

961,100.

E. BURHORN.
COOLING TOWER.
APPLICATION FILED DEC. 28, 1907.

Patented June 14, 1910.

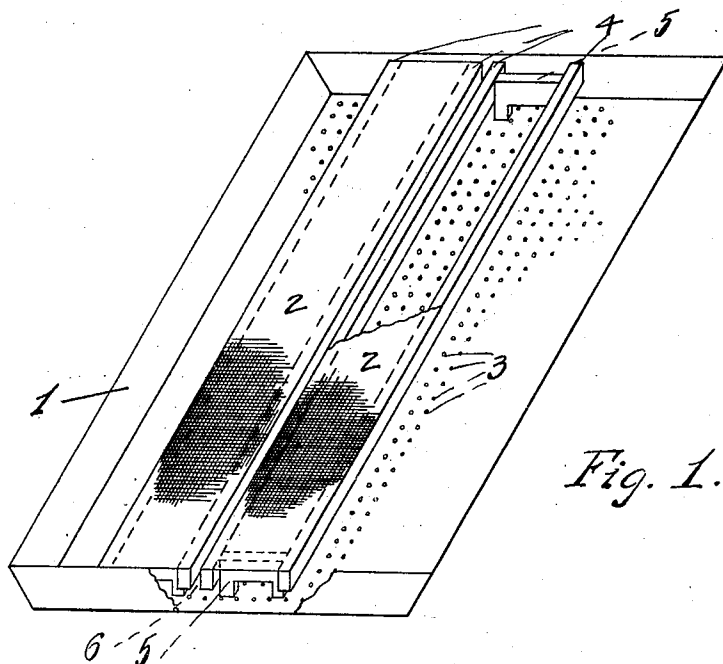


Fig. 1.

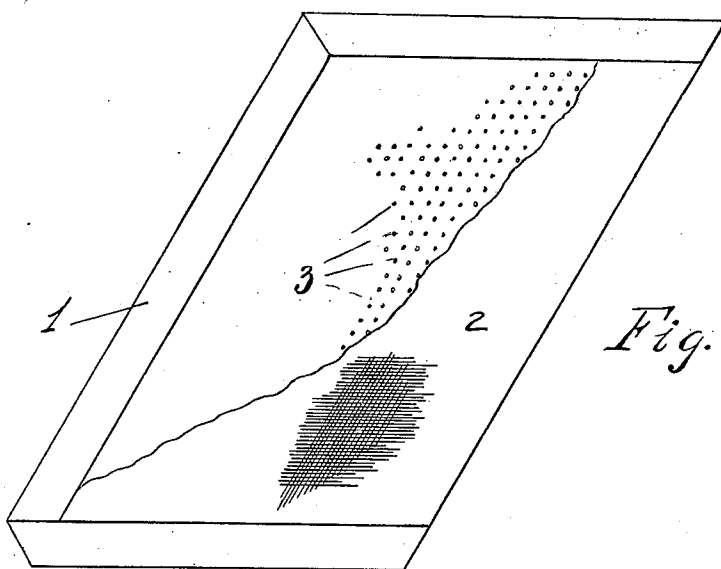


Fig. 2.

WITNESSES:

John C. Devlin.
A. Boulogne.

INVENTOR

E. Burhorn

UNITED STATES PATENT OFFICE.

EDWIN BURHORN, OF HOBOKEN, NEW JERSEY.

COOLING-TOWER.

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Specification of Letters Patent.

Patented June 14, 1910.

Application filed December 28, 1907. Serial No. 408,379.

To all whom it may concern:

Be it known that I, EDWIN BURHORN, a citizen of the United States of America, residing in the city of Hoboken, county of Hudson, and State of New Jersey, have invented a certain new and useful Improvement in Cooling-Towers, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates particularly to that class of cooling tower, of the open type and multiple pan variety, in which a series of perforated pans or decks are superposed one above the other, with a space between; the liquid to be cooled showering down from pan to pan in a finely divided state, while being subjected to the cooling effect of natural air currents. The efficiency of this class of tower depends largely upon the uniformity with which the liquid is distributed upon, and emitted from, the pans; as a shower of uniform density means the contact of the maximum quantity of heated liquid, with the maximum quantity of cooling air.

When liquid is delivered to bare pans of the above mentioned variety, there is an irregular emission, resulting in a very heavy shower at certain portions of the pan, and correspondingly scanty showers at other parts.

The object of my invention is to correct this irregularity, and thereby increase the efficiency of the apparatus.

Reference now being had to the accompanying drawing, in which similar figures designate similar parts, Figure 1, is an isometric view of a shower-pan such as is used in a cooling tower as above described; the frame-work, supply pipe, distributing system, collecting pan, etc., are omitted, as they have nothing to do with my invention, and are perfectly familiar to those skilled in the art; this figure shows an embodiment of my invention in one form. Fig. 2, is a similar view of a shower-pan, showing my invention in another form.

In the figures, 1 is the pan, usually of thin metal, having perforations 3 distributed uniformly over its bottom; 2 is a finely

woven fabric, such as cheese cloth or finely woven metallic netting, or similar material.

In Fig. 2, I have shown the fabric laid on the bottom of the pan, completely covering the perforations.

In Fig. 1, the fabric 2, is secured to the skeleton frames 4, which are laid in the pan, and are prevented from touching the same by the feet 5, and so leaving a space between the fabric and the perforated bottom. The frames do not butt, having a space 6 between them. The effect of the fabric 2, owing to its fine mesh, is to throttle the liquid if the flow becomes too rapid, resulting in a tendency toward more uniform distribution. Where the liquid is free from suspended matter, I prefer the simpler application of my invention shown in Fig. 2. If there is much suspended matter, however, the fine mesh will act as a filter and consequently the interstices will become clogged, thus cutting off the flow; and the application shown in Fig. 1, is preferable for the following reasons. Though the fabric is completely clogged, the pan is not rendered inoperative, as the liquid will flow down the space 6, and redistribute to the perforations 3, through the space between the fabric and the bottom of the pan; and also the frames 4 may be removed, either singly or in groups, and the fabric cleaned, without interfering with the operation of the pan.

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

1. In a cooling tower, a shower pan or deck, in combination with a close meshed fabric overlying said pan or deck.

2. In a cooling tower, a frame, close meshed fabric secured to said frame, and means for supporting said frame so as to leave a space between the frame and any adjacent surface.

3. In a cooling tower, a shower pan or deck, in combination with a plurality of frames supporting close meshed fabric, and means for supporting said frames so as to leave a space between the frames and the pan or deck.

4. In a cooling tower, a shower pan or

deck, in combination with a plurality of frames covered with close meshed fabric, means for supporting said frames so as to leave a space between said frames and the pan or deck, and a space between the frames.

5 In testimony whereof I have signed my name to this specification, in the presence of

two subscribing witnesses, on the 23rd day of December, 1907.

EDWIN BURHORN.

In presence of—
JOHN C. DEVLIN,
A. BOULOGNE.