

No. 751,303.

PATENTED FEB. 2, 1904.

C. KREMER.

APPARATUS FOR THE RECOVERY OF FATS OR THE LIKE.

APPLICATION FILED JULY 22, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig.1.

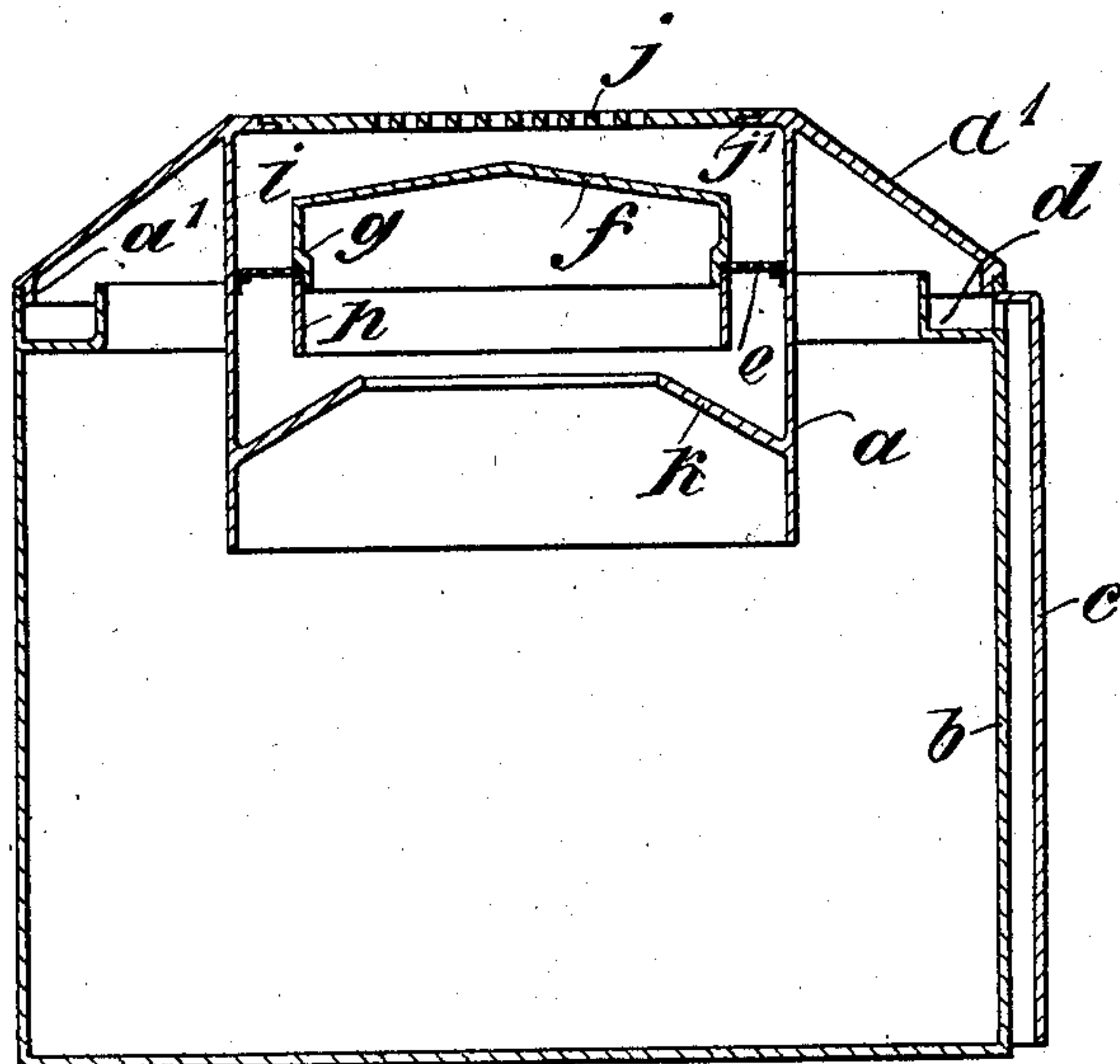
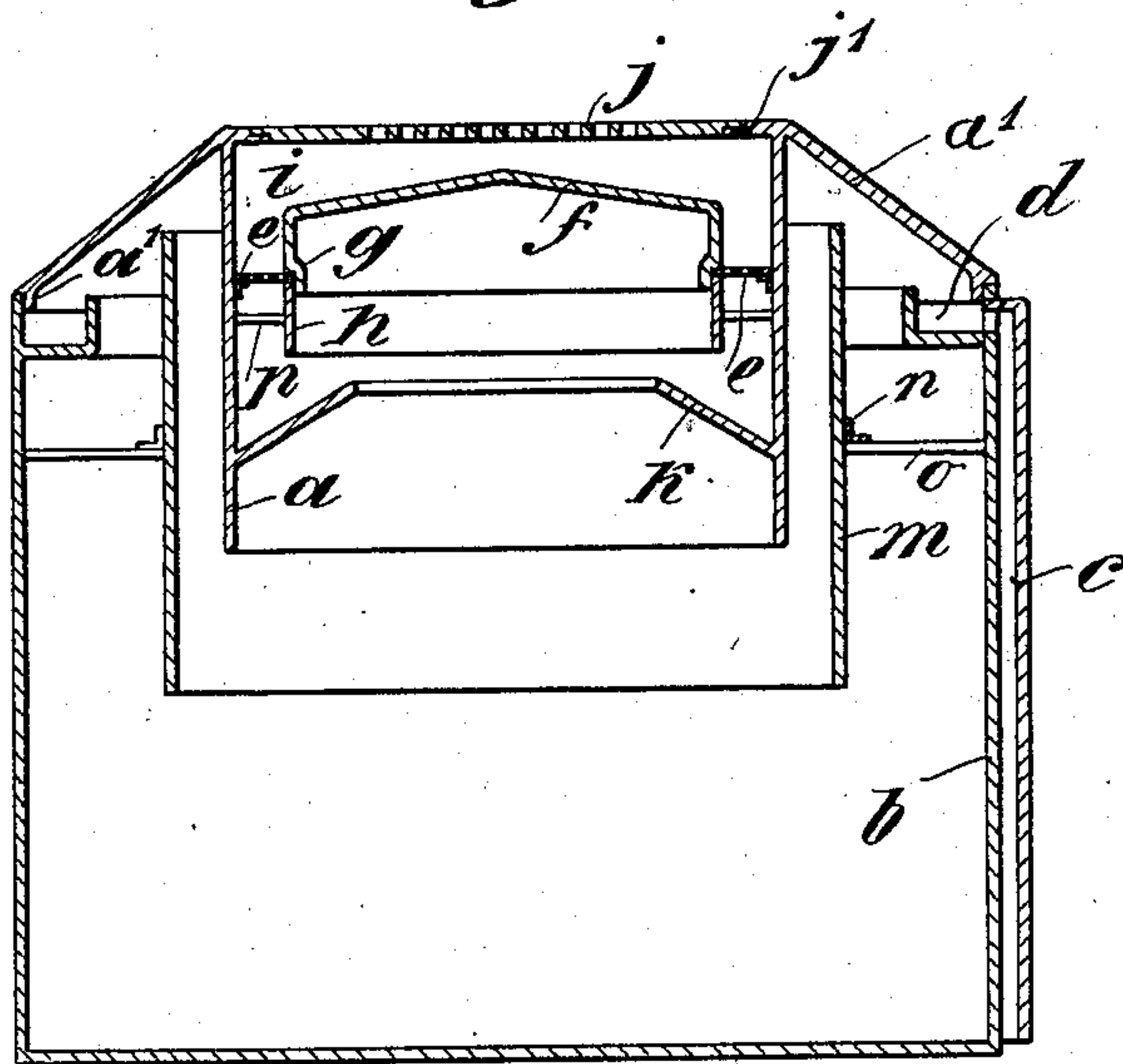


Fig.2.



Witnesses:
Dr. Maurice Hilsefeld
Emil Papenbruch

Inventor:
Christoph Kremer

No. 751,303.

PATENTED FEB. 2, 1904.

C. KREMER.

APPARATUS FOR THE RECOVERY OF FATS OR THE LIKE.

APPLICATION FILED JULY 22, 1903.

NO MODEL.

2 SHEETS--SHEET 2.

Fig.3.

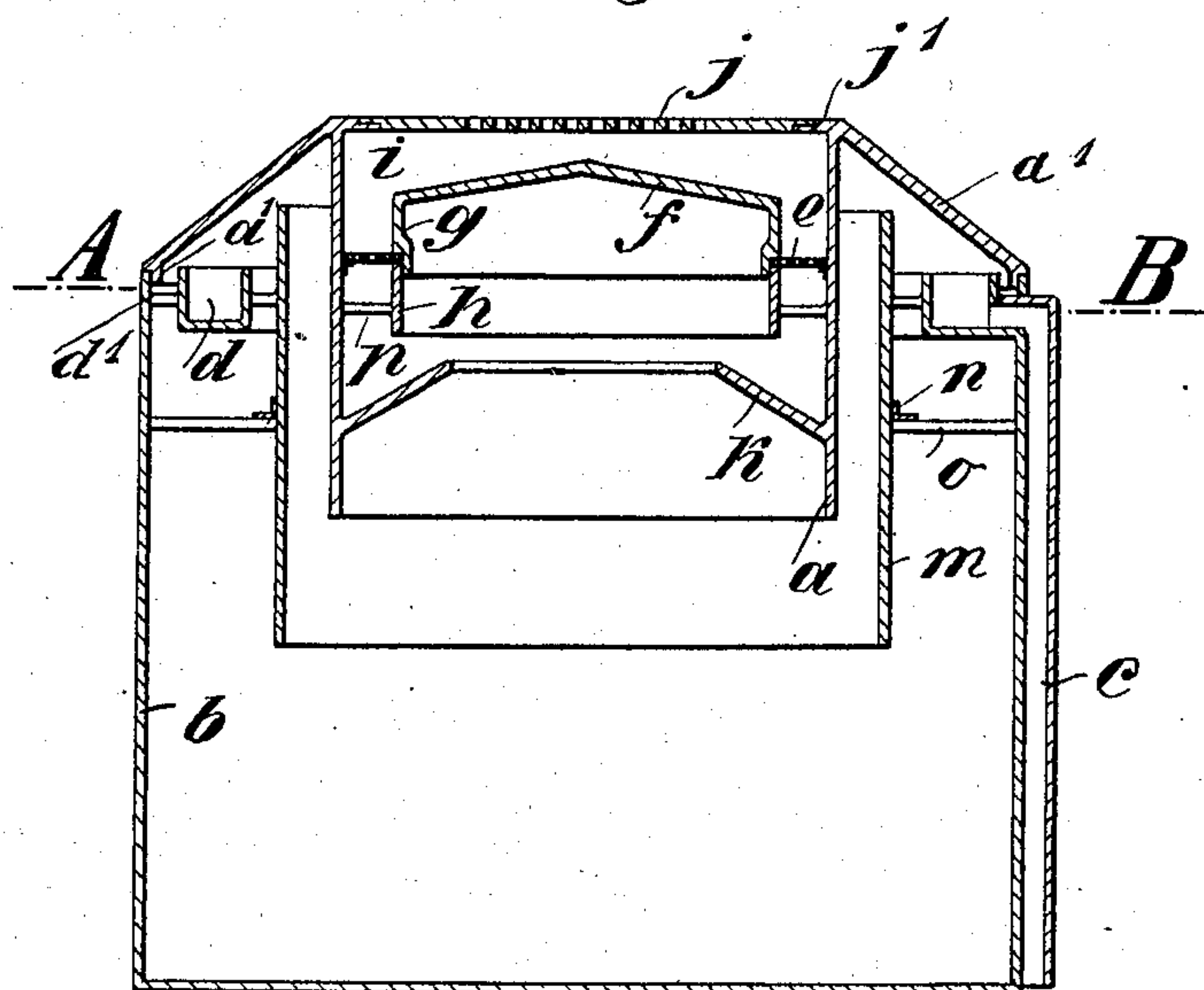
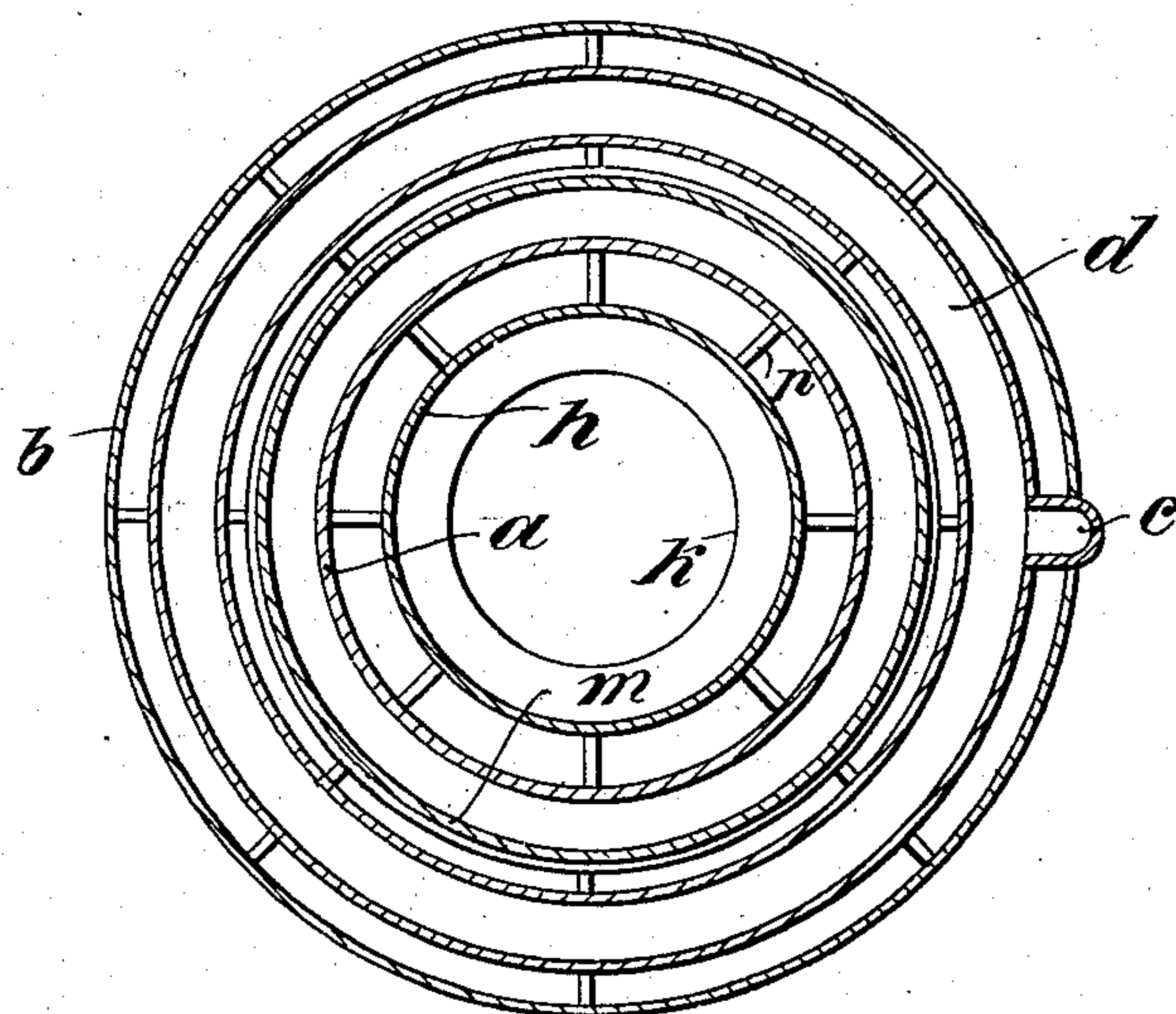


Fig.4.



Witnesses:
Dr. Maurice L. Lefebvre
Ernst Papenbrueck

Inventor
Christoph Kremer

UNITED STATES PATENT OFFICE.

CHRISTOPH KREMER, OF FRANKFORT-ON-THE-MAIN, GERMANY.

APPARATUS FOR THE RECOVERY OF FATS OR THE LIKE.

SPECIFICATION forming part of Letters Patent No. 751,303, dated February 2, 1904.

Application filed July 22, 1903. Serial No. 166,624. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPH KREMER, a subject of the King of Prussia, German Emperor, residing at Frankfort-on-the-Main, Prussia, in the German Empire, have invented certain new and useful Improvements in Apparatus for the Recovery of Fats or the Like, of which the following is a specification.

The apparatus which is the subject-matter of the present invention is an improvement on the apparatus described in the specification of United States Letters Patent No. 700,056, and has for its object the prevention of too strong a current of liquid through the fat-collector and toward the exit which happens in practice when such apparatus is used, which is constructed according to the before-mentioned United States Patent specification in the case of the inflow of large quantities of water, particularly in the case of sewage, through a single admission-pipe when the flow is intermittent and sudden, whereby the separation of the fat is disturbed, and particles of fat may be carried to the exit by such hydraulic impulsés. The present invention overcomes these disadvantages by the construction of the apparatus with suitable devices which neutralize the hydraulic impulses caused by the inflow of the water and cause the water to flow gradually toward the fat-collector and thence after the separation of the fat toward the exit-pipe.

In order that this invention may be the better understood, I now proceed to describe the same with reference to the accompanying drawings and to the letters marked thereon.

Like letters refer to like parts in the various figures.

Figures 1, 2, and 3 show vertical sections of three different forms of construction of this improved apparatus. Fig. 4 is a transverse section on the line A B of Fig. 3.

The apparatus in its simplest form is constructed as follows: An outer vessel *b*, Fig. 1, closed at the bottom and provided internally with an overflow channel or gutter *d* with outlet-pipe *e*, is closed at the top by a detachable cover or lid *a'*, in the center of which is a detachable perforated plate *j*, resting on projections *j'*. From the cover *a'* depends the device intended to catch the fat, consisting of a

cylinder *a* open at the bottom and provided near its lower end with an upwardly-inclined internal flange *k*. Above this flange there are secured on the interior of the cylinder *a* suitable brackets to support an annular perforated plate *e*, carrying a cylinder *h*. This latter cylinder is open at the bottom and closed at the top by the cover *g* with conical roof *f*. The cylinder *h* is of such dimensions as to leave a free channel *i* between it and the sides of the vessel *a*. The drain or dish water containing the fat or other substance to be separated is admitted to the vessel *b* through the perforated plate *j* in the cover *a'* and falls onto the conical roof *f* of the interior cylinder *h*. It is hereby distributed uniformly around the cylinder *h* and falls through the perforations in plate *e* onto the upwardly-inclined flange *k* of vessel *a*. It is hereby directed toward the center of the vessel *h* before passing into the larger vessel *b*, and the current of the inflowing water, which might carry the fat along with the water, is hereby overcome and the fat is induced to rise in the vessel *h* and toward the roof *f*. The drain or dish water from which the fatty particles have been removed in the vessel *a* pass ultimately therefrom in known manner into the vessel *b*, pass upward in the latter, and as soon as they have reached the level of the upper rim of the overflow-channel *d*, arranged on the inner wall of the vessel *b* around its entire periphery, the water flows over and discharges itself automatically through the exit-pipe *e*, connected with the channel *d*.

In Figs. 2, 3, and 4 is shown a modified form of construction of the apparatus, the actual fat-catching device being surrounded by a second cylindrical vessel *m*, also open at the bottom and resting by means of brackets upon projections *o* on the interior of vessel *b*. As can be seen from the drawings, Figs. 2 and 3, the cylinder *m* does not reach to the roof of the vessel *b*, but is open also at the top, the upper edge, however, being above the level of the gutter *d*, while the lower edge of this cylinder is below the lower edge of cylinder *a*. The arrangement of the second receptacle *m* prevents the carrying away of fatty particles by the flow of the water toward

the vessel *b*, because such fatty particles are entrapped in consequence of the lower construction of the wall of the vessel *m*, and they collect therein on the surface of the water, while the water freed from the fat overflows in the above-mentioned manner from the channel *d* and the pipe *c*.

A further modification shown in Figs. 2, 3, and 4 is the provision of supporting-arms *p* projecting from interior of vessel *a* to hold the vessel *h* more securely.

In Figs. 3 and 4 an alternative manner of securing the overflow-gutter *d* is illustrated. Instead of attaching it direct to the inner side of vessel *b* one may suspend it by means of arms *d'* between vessels *b* and cylinder *m*. This presents the advantage of having the overflow-channel within the vessel *b* in addition to offering a double edge over which the water may flow into the overflow-channel. A smooth and quiet flow of the water is thus further assured. These arrangements insure that no current of excessive strength is formed in the apparatus, either in the direction of the fat collector or vessel *a* or toward the vessel *b*, provided with the overflow device, even when the dish or drain water should flow in a strong stream, so that the separation of the fatty particles from the dish or drain water in the receptacle *a* and the precipitation of the floating and heavier substances in the vessel *b* are effected without disturbance.

As seen in the drawings, the apparatus is constructed so as to be easily assembled and taken apart.

For removing the fat collected in cylinder *h*, which fat will have the form of a cake, the plate *j* is removed and then the conically-roofed cover *g*, which is constructed, as shown, to fit into cylinder *h*. In addition to this plate *e* and cylinder *h*, which may be integral with one another, can be lifted from their supports, and when it is desired to clean the interior of the vessel *b* the cover *a'* may be bodily removed with the entire device which it carries.

It is obvious that the apparatus may be of cylindrical or any other suitable form.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In an apparatus for separating fat from liquids, the combination of an outer vessel having an overflow-channel, with an inner

vessel open at the bottom within same, a chamber within said inner vessel, a channel for admitting the liquid to said inner vessel, and an upwardly-projecting ledge within said inner vessel for directing the liquid toward the chamber in the inner vessel, substantially as described.

2. In an apparatus for separating fat from liquids, the combination of an outer vessel, an overflow-channel arranged within same, an inner vessel open at the bottom, a cylindrical device within said inner vessel, a cover for said cylindrical device, a channel for admitting liquid to said inner vessel and an upwardly-projecting ledge within said inner vessel for directing the liquid toward said cylindrical device, substantially as described.

3. In an apparatus for separating fat from liquids, the combination of an outer vessel, having an overflow-channel, of an inner vessel open at bottom and having a perforated cover or roof, an inner chamber within said inner vessel, a conical cover to said inner chamber, an annular upwardly-projecting ledge within said inner vessel and a channel adapted to allow the liquid to fall onto said ledge, substantially as described.

4. In an apparatus for separating fat from liquids, the combination of an outer vessel having an overflow-channel, of an inner vessel, open at bottom, an inner chamber within and supported by said inner vessel, a channel between said chamber and sides of said inner vessel, an annular upwardly-projecting ledge within said inner vessel, perforations in the support of said inner chamber, adapted to allow of an even distribution of the liquid into said upwardly-projecting ledge, substantially as described.

5. In an apparatus for separating fat from liquids the combination of an outer vessel, an inner vessel open at bottom and an overflow-channel supported between said inner and outer vessels, adapted to allow liquid to flow into it over both its sides, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHRISTOPH KREMER.

Witnesses:

MAURICE RILIENFELT,
EMIL PAPENBRUCH.