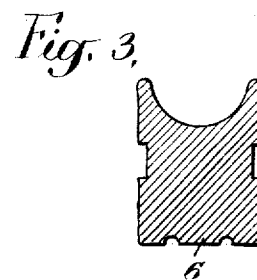
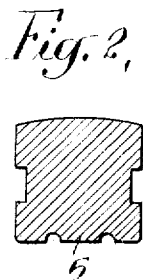
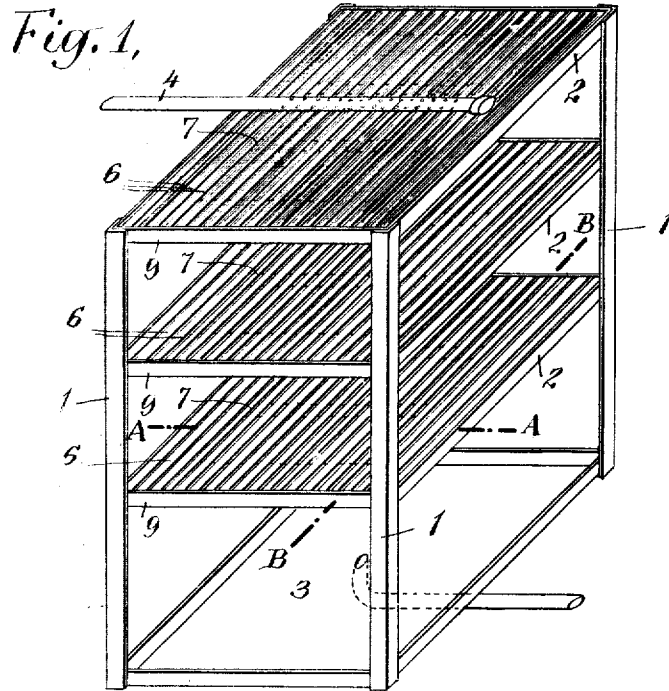


B. H. COFFEY.
 DEVICE FOR COOLING LIQUIDS.
 APPLICATION FILED MAY 24, 1911.

1,010,020.

Patented Nov. 28, 1911.

2 SHEETS—SHEET 1.



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INVENTOR

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2 SHEETS-SHEET 2.

Fig. 4.

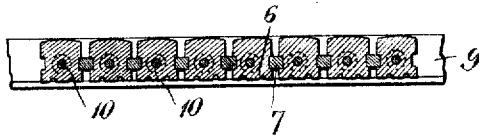


Fig. 5.

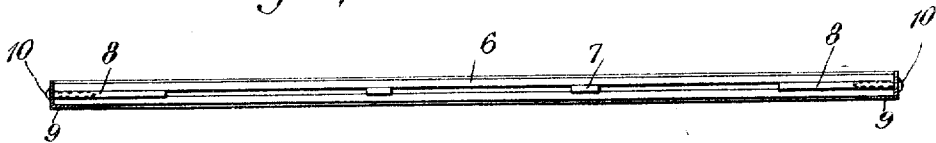
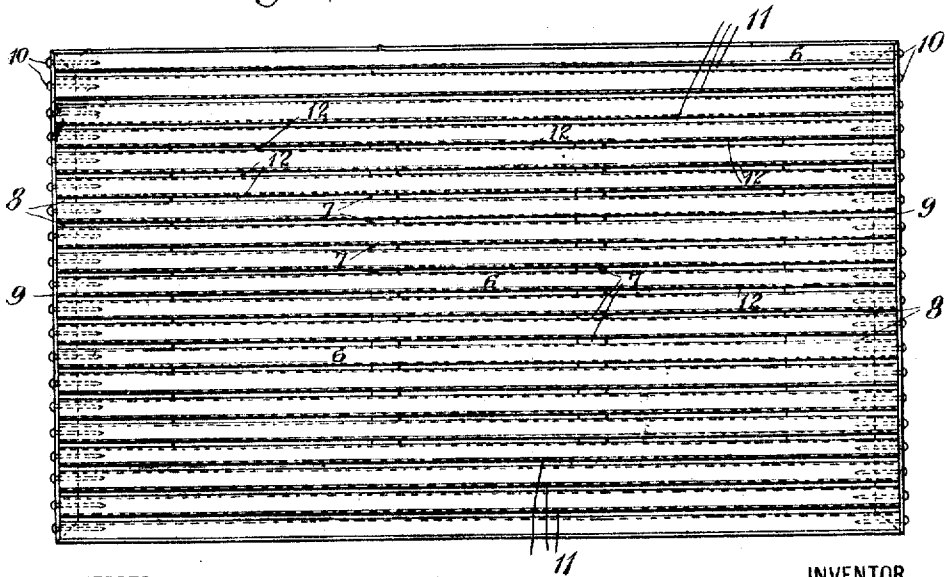


Fig. 6.



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UNITED STATES PATENT OFFICE.

BARTON H. COFFEY, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE MITCHELL-TAPPEN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

DEVICE FOR COOLING LIQUIDS.

1,010,020.

Specification of Letters Patent.

Patented Nov. 28, 1911.

Application filed May 24, 1911. Serial No. 629,214.

To all whom it may concern:

Be it known that I, BARTON H. COFFEY, residing in Elizabeth, Union county, State of New Jersey, have invented certain new and useful Improvements in Devices for Cooling Liquids, of which the following is a specification.

My invention relates to improvements for cooling liquids by natural aeration and evaporation, caused by separating in small drops or streams which are then brought into contact with the air; and more particularly confined to an improved construction of drip decks used for separating the liquid into drops.

The foregoing and other features of my invention will now be described in connection with the accompanying sheets of drawings, forming part of this specification, in which I have represented the device in its preferred form, after which I shall point out more particularly, in the claims, those features which I believe to be new and of my own invention.

Figure 1 is a perspective view of my cooling tower. Fig. 2 is a section of the drip bars employed by me. Fig. 3 is a modification of the drip bars shown in Fig. 2. Fig. 4 is a cross section, A—A Fig. 1, of the drip deck employed, showing fastening pins 10 at the end of each bar. Fig. 5 is a longitudinal section, B—B Fig. 1, of the drip deck showing its fastenings on the ends to the general frame-work 9. Fig. 6 is a plan of each deck.

The frame-work of my tower consists of uprights 1 with decks 2 and collecting pan or tank 3 at the bottom. The liquid to be cooled is brought to the supply pipe 4 and distributed over the top deck in any manner familiar to cooling towers. The decks are formed of drip bars 6 which may be of any desired shape and are loosely splined together with splines 7, said splines being shorter than the length of the bar; on each end of these bars splines 8, longer than splines 7, connect the bars together. The bars are each individually held to the horizontal frame-work 9 by screws or dowels 10, and are not rigidly secured together. The outer members are splined together with continuous splines 11. It will, therefore, be readily understood that each deck is built solid for a certain portion all around the

edge of the tower, the middle portion being open, as at 12, between the short splines 7 and the drip bars 6. The object of this construction is to prevent loss of water due to windage and to confine the water within the limits of the tower. It will be obvious that no metallic fastenings are exposed and with this form of construction an interlocking system is offered which is easily and cheaply constructed.

While I do not limit myself to the bars shown in section in Figs. 2 and 3, these bars are in the preferred forms and any deviation in shape may be made without departing from the salient features of my invention and I intend the claims to cover all such modifications as naturally fall within the lines of my invention.

The operation of my device is as follows: The liquid to be cooled is discharged and distributed over the top of the tower by means of the supply pipe 4 which will then drip through the spaces 12 on to the deck below and will in this manner pass through the successive decks of the series to the collecting pan 3.

Having thus fully described my invention, what I desire to secure by Letters Patent of the United States is:

1. In a device of the class described a deck consisting of drip bars mounted in a frame, the adjacent bars separately fastened to the frame at each end, and loosely splined together at intervals throughout their entire length.

2. In a device of the class described a deck consisting of parallel drip bars separately framed to a member on each end with space in between the bars, and short loose splines between the bars at intervals.

3. In a device of the class described a deck consisting of drip bars securely fastened at each end, with space in between the bars, the adjacent bars being loosely splined together at intervals throughout their entire length.

4. A drip bar of a rectangular section having a curved top, two grooves on the bottom and a groove on each of the vertical sides.

5. In a device of the class described a deck consisting of drip bars individually fastened at each end, with space in between the bars, the adjacent bars being loosely splined together at intervals throughout their entire length.

6. In a device of the class described, a deck
consisting of drip bars individually fastened
at each end to a frame, the adjacent bars
being loosely splined together at intervals
5 throughout the length, the outer portion of
the deck being splined solid.

This specification signed and witnessed, at

room 1312, West Street Bldg., in the city of
New York, this 23d day of May A. D., 1911.

BARTON H. COFFEY.

In the presence of—

EDWD. VAN WINKLE,
MARIE E. McLEAN.