A. McD. GRAY.

FILTER PRESS.

APPLICATION FILED SEPT. 28, 1910.

989,843. Patented Apr. 18, 1911.

Fig. 1.

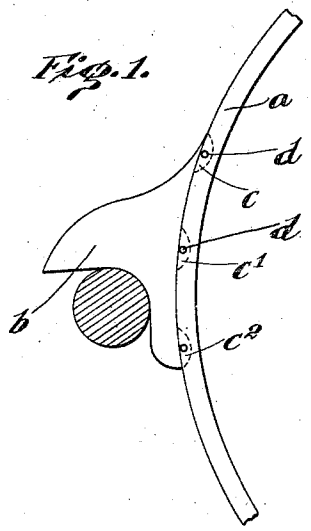


Fig. 1a

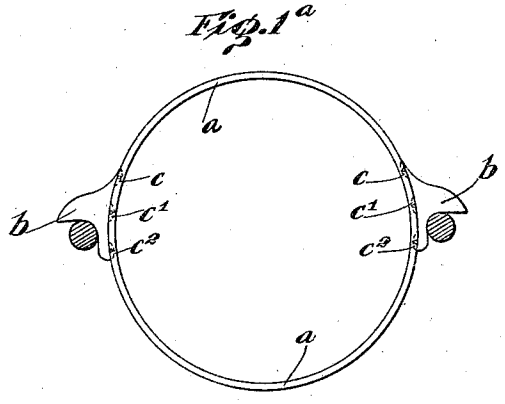


Fig. 2.

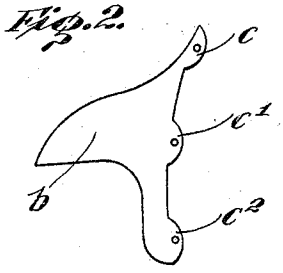


Fig. 4.

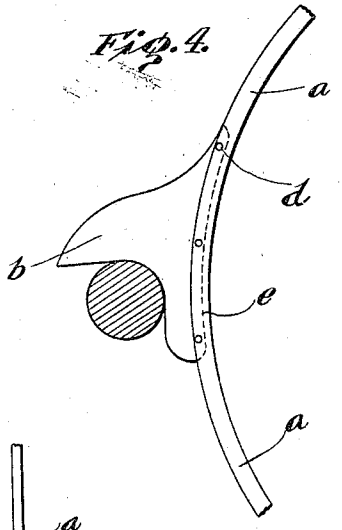


Fig. 3.

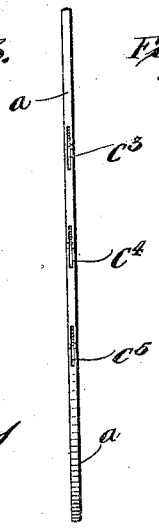
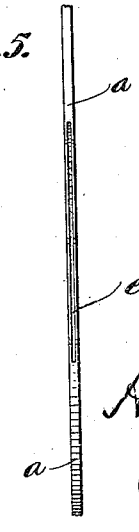


Fig. 5.



WITNESSES

C. S. Ashley

L. L. Browning

INVENTOR

Alanson McD. Gray

BY

Edward C. Davidson

ATTORNEY

UNITED STATES PATENT OFFICE.

ALANSON MC DOWELL GRAY, OF ELIZABETH, NEW JERSEY.

FILTER-PRESS.

989,843. Specification of Letters Patent. Patented Apr. 18, 1911.

Application filed September 28, 1910. Serial No. 584,177.

To all whom it may concern:

Be it known that I, ALANSON MC DOWELL GRAY, a citizen of the United States of America, residing in Elizabeth, county of Union, State of New Jersey, have invented a certain new and useful Improvement in Filter-Presses, of which the following is a specification.

The improvement comprising the subject matter of this invention relates to rings employed to separate the plates of a filter press and to form the chamber for the deposit of solid matter left after expression of the fluid. The plates are formed with ears by means of which they are suspended upon parallel supporting bars along which they may move. The interposed rings are provided with similar lugs or ears for the same purpose.

The general construction of presses of this kind is well understood and any further reference to any part thereof, other than to the ring, is quite unnecessary to an understanding of this invention.

Heretofore the carrying lugs or ears of filter press rings have been attached to the ring by radial bolts or rivets. Sometimes the lugs are castings and sometimes they are formed by bars of metal bent to the proper contour. Securing the lugs to the periphery of the ring by means of radial bolts or rivets is objectionable, among other reasons, because where the peripheral width of the ring is small, the bolting or riveting cannot be satisfactorily accomplished to afford adequate strength of attachment without detrimentally affecting the strength of the ring. Brazing has, therefore, been resorted to. Experience has demonstrated, however, that the four necessary brazing heats required for uniting the ends of the two lugs with the periphery of the ring not only results in such distortion of the lugs as to throw the ring out of concentricity with the plates, but also the successive heating and cooling of the ring warps it or throws it out of true circular contour; and the rectification of shape of the lugs or the restoration of the ring to true circular shape is not only difficult but is expensive.

The present invention comprises a filter press ring having lugs cut from sheet metal and secured in circumferential recesses cut in the ring. The lugs may be secured by rivets disposed parallel to the axis of the ring or by a pouring of molten metal of appropriate character such, for instance, as some one of the many alloys that melt at low temperature and are very hard and tenacious when set.

In the accompanying drawing: Figure 1[a] is a side elevation of a filter press ring having lugs applied thereto in accordance with this invention: Fig. 1 an elevation of one side of the ring on an enlarged scale: Fig. 2, a side elevation of the lug detached from the ring: Fig. 3, a view looking at the periphery of the ring with the lug removed: Fig. 4, a view similar to Fig. 1 showing a modification: and Fig. 5, a view looking at the periphery of the ring seen in Fig. 4.

The ring *a* is an ordinary filter press ring. The lug *b* may be stamped from or otherwise formed of sheet metal. In the construction of Figs. 1 and 2, the lug has on its inner edge three curved projections $c, c' c^2$. In the periphery of the ring are milled recesses c^3, c^4, c^5 into which accurately fit the projections c, c' c^2, where they are secured by rivets *d*. The construction is very strong and economical and the lugs may be applied to the ring without in any manner distorting either member.

Figs. 4 and 5 illustrate a modification that consists in milling in the ring a continuous circumferential groove *e* of uniform depth. The inner edge of the lug is correspondingly shaped to fit accurately in the recesses and the two parts are secured together by rivets *d*.

I claim:

1. A filter press ring having cut in its outer periphery circumferentially a recess, a lug formed of sheet metal and fitting in the recess and means for firmly uniting the lug and ring.

2. A filter press ring having cut in its outer periphery circumferentially a recess, a lug formed of sheet metal and fitting in the recess and rivets disposed in the direction of the axis of the ring and passing through it and the lug.

In testimony whereof, I have hereunto subscribed my name.

ALANSON MC DOWELL GRAY.

Witnesses:

L. F. BROWNING,

MARY DUTTON.