Jan. 7, 1958 L. L. GILLILAND ET AL 2,819,048

INDUCED DRAFT WATER SAVING AND COOLING TOWER

Filed Aug. 25, 1954 2 Sheets-Sheet 1

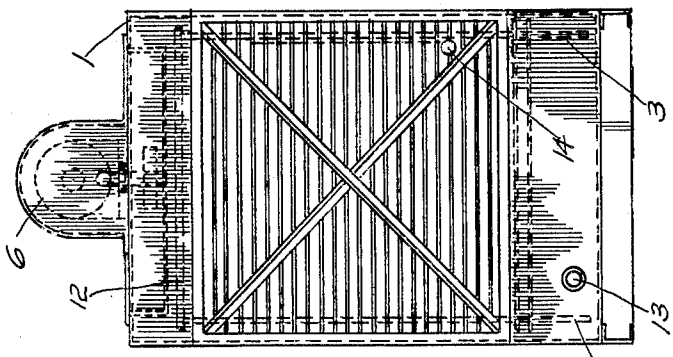


Fig. 3.

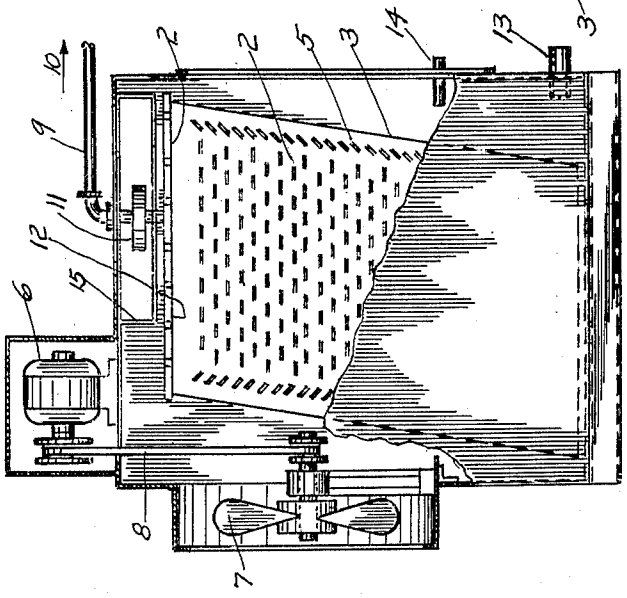


Fig. 2.

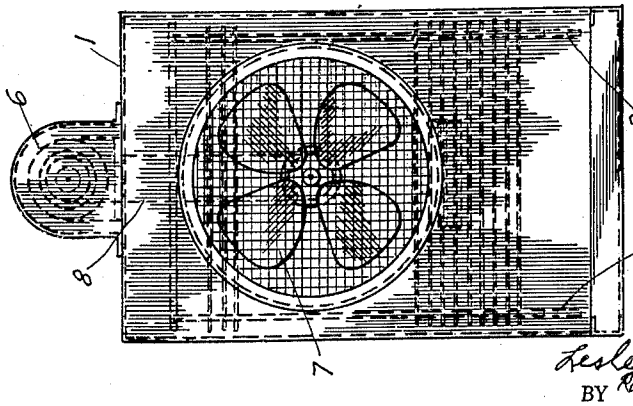


Fig. 1.

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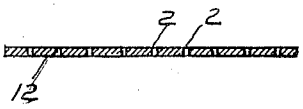


Fig. 7.

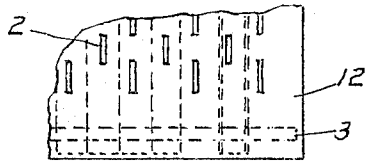


Fig. 8.

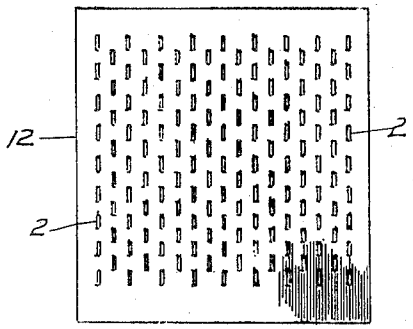


Fig. 6.

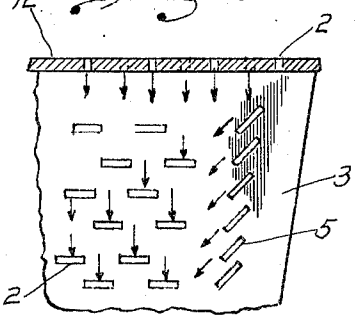


Fig. 9.

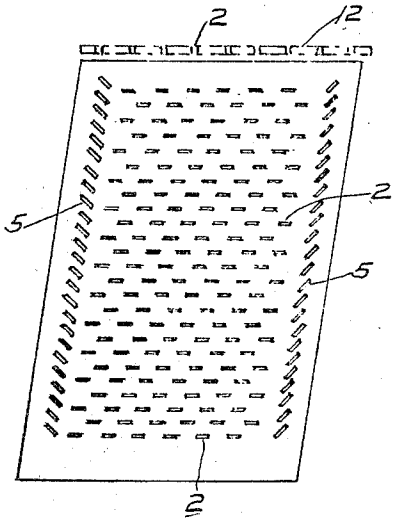


Fig. 4.

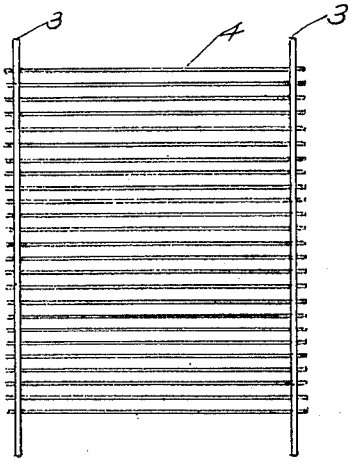


Fig. 5.

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INDUCED DRAFT WATER SAVING AND COOLING TOWER

Lesley L. Gilliland and Roland E. Cedarholm, Gadsden, Ala.

Application August 25, 1954, Serial No. 452,132

1 Claim. (Cl. 261—24)

This invention relates to an induced draft water saving and cooling tower. It has for its main objects to provide such a tower that will be highly satisfactory for the purpose intended, simple in structure, comparatively cheap to manufacture, easy to install and keep in working condition, and extremely durable.

A further object is to provide such a tower wherein certain main parts will be easy to replace should such become necessary as a result of long use.

Other objects and advantages will appear from the drawings and description.

By referring generally to the drawings, a part of this application, it will be observed that Fig. 1 is a front elevational view of a water saving and cooling tower made according to the present invention; Fig. 2 is a side elevational view, part full and part in section, of the tower; Fig. 3 is a rear elevational view of the tower; Fig. 4 is an elevational view of a support of the tower for holding the ends of the slats, there being two similar supports, with top drain member indicated; Fig. 5 is an elevational view of the two supports with horizontal and slanting slots therein; Fig. 6 is a plan view of the top drain member; Fig. 7 is an edge view of Fig. 6; Fig. 8 is a detail enlarged view of part of the top drain member; and Fig. 9 is an enlarged detail view showing part of a support with slat slots therein and part of the top drain member.

Similar reference numerals refer to similar parts throughout the several views.

Referring to the drawing in detail it will be seen that the tower comprises a case **1** with slots **2** in two of its supports **3** for holding a plurality of slats **4** preferably made of asbestocite which is water-proof, rot-proof, and fire proof, and is also flexible so that the slats are easy to bend for inserting the ends thereof in the slots of the supports. The outer slots are slanted as indicated at **5** to prevent water from easily passing out of the case. A motor **6** is mounted on the top of the case for driving the fan **7** by connecting belt **8**. Water for saving and cooling (from source not shown) enters pipe **9** at **10** and discharges at **11** and spreads out in supported container **15**, having a perforated bottom, and over the top drain member **12** made of flat, stiff material, and trickles down through the slots in the top and onto the plurality of slats progressively and is discharged out of bottom pipe **13** to the desired place for re-use. As the water passes downward it is further cooled by the circulation of air drawn outward by the fan. Pipe **14** is for an overflow valve if desired.

From the foregoing it will appear that water will trickle through the perforations in the container **15** and slots in the top member and onto the slats progressively as shown by arrows in Fig. 9.

The various parts of the tower may be made of any material suitable for the purpose. Also the tower may be made in different sizes and capacities depending on how and where to be used.

While we have shown and described the preferred embodiment of our invention, we do not wish to limit same to the exact and precise details of structure, but reserve the right to make all modifications and changes so long as they remain within the scope of the invention and the following claim.

Having described our invention we claim:

A water saving and cooling tower of the class described comprising, a main outer case approximately oblong in cross section, two similar supporting panels mounted in the case and positioned opposite each other and near the wider opposite walls of the case, said case having a closed flat bottom and partly open top, the bottom edges of said panels resting upon the bottom of the case, each of said panels having a plurality of slanting slots formed in its vertical edge portion and a plurality of horizontal slots formed in its center portion between the slanting slots, said slanting slots positioned with their inner ends directed toward the bottom of the case, a flat piece of stiff water proof material positioned and supported on the top edges of said panels, said flat piece having a plurality of slots formed therethrough, a plurality of water proof flexible material slats, these slats supported in the case by having their end portions inserted in the said slots in the panels; a pipe for water, said pipe connected to an elbow, the elbow positioned over the top of the case and directed downward, a piece of pipe connected to said elbow, a round shallow drum attached to the pipe leading from the elbow, said drum having a plurality of holes in its bottom for water to pass therethrough and onto the said flat piece with slots therein; an electric motor mounted upon the top of the case, the motor having a shaft and pulley thereon, a round housing mounted in the upper portion of one wall opposite one of said panels, a fan mounted in said housing, said fan being adapted to draw air out of the case, said fan having a shaft and pulley thereon, a connecting belt on the pulley on the motor shaft and the pulley on the fan shaft for operating the fan, said fan being adapted to draw air through the partly open top of the case and the slots in the said flat piece in the top of the case and discharge the air through the said fan housing; a drain pipe positioned in the lower edge portion of a wall of the case, an additional drain pipe positioned in the wall and above the other drain pipe as an overflow pipe.

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