

Nov. 26, 1929.

J. BRENZINGER

1,737,141

DYEING MACHINE OR THE LIKE

Filed March 23, 1928

4 Sheets-Sheet 1

Fig. 1.

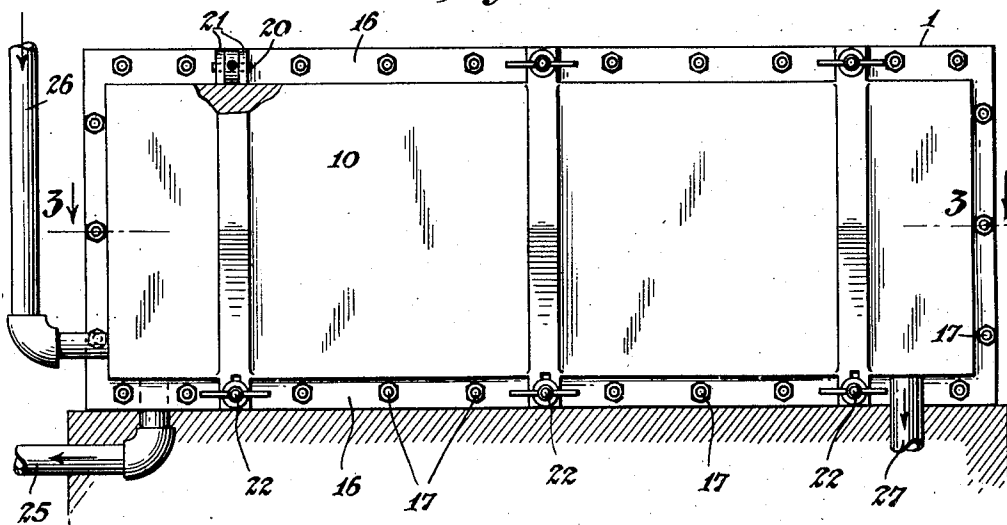
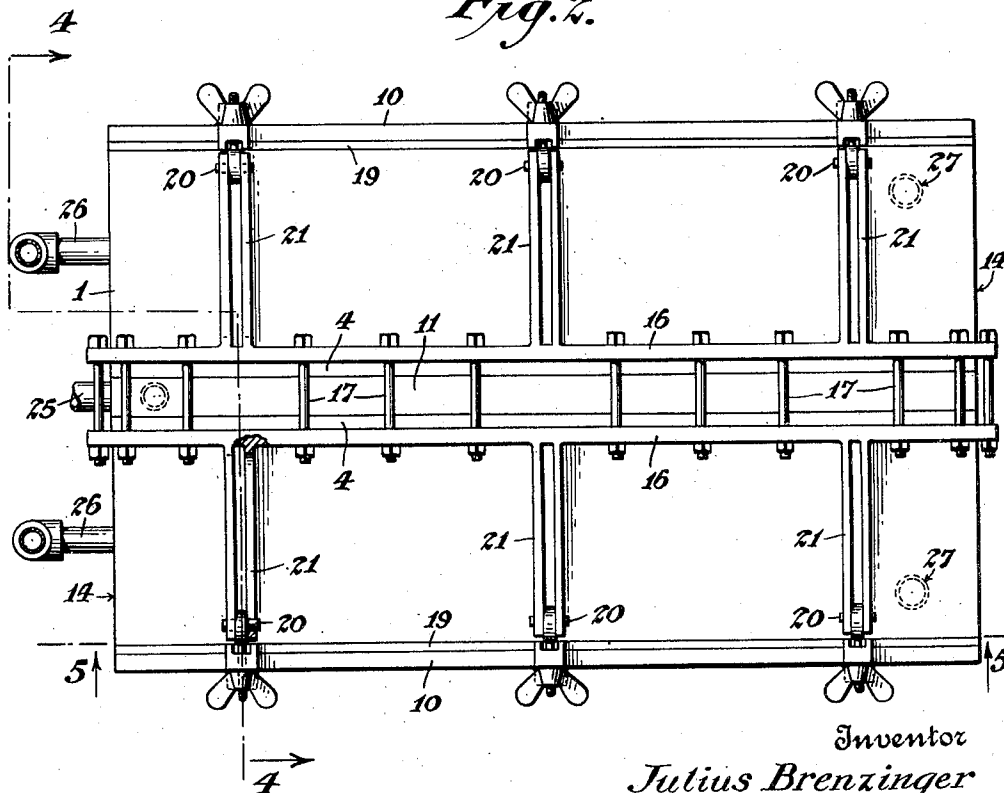


Fig. 2.



Inventor

Julius Brenzinger

By his Attorney

W. H. Becken

Nov. 26, 1929.

J. BRENZINGER

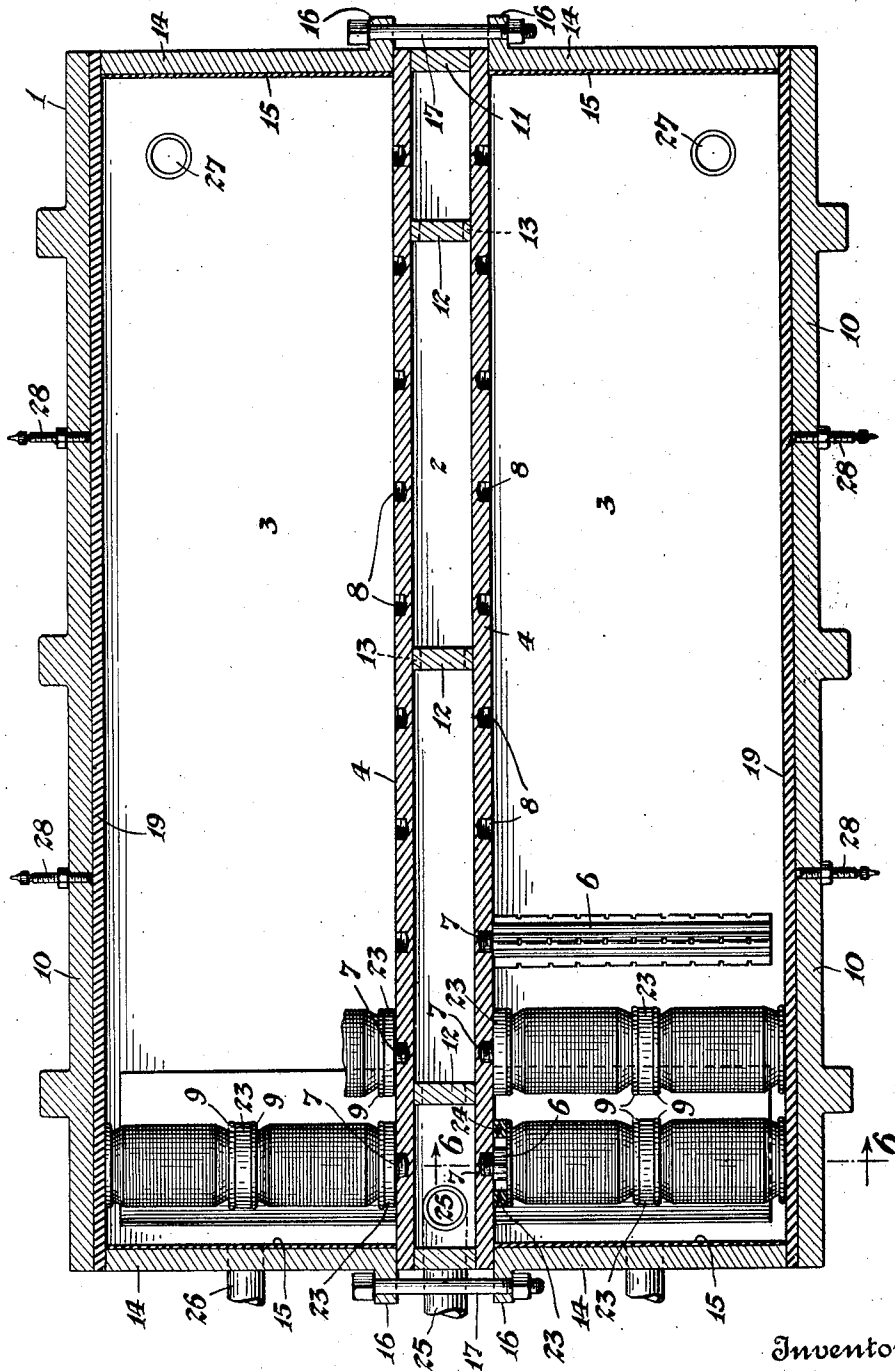
1,737,141

DYEING MACHINE OR THE LIKE

Filed March 23, 1928

4 Sheets-Sheet 2

Fig. 3.



Inventor

Julius Brenzinger

By his Attorney

W. V. Becker

Nov. 26, 1929.

J. BRENZINGER

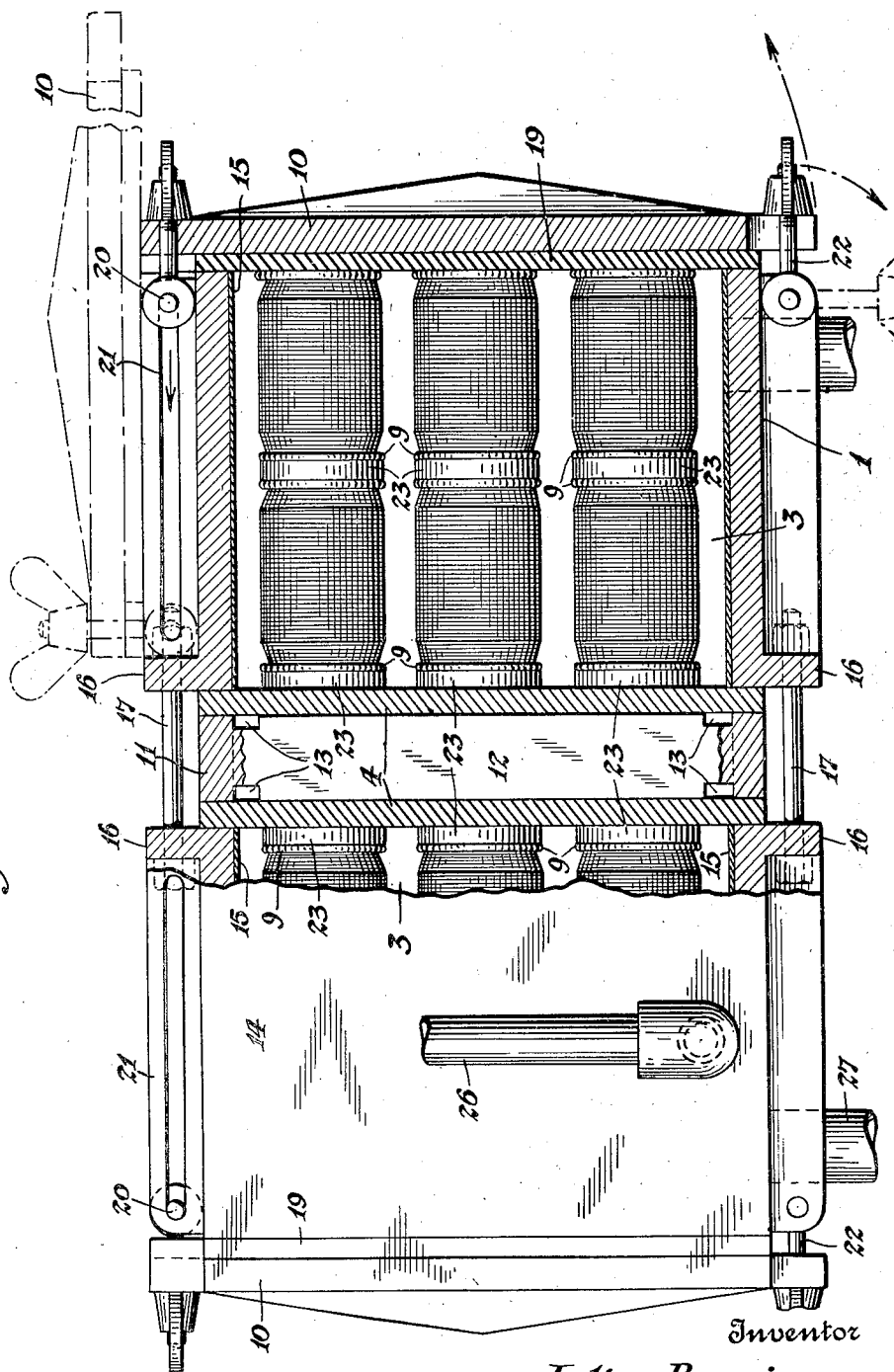
1,737,141

DYEING MACHINE OR THE LIKE

Filed March 23, 1928

4 Sheets-Sheet 3

Fig. 1.



Inventor

Julius Brenzinger

By *his* Attorney

W. H. Becken

Nov. 26, 1929.

J. BRENZINGER

1,737,141

DYEING MACHINE OR THE LIKE

Filed March 23, 1928

4 Sheets-Sheet 4

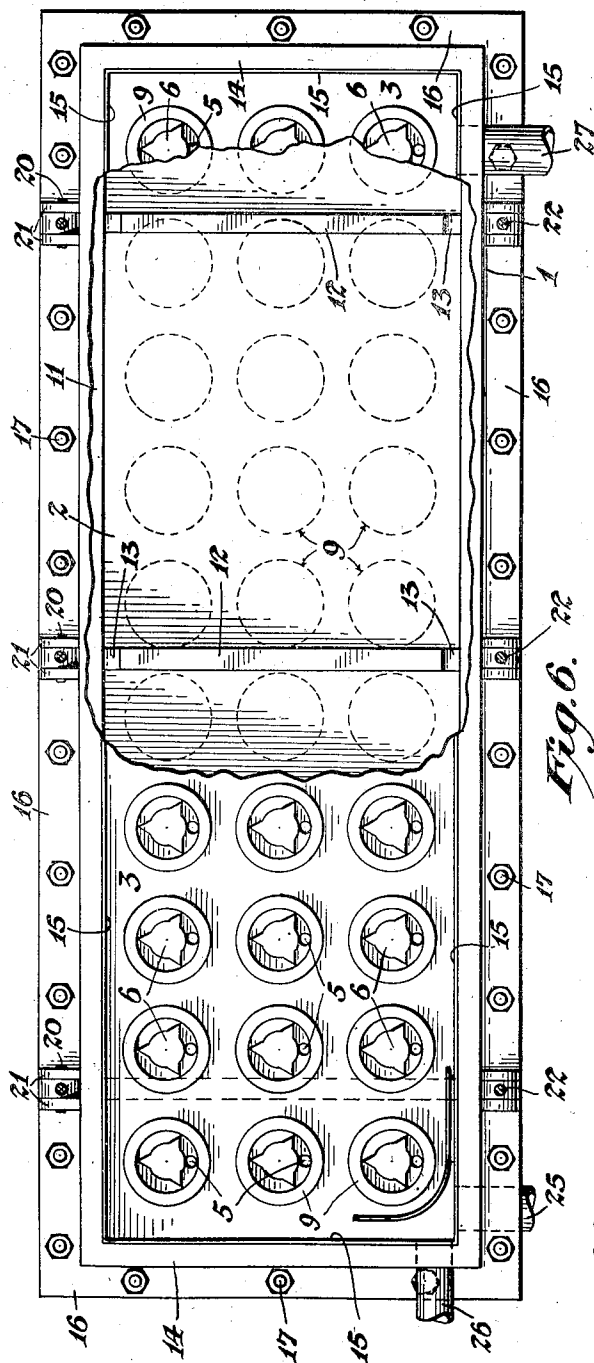


Fig. 5.

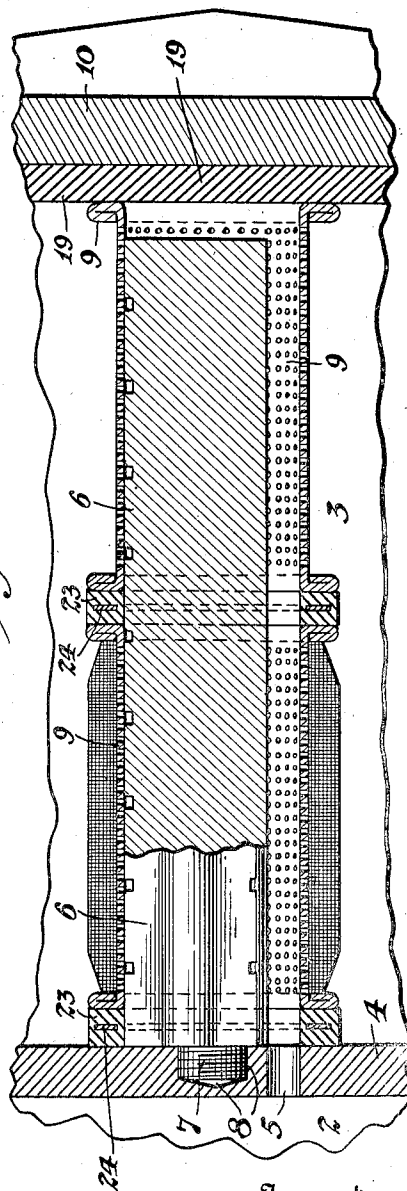


Fig. 6.

Inventor

Julius Brenzinger

By his Attorney

W. H. Becken

UNITED STATES PATENT OFFICE

JULIUS BRENZINGER, OF FAIRFIELD, CONNECTICUT, ASSIGNOR TO THE MAX AMS
CHEMICAL ENGINEERING CORPORATION, OF BRIDGEPORT, CONNECTICUT, A COR-
PORATION OF CONNECTICUT

DYEING MACHINE OR THE LIKE

Application filed March 23, 1928. Serial No. 264,235.

The present invention relates to dyeing machines or the like, such as washing, bleaching or desulphurizing machines particularly adapted to be used in connection with yarn or artificial silk wound on bobbins.

The main object and feature of the invention resides in the production of a device and system whereby a larger number of bobbins can be handled expeditiously in being subjected to the various steps of the process that they are required to go through, such as washing, bleaching and/or dyeing.

In the accompanying drawings the invention is disclosed in several concrete and preferred forms in which:

Fig. 1 is a side elevation of the apparatus described herein;

Fig. 2 is a plan view of Fig. 1, partly broken away;

Fig. 3 is an enlarged sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is an enlarged view, partly in section and partly in elevation on the plane indicated by the line 4—4 of Fig. 2;

Fig. 5 is an enlarged sectional view on the line 5—5 of Fig. 2;

Fig. 6 is an enlarged detail sectional view on the line 6—6 of Fig. 3.

1 indicates a material carrier, that is to say a container comprising what I call a manifold chamber 2 and one or more bobbin chambers 3. In the present instance there is a bobbin chamber on each side of the manifold chamber but it will be understood that one of the bobbin chambers could be omitted. An inner side wall 4 separates chambers 2 and 3 and this wall has a plurality of openings 5 therethrough. Suitable bobbin holders 6 extend outwardly from wall 4. These bobbin holders may take many forms but as here shown they consist of hard rubber members having threaded nipples 7 that engage in sockets 8 of wall 4, there being a holder 6 adjacent each opening 5. A hollow perforated bobbin 9 (or two or more in tandem) is carried by each holder 6, the relation of the parts being such that each bobbin 9 surrounds one of the openings 5. 10 indicates an outer side wall, one for each bobbin chamber, and this side wall is re-

leasable or can, at will, be pressed against the outer ends of the bobbins to thereby press the inner ends of the latter against wall 4. It will therefore be seen that, when outer side wall 10 is in its closed position, communication between the manifold chamber and a bobbin chamber, or vice versa, is possible only by way of the bobbins, that is, through the convolutions of the material of the bobbins and through openings 5. If therefore a fluid circulation is established, either by forcing liquid or sucking liquid through the system, the material carried by the bobbins will become thoroughly impregnated, washed or what-not depending upon the character of the operation being carried on. Owing to the fact that acids are used in some of the operations, it is desirable to line the inner surfaces with acid-resisting material and to admit of acid-resisting material being readily applied to such surfaces and to admit of ready disassembling of the parts when reconditioning becomes necessary the following detail construction of the material carrier is preferred. 11 indicates a core member which is here a rectangular-shape open frame having uprights 12 at intervals, said uprights having cut-away portions 13 to admit of flow of fluid past the uprights. Inner side walls 4 are preferably made of hard rubber, these walls being braced at intervals by uprights 12. 14 indicates end walls, adjacent the outer sides of both inner walls 4, preferably provided with a lining 15 of hard rubber. Suitable means, preferably extraneous of the container or carrier, are provided to secure the end walls together, these means here taking the form of projecting ledges 16 bolted together as at 17. It is unnecessary to describe the top and bottom walls of the container except to say that they are preferably lined with hard rubber in a manner similar to 15 and may be formed integrally with end walls 14. It will now be understood that when the parts are placed in position against each other all that it is necessary to do is to secure bolts 17, thereby pressing walls 14 against walls 4 and the latter against the core member, thereby assembling and securing the

parts together, leaving no surfaces or mechanism exposed to the action of the acid.

10 indicates, as previously noted, outer side walls and 19 are soft rubber gaskets that may be carried by said outer side walls. These outer side walls are preferably carried by pins 20 that slide and pivot in guides 21 on the top of the container or carrier so that, when it is desired to expose the interior of said container, said outer side walls can be moved up over the top of said container, as shown by the dot and dash lines in Fig. 4. Suitable means, such as bolts or screws 22, are employed to tighten the outer side walls in position so as to close the bobbin chambers. The bobbin holders 6, as previously described, are preferably of hard rubber, and preferably each holder supports two bobbins in tandem as shown. 23 indicate gaskets that may be interposed between the inner end of the inner bobbin, of the two bobbins in tandem, and wall 4, between two bobbins on the same holder and between the outer end of the outer bobbin and gasket 19. It will therefore be seen that when outer wall 10 is screwed down tightly it presses against the outer end of a bobbin and presses the inner end of a bobbin against wall 4 either directly or through the intermediacy of another bobbin. Gaskets 23 are preferably made of soft rubber with a metallic core 24 to impart stability and strength to the structure.

It will be understood that the container or carrier may be immersed in a tank containing liquid in a manner set forth in a companion application filed March 31, 1928, Ser. No. 266,128, in which case there would be openings in one or more walls of the bobbin chamber so that the latter communicates with the tank, but, in the particular form here preferred, the container itself constitutes a tank or vat. To this end there are arranged suitable inlet and outlet pipes to create a pressure or suction through the system described. As here shown, 25 is an outlet pipe, extending from manifold chamber 2 and leading to a vacuum pump (not shown), and 26 are inlet pipes leading from a suitable source of supply (not shown) to the bobbin chambers. 27 indicate drain pipes in the bobbin chambers, so that after the bobbins have been subjected to the action of one fluid, the residue may be drained off and another fluid introduced. With the construction shown, all this can be done with the bobbins remaining in position, that is, the bobbins can be subjected to several steps in the process without removal from the container or carrier.

In order to insure that the ends of the bobbins are absolutely closed, air valves 28 in the outer side walls may be employed through which air can be introduced between the outer

side walls and gasket 19, as indicated in Fig. 3.

I claim:

1. A material carrier for dyeing machines or the like including: a container comprising a manifold chamber and a bobbin chamber, an inner wall, separating the two chambers, having openings therethrough, a plurality of bobbin holders in said bobbin chamber extending outwardly from said inner wall, there being a bobbin holder adjacent each opening, a plurality of hollow bobbins, one for each holder and each surrounding an opening, and a releasable outer wall for said bobbin chamber to engage the outer ends of the bobbins and to press the inner ends thereof against the inner wall, whereby communication between the bobbin chamber and the manifold chamber, or vice versa, is possible only through the bobbins.

2. A material carrier for dyeing machines or the like including: a container comprising a central manifold chamber and two bobbin chambers, one on each side of the manifold chamber, two inner walls, one on each side of the manifold chamber separating the latter from the bobbin chambers, having openings therethrough, a plurality of bobbin holders in each of said bobbin chambers extending outwardly from each of said inner walls, there being a bobbin holder adjacent each opening, a plurality of hollow bobbins in each bobbin chamber, one for each holder and each surrounding an opening, and releasable outer walls, one for each bobbin chamber, to engage the outer ends of the bobbins and to press the inner ends thereof against the inner walls, whereby communication between the bobbin chambers and the manifold chamber, or vice versa, is possible only through the bobbins.

3. A material carrier for dyeing machines or the like, having a central manifold chamber and two bobbin chambers one on each side of the manifold chamber, a central core in the manifold chamber, inner side walls adjacent the core, end walls on the outer sides of both inner walls, means to secure end walls adjacent opposite inner walls together to thereby clamp the inner walls against the core, and releasable outer side walls.

4. A material carrier for dyeing machines or the like, having a central manifold chamber and two bobbin chambers one on each side of the manifold chamber, a central core in the manifold chamber, inner side walls adjacent the core, end walls on the outer sides of both inner walls, means extraneous of the carrier, to secure end walls adjacent opposite inner walls together to thereby clamp the inner walls against the core, and releasable outer side walls.

5. A material carrier for dyeing machines or the like, having a central manifold chamber and two bobbin chambers one on each side

of the manifold chamber, a central core in the manifold chamber, inner side walls adjacent the core, bobbin holders extending outwardly from the inner side walls, bobbins carried thereby, end walls on the outer sides of both inner walls, means to secure end walls adjacent opposite inner walls together to thereby clamp the inner walls against the core, and releasable outer side walls to press the bobbins against the inner side walls.

6. A material carrier for dyeing machines or the like, having a central manifold chamber and two bobbin chambers one on each side of the manifold chamber, a central core in the manifold chamber consisting of a rectangular frame having uprights, inner side walls adjacent the core, end walls on the outer sides of both inner walls, means to secure end walls adjacent opposite inner walls together to thereby clamp the inner walls against the core, and releasable outer side walls.

7. A material carrier for dyeing machines or the like, having a central manifold chamber and two bobbin chambers one on each side of the manifold chamber, a central core in the manifold chamber, inner side walls of hard rubber adjacent the core, bobbin holders of hard rubber in threaded engagement with and extending outwardly from said inner side walls, end walls on the outer sides of both inner walls, means to secure end walls adjacent opposite inner walls together to thereby clamp the inner walls against the core, and releasable outer side walls.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 19 day of March, 1928.

JULIUS BRENZINGER.