W. I. MORGAN.

SCREEN FOR PERCOLATORS.

APPLICATION FILED SEPT. 3, 1914.

1,213,232. Patented Jan. 23, 1917.

Fig. 1.

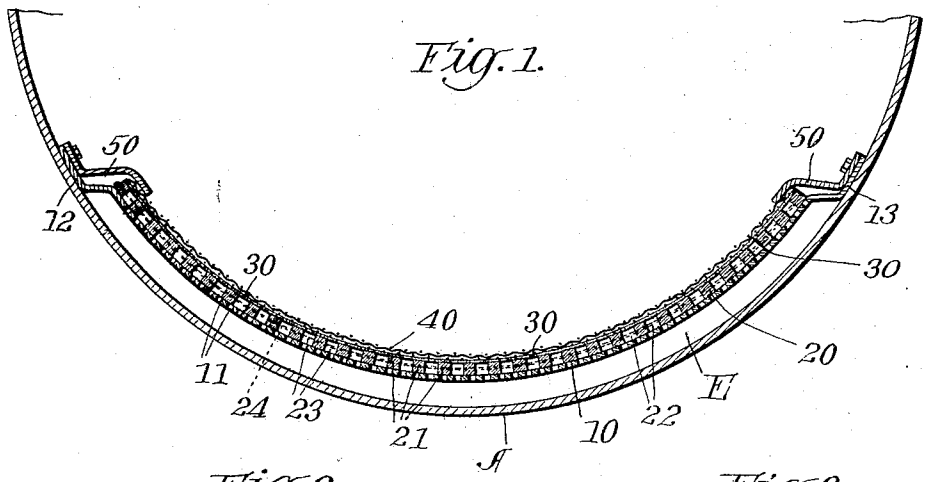


Fig. 2.

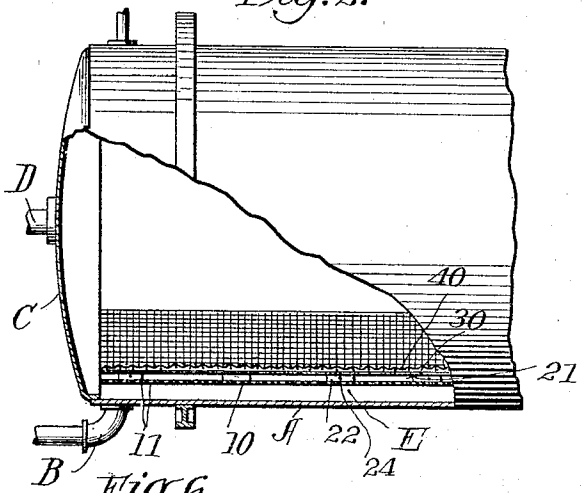


Fig. 6.

Fig. 3.

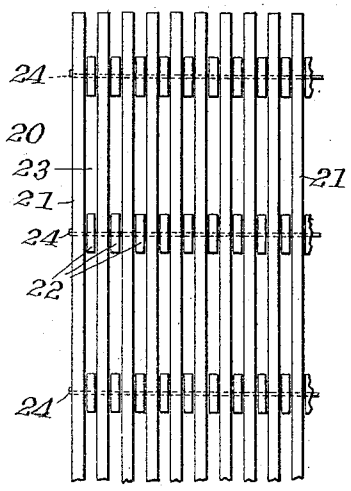


Fig. 5.

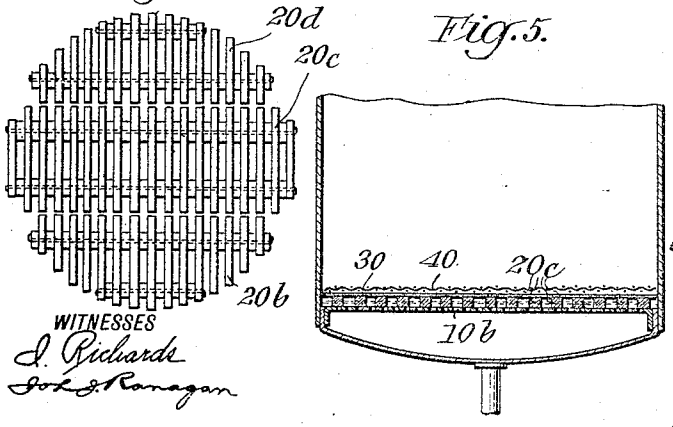
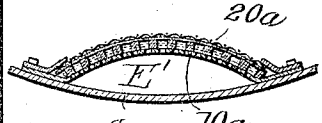


Fig. 4.



WITNESSES

L. Richards

Jos. L. Ranagan

INVENTOR

W. I. Morgan

BY

Wm. L. Megrath

ATTORNEY

UNITED STATES PATENT OFFICE.

WILLIAM I. MORGAN, OF SEAFORD, NEW YORK.

SCREEN FOR PERCOLATORS.

1,213,232. Specification of Letters Patent. Patented Jan. 23, 1917.

Application filed September 3, 1914. Serial No. 859,956.

To all whom it may concern:

Be it known that I, WILLIAM I. MORGAN, a citizen of the United States, and a resident of Seaford, Long Island, New York, have invented certain new and useful Improvements in Screens for Percolators, of which the following is a specification.

This invention relates to improvements in screens to be used in percolators more particularly adapted for use in the treatment of materials in garbage disposal plants and it consists in certain peculiarities of construction and arrangement of parts and in certain novel combinations of elements substantially as hereinafter described and particularly pointed out in the claims.

One of the objects of the invention is to so construct the screen that it will not clog and will be otherwise efficient in operation.

Another object is to make the screen so that it can be readily taken apart for cleaning or changing or replacing certain elements thereof.

Other objects will appear from the hereinafter description.

Certain embodiments of the invention are illustrated in the accompanying drawing in which the same reference character indicates the same part in the several views.

Referring to the drawing: Figure 1 is a cross section on an enlarged scale of the screen applied to the cylindrical wall of a percolator, said section being taken on a vertical line through a lower portion of Fig. 2. Fig. 2 is a side elevation of one end of the percolator partly in section showing the screen in place. Fig. 3 is a view on an enlarged scale of a grid-like construction forming an element of the invention. Fig. 4 is a sectional view of a modification of the application of the screen shown in Figs. 1 and 2. Fig. 5 is a sectional view of one end of a cylindrical separator showing the invention applied thereto. Fig. 6 is a plan view of the form of grid construction used in Fig. 5.

Referring to Figs. 1, 2 and 3, the part marked A represents the cylindrical wall of the percolator having an exit or drain pipe B leading therefrom.

C is one end of the percolator and D is a supply pipe leading thereto. Arranged inside of the percolator and longitudinally thereof is a plate 10, which conforms to the curvature of the wall of the percolator and is provided with a series of perforations 11. The longitudinal edges of the plate are offset to form rests 12 and 13 and to separate the plate from the wall of the percolator so that there is a space E between said wall and said plate.

20 is a grid-like construction which consists of a series of longitudinal bars 21, which are substantially square in cross section and are separated by the series of spacing blocks 22, leaving the openings 23 between. The bars of the spacing blocks are held in position by the rods 24 which pass therethrough, as is more clearly shown in Fig. 3 of the drawing. The spacing blocks 22 are loosely mounted on these rods 24 and are so assembled that the grid can be turned or curved to fit the contour of the plate 10. The said bars and spacing blocks are preferably made of wood, but they may be made of any other suitable material.

Placed on top of the grid is a coarse grained fabric 30, such as burlap, and over this is placed a wire mesh fabric 40.

50 represents clamps which extend along the longitudinal edges of the structure and are bolted to the wall of the percolator and hold the grid in place and clamp the burlap and wire netting thereto.

When the percolator is charged pressure is applied to drive the liquid material out of the solid material of the charge, and said liquid material is forced through the wire netting, through the coarse fabric, through the openings in the grid, through the apertures in the plate into the space E between the plate and the wall of the percolator and passes out through the exit pipe B.

Heretofore it has been proposed to lay the coarse fabric—burlap for example—directly on the perforated plate 10. This has been found to operate unsatisfactorily as pressure in the percolator would force the fabric in the apertures 11 and completely or nearly close said apertures so that the liquid could not be forced out of the solid material in the percolator, and the efficiency and operation of the percolator would be destroyed.

By using the grid-like construction or grid as hereinabove described, the burlap is kept away from the apertures in the plate 10, and the grid is of such construction that the burlap will not clog up the spaces therein but will be held in such position that the liquid material will be freely forced through the burlap where it will pass through the

apertures and into the space between the perforated plate and the shell of the percolator.

In Fig. 4 I have shown a construction in which the perforated plate 10^a is curved in the opposite direction from that of the shell of the percolator, forming a space E′. In this construction instead of having a wide screen there may be a series of comparatively narrow screens 20^a, arranged as shown inside of the percolator and longitudinally thereof.

In Figs. 5 and 6 the grid forming the screen is made up of several sections 20^b, 20^c and 20^d, so that they can be readily and more easily placed on the perforated plate 10^b.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A screen for a percolator consisting of a perforated plate, a flexible grid formed of longitudinal bars spaced apart by a plurality of rows of spacing members, the bars and spacing members being tied together, a comparatively coarse fabric over the grid, and means for securing the fabric and grid to the plate.

2. A screen for a percolator consisting of a perforated plate, a flexible grid formed of longitudinal bars spaced apart by spacing members, the bars and spacing members being tied together, a comparatively coarse fabric over the grid, a wire netting over the fabric, and means for securing the netting, fabric and grid to the plate.

3. A screen for a percolator consisting of a perforated plate, a flexible grid formed of longitudinal bars spaced apart by spacing members, the bars and spacing members being tied together, a comparatively coarse fabric over the grid, a wire netting over the fabric, and clamps for securing the said elements together.

In witness whereof I have hereunto set my hand at the city of New York, county of Kings and State of New York, this 20th day of August, 1914.

WILLIAM I. MORGAN.

In presence of—
P. M. WEIDMANN,
IRVING BLOUNT.