stagnant sump areas. In addition, a cleaning system could be integrated to the water collection gutter designed, providing a pressurized and gravity driven water stream to flush out the water collection channels. Finally, keeping the spray water as far away from the air intake as possible greatly reduces to risk of water splashing out through the fan, and the risk of freezing in the winter, especially when the fans are not in operation.

For most embodiments presented, evaporative cooling equipment is in forced draft, single-singled air inlet configuration, but it is not a limitation of the invention, and of the embodiments presented. The invention also concerns double-sided air inlet, triple-sided air inlet, and quadruple-sided air inlet forced draft evaporative cooling equipment, as well as single-sided air inlet, double-sided air inlet, triple-sided air inlet, and quadruple-sided air inlet induced draft evaporative cooling equipment .

According to a first aspect of the present invention, there is provided a cooling tower comprising:

an outer structure,

an evaporative heat exchanger within the outer structure

a fan assembly located within the outer structure,

a gutter assembly located below the evaporative heat exchanger and within the outer structure,

an evaporative liquid distribution assembly located above the evaporative heat exchanger and within the outer structure,

a sump located beneath the gutter assembly and within the outer structure,

wherein the gutter assembly collects a portion of the evaporative liquid falling from the evaporative heat exchanger and directs the collected evaporative liquid to the sump.

According to a second aspect of the present invention, there is provided a cooling tower comprising:

an outer structure,

an evaporative heat exchanger within the outer structure

a fan assembly located within the outer structure,

a gutter assembly located below the evaporative heat exchanger and within the outer structure,

an evaporative liquid distribution assembly located above the evaporative heat exchanger and within the outer structure,

a sump located beneath the gutter assembly,

wherein the gutter assembly collects substantially all the evaporative liquid falling from the evaporative heat exchanger and directs the collected evaporative liquid to the sump.

Brief Description of the Drawings

In the drawings:

Figure 1 is a perspective view of an evaporative indirect heat exchanger product in accordance with a first embodiment of the present invention;

Figure 2A is a perspective view of an evaporative indirect heat exchanger product in accordance with a first embodiment of the present invention;

Figure 2B is a side view of an evaporative indirect heat exchanger product in accordance with a first embodiment of the present invention;

Figure 2C is a side view of an evaporative indirect heat exchanger product in accordance with a second embodiment of the present invention;