

C. W. MERRILL.
CONTAINER FOR PRESSURE FILTERS.
APPLICATION FILED JAN. 21, 1909. RENEWED AUG. 17, 1910.

987,904.

Patented Mar. 28, 1911.

Fig. 1.

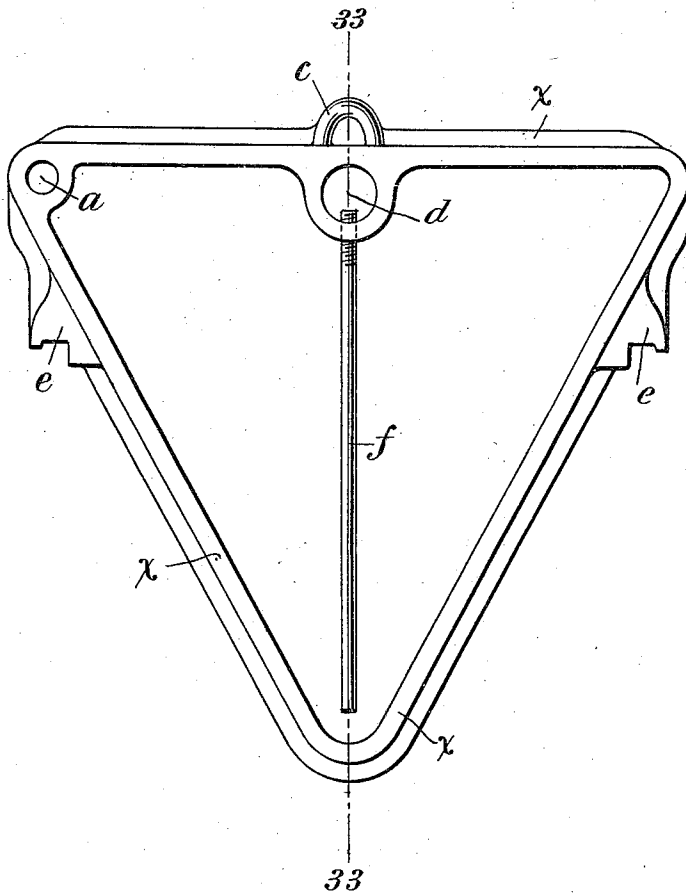
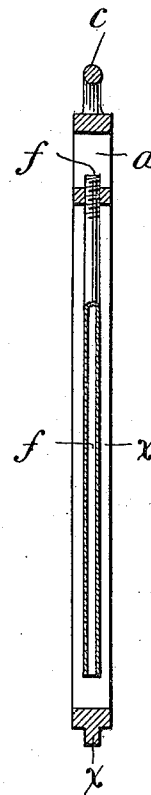


Fig. 2.



WITNESSES:

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CHARLES W. MERRILL, OF ALAMEDA, CALIFORNIA.

CONTAINER FOR PRESSURE-FILTERS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES W. MERRILL, metallurgical engineer, a citizen of the United States of America, and resident of Alameda, Alameda county, State of California, have invented certain new and useful Improvements in Containers for Pressure-Filters, of which the following is a specification.

My invention relates to an improved form of container, for use in connection with filter presses, particularly to that class of filter presses which are used for precipitating and recovering valuable materials from solutions, and particularly metals from hydro-metallurgical solutions.

The present invention is particularly applied to that class of filter presses in which containers and filter plates are employed, the sides of which converge toward the bottom.

In certain types of filter press now in use a form of container of triangular shape is employed, provided with devices for rendering possible an equal distribution and agitation of the unfilterable material within the containers, whenever the same is desirable, by means of a duct leading from a port within each container and preferably located in the bottom thereof, to a horizontal feed channel located above the outlet and preferably in an upper corner of the container. It sometimes happens that ducts which are integral parts of containers become clogged, in which case the whole filter press must be put out of commission while said ducts are being cleaned out, thus reducing its capacity and frequently hampering other operations which are dependent upon the continuous operation of said press.

The present invention is designed to obviate the aforesaid difficulties.

The invention will be best understood by reference to accompanying sheet of drawings, in which,

Figure 1 is an elevation of a container, to which the present invention is applied, and Fig. 2 is a cross section thereof.

Similar letters refer to similar parts throughout both views.

In the drawings, x are the exterior frames of a series of containers provided with lugs e on either side, by means of which the containers are supported by the side bars of the press.

d is a horizontal feed channel located in the center at the top of the container, through which the mixture of filterable and non-filterable component is introduced into the press.

a is an inlet through which liquids, vapors or gases may be introduced behind the filter cloths. When a series of containers is put together in a filter press, the openings a and d make two continuous openings or channels through the press, which are closed at the ends in any convenient manner.

Instead of the ducts which are integral parts of the containers as aforesaid, I employ a pipe or independent duct f which leads downward from the feed channel d into the bottom of the container and terminates adjacent thereto. The pipes f are removable, fitting into the top of the container and may be of any convenient size or any material or combination of materials, and in practice a number of these pipes may be kept in stock for use in connection with any one filter, and hence when they become choked or stopped up, they may be readily removed and another pipe inserted for use while those removed are being cleaned. In this way the press does not have to be kept out of service for an unnecessarily long time.

In practice, the pipe or independent duct f is screwed into that part of the upper wall of the container which forms the bottom of the feed channel, in the manner shown in the drawings; but any desirable method for connecting up the pipe duct with the feed channel may be employed.

When particularly heavy precipitates are to be filtered in that type of press which is composed of a series of containers provided with suitable filter plates, it may be advisable in the case of some or all of the containers employed, to insert the upper extremities of the pipes f into the channel d a sufficient distance above its lower surface to prevent the segregation or settling of the heavier precipitates into the first containers of the series in the press.

The method of using containers provided with the present improvement is in all respects similar to that of using containers employed in the ordinary forms of precipitation filter presses.

I claim as my invention:

1. A container for use in a pressure filter provided with a pipe of convenient size,

leading from a feed channel located above the bottom of the container and terminating within the same at or near said bottom.

2. A container for use in a pressure filter
5 provided with a removable pipe of convenient size, leading from a feed channel located above the bottom of the container and terminating within the same at or near said bottom.

10 3. A container for use in a pressure filter provided with a removable pipe of convenient size leading from a feed channel located above the bottom of the container and
15 attached to said feed channel in any convenient manner and terminating within the same at or near said bottom.

4. A container for use in a pressure filter

provided with a removable pipe of convenient size, leading from a feed channel located above the bottom of the container and
20 terminating within the same at or near said bottom, the upper end of which extends a sufficient distance into and above the bottom of the feed channel to prevent the segregation of the heavier precipitates in such container.
25

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this 20th day of January 1909.

CHARLES W. MERRILL.

Witnesses:

CHARLES ENGEL,

HENRY H. GRAFF.

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