress the material arranged between the same, said vat having a drainage aperture in its bottom, for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EMILE BLOCH-PIMENTEL.

Witnesses:
P. SUTCUA,
LUCIEN MEMMINGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."