

W. SCHMITT.

STORE VAT.

APPLICATION FILED OCT. 11, 1910.

996,801.

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FIG. 1.

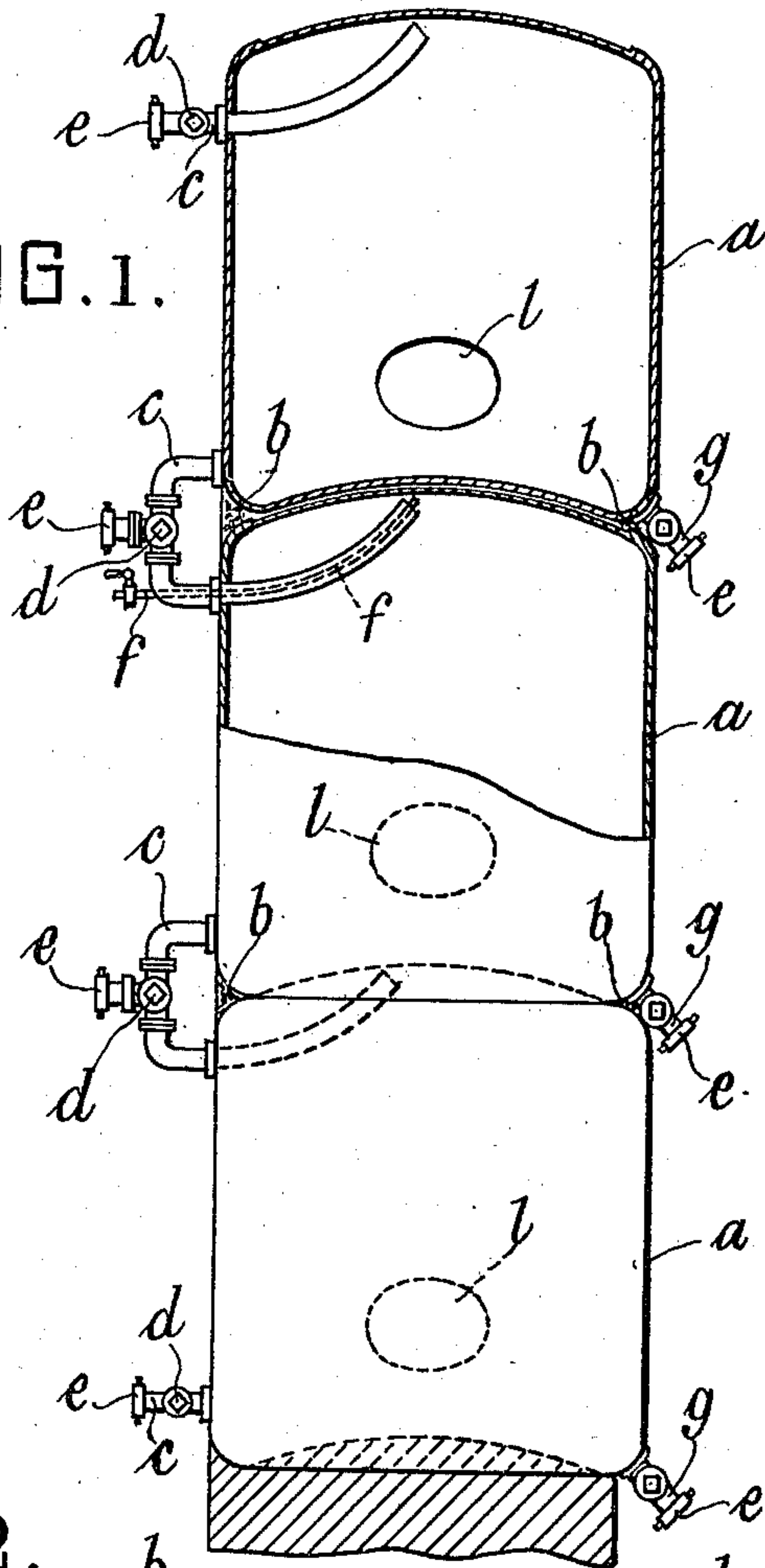
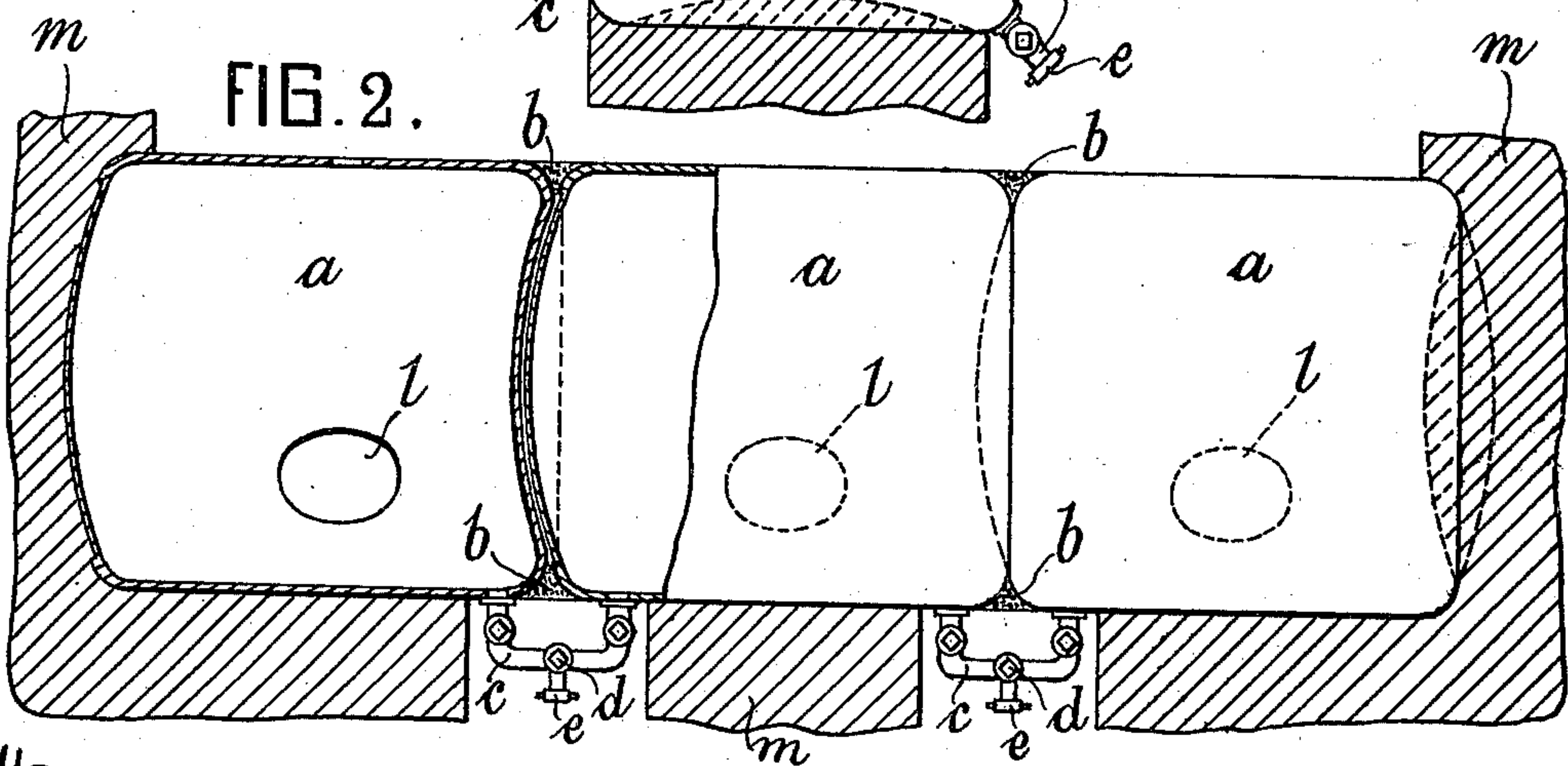


FIG. 2.



Witnesses:

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Inventor

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# UNITED STATES PATENT OFFICE.

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STORE-VAT.

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Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, WILHELM SCHMITT, a subject of the German Emperor, and resident of No. 1 Loherstrasse, Schwelm, Westphalia, in the Empire of Germany, engineer, have invented new and useful Improvements in Store-Vats, of which the following is a specification.

It is already known to make metal store-vats of the size necessary for brewery installations by assembling separate rings or flanged sockets so as to form one single self-contained chamber, whose flanges are packed by interposed packing material. The vats made in this manner have however the drawback that owing to the packing joints of the flanges, the contents of the vat come in contact with the packing material and numerous joints are also formed which assists the formation and accumulation of numerous bacteria. This drawback is obviated by the present invention by making the vat of several elements or cells, each forming a receptacle closed on all sides and having a smooth inner surface. The said cells are disposed one over the other and side by side in the form of columns and are assembled or combined with abutting and relatively supported heads or bottoms, the inner spaces of the cells communicating with each other through the medium of externally provided fittings. A combined receptacle divided by intermediate walls or partitions is thus formed which is nevertheless adapted to be filled as a whole and has the advantages of the jointless vat. This combined receptacle also possesses the advantage that it permits a partial emptying of its system of cells at any part thereof. Owing to the single receptacles being connected at their heads or bottoms, the latter may be made weaker than the side walls; consequently, in order that the uniformly shaped receptacles may be readily replaced at any part of the columns of the cells, they are of a comparatively light weight, especially as they have small dimensions so as to allow of their being inserted in spaces or chambers provided with small doors or the like. The head or bottom, which is convex toward the interior of each cell or element of the vat permits an accumulation of slimy or yeasty separated matter in a groove-like depression extending along the inner periphery of the cell and from which the impurities may be

easily removed. Finally, owing to the novel construction of the vat, the effect or advantage is attained that it may considerably exceed the height of 3 meters, which had heretofore to be maintained, because a higher liquid column produced many variations in the beer when standing. This drawback is obviated by the vat according to this invention in that it is practically divided into sections or compartments whereby an interruption of the liquid-column is effected.

The accompanying drawing shows a store-vat constructed according to this invention.

Figure 1 is a side-elevation with partial section of the store-vat disposed vertically and Fig. 2 is a side-elevation of the store vat disposed horizontally.

The vat comprises several superposed cells or chambers *a*, of which there are three in the construction as shown in Fig. 1 of the drawing, each forming a receptacle closed on all sides; these chambers are made of a single welded piece of suitably rolled wrought iron and preferably enameled inside, so that they have a perfectly smooth inner surface. The column-like-superposition of these elements of the vat is effected in such a manner that one element of the vat is placed with its lower concave bottom-surface on the convex outer-surface of the upper bottom of the lowermost body of the vat and so on. The annular intermediate spaces *b* on the periphery of the joints of two superposed elements of the vat are preferably filled with cement or any other suitable material, which assists in preventing a displacement of the individual receptacles and also gives the combined body a uniform appearance.

The relative intercommunication of the various receptacles *a* is effected by the externally provided flanged socket fittings *c* wherein the three way cocks *d* or the like and the rubber tube screwing rings *e* can be simultaneously interposed and also the ventilating pipes *f* provided with valves can be inserted. The valves *d* may be constructed as three way cocks or in any other suitable manner in order, if necessary, to separately tap the cells at any part of the column.

A pipe *g* adapted for cleaning purposes and provided externally with a cock communicates with the groove-shaped depression formed in consequence of the concavity of the lowermost bottom of the cell, such



bottom being connected to the convex upper bottom of the lowermost cell.

Fig. 2 shows a vat, which, in accordance with this invention, also comprises several 5 cells or chambers disposed according to the column system; these cells or chambers are however not arranged one over the other but side by side with their heads or bottoms abutting against each other. It is recom- 10 mended to embed in masonry *m* or the like the outer bottoms or heads of the vat, which may both have an outwardly bulged shape in order to resist the pressure exerted in an axial direction of the vat.

15 *l* indicates the manholes provided in the various cells of the vat.

In the vertical arrangement as well as in the horizontal arrangement, either one or the other of the two bottoms of each recep- 20 tacle or cell, or both of them, may have a less wall-thickness than the side-walls of the said receptacle or cell, because two abutting bottoms always complete the necessary intermediate wall-thickness. Thus a certain 25 saving of material is effected which must be

taken into consideration for the purpose of easily handling the separate cells of the vat when transporting and mounting them. Moreover, the cells or elements of the vat are preferably of the same shape so that they 30 can be readily arranged or replaced at any part of the column-system.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be per- 35 formed, I declare that what I claim and wish to secure by Letters Patent is:—

In a store vat, the combination of a plurality of juxtaposed individual cells, each of which comprises a body portion having in- 40 tegrally formed imperforate concave and convex heads, respectively, of less thickness than the body portion thereof, the convex head of one cell fitting into the concave head of an adjacent cell, and means whereby the 45 said cells may be filled and emptied.

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Witnesses:

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