

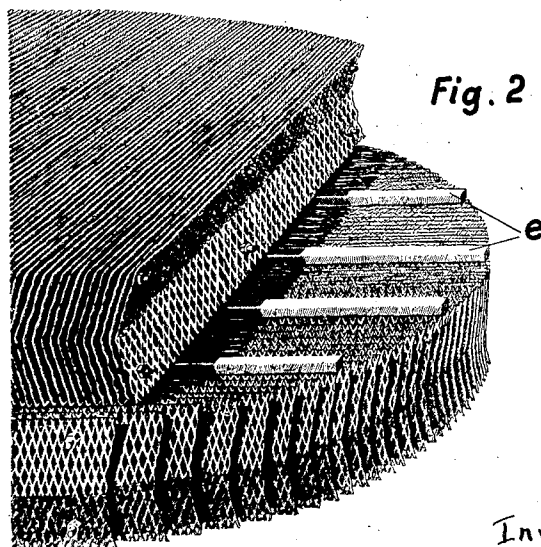
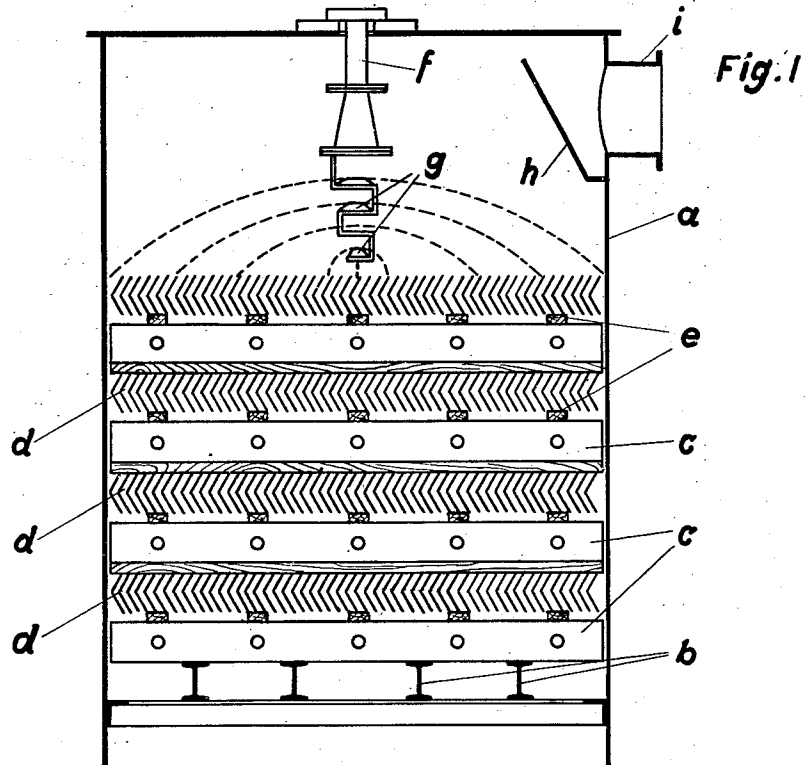
May 28, 1935.

W. BEIMANN ET AL

2,003,271

HURDLE WASHER

Filed Jan. 20, 1934



Inventors:

Wilhelm Beimann, Johann Hagenbach
By: Robert J. Cuthard
Attorney

UNITED STATES PATENT OFFICE

2,003,271

HURDLE WASHER

Wilhelm Beilmann and Johann Hagenbeck,
Bochum, Germany

Application January 20, 1934, Serial No. 707,456
In Germany September 19, 1932

3 Claims. (Cl. 261-111)

The invention relates to hurdle washers intended for the treatment of gaseous agents rising in the washer, by means of a washing liquid which trickles down therein, in which the inner space of the washer is fitted with hurdles causing a subdivision of the trickling washing liquid and thereby offering the largest possible active surface of the liquid.

The invention has for its object a new and efficacious construction of the hurdle filling of washers of this class, the hurdles according to the invention consisting of vertically arranged members of perforated sheet metal which are inclined in themselves with respect to the perpendicular and to this end may have a buckled or corrugated shape. These vertically arranged sheet metal members further are arranged in layers extending at an angle to one another, for example at right angles. It has been found that expanded metal is a material which is very well suited for the purpose aimed at, that means, sheet metal in which first slots are punched or cut in staggered position to one another, whereupon the sheet metal is expanded in a direction normal to that of the slots. By the expansion of the sheet metal are formed sharp edges on the apertures formed by the expansion of the slots, on which edges the trickling liquid again and again is subdivided into individual drops, whereby an extremely enlarged active surface of the liquid is obtained.

In order that the invention may be clearly understood and readily carried into effect, a preferred embodiment of the same is illustrated by way of example in the drawing which accompanies and forms part of this specification. In this drawing

Figure 1 is a vertical section of the upper portion of a hurdle washer built up in accordance with the invention, and

Figure 2 is a perspective view of two superposed layers of the hurdle filling made from expanded metal.

Referring to these figures, *a* denotes the cylindrical casing of the hurdle washer in which on horizontal supporting bars *b* rest in rows and in superposed layers strips of buckled expanded metal, the layers *c* extending at right angles to

the adjacent layers *d*. Intermediate wooden bars *e* are provided between each two adjacent layers, the intermediate spaces obtained by these bars causing compensation of the gas pressure within the washer.

The washing liquid is distributed by means of a central supply *f* fitted with baffle plates *g*, *g* or other suitable distributing means such as roses or the like. The gaseous agent treated in the washer escapes over a partition *h* through the socket *i*.

We claim:

1. A vertical hurdle washer comprising a casing and hurdles therein consisting of superposed layers of strips of expanded metal with the strips in each layer arranged on edge and extending at an angle to the strips in an adjacent layer and inclined to the vertical, so that each layer forms a pervious mass continuously retarding and subdividing water flowing downwardly through the mass and bringing said water into intimate contact with gas passing upwardly through the mass.

2. A vertical hurdle washer comprising a casing and hurdles therein consisting of superposed layers of strips of expanded metal with the strips in each layer arranged on edge and extending at an angle to the strips in an adjacent layer and each bent to provide portions differently inclined to the vertical, so that each layer forms a pervious mass continuously retarding and subdividing water flowing downwardly through the mass and bringing said water into intimate contact with gas passing upwardly through the mass.

3. A vertical hurdle washer comprising a casing and hurdles therein consisting of superposed layers of strips of expanded metal with the strips in each layer extending at an angle to the strips in an adjacent layer and corrugated so to provide portions at different levels which are differently inclined to the vertical, so that each layer forms a pervious mass continuously retarding and subdividing water flowing downwardly through the mass and bringing said water into intimate contact with gas passing upwardly through the mass.

W. BEIMANN.
J. HAGENBECK.