

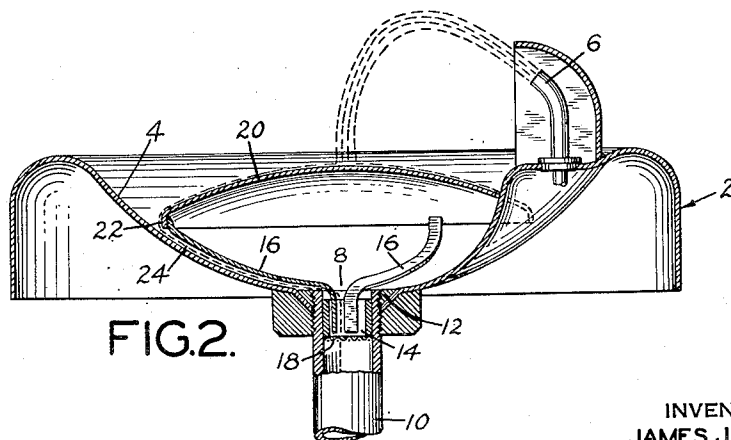
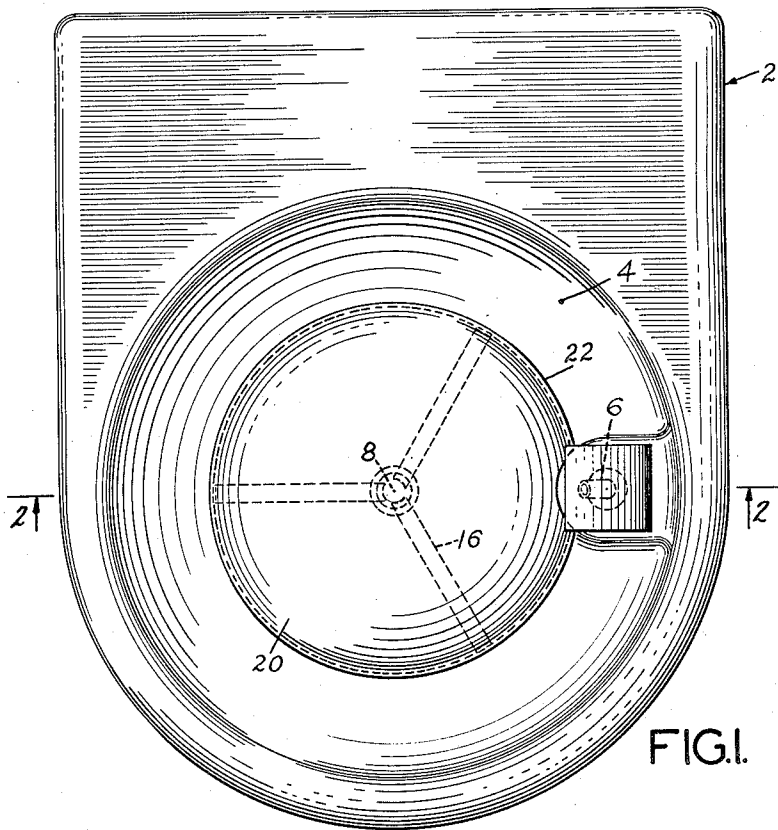
Dec. 11, 1951

J. J. COREY
BUBBLER OUTLET AND DEFLECTION
PLATE FOR WATER COOLERS

2,578,047

Filed Sept. 21, 1946

2 SHEETS—SHEET 1



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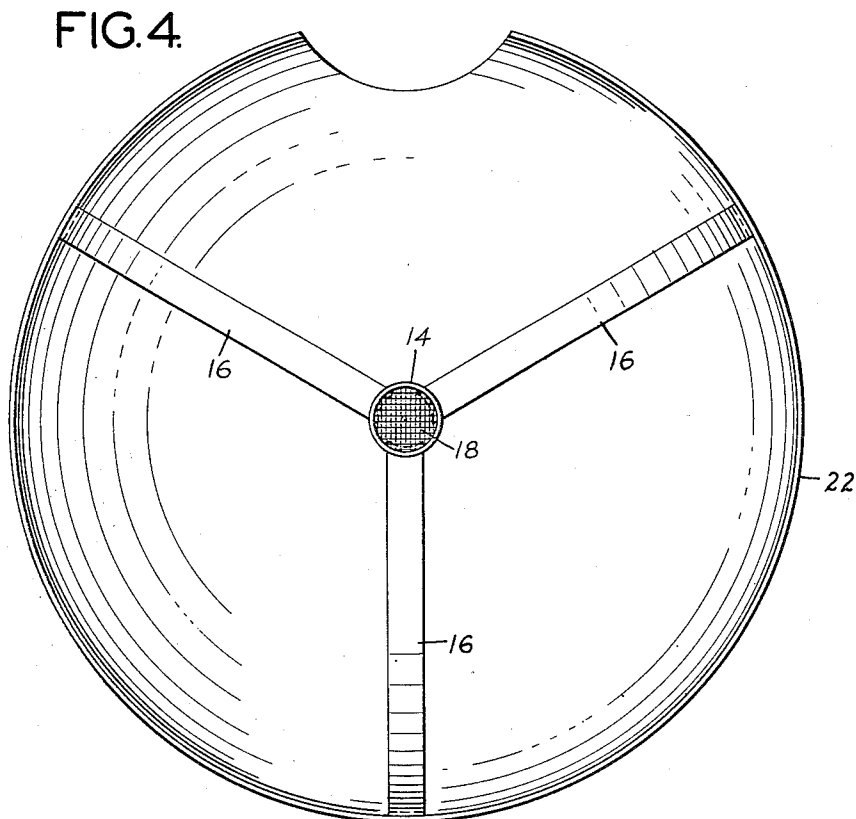
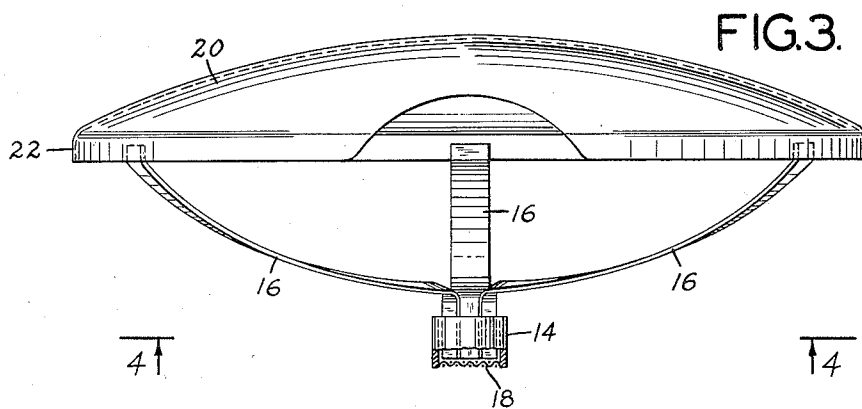
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2 SHEETS—SHEET 2



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UNITED STATES PATENT OFFICE

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BUBBLER OUTLET AND DEFLECTION PLATE
FOR WATER COOLERS

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4 Claims. (Cl. 299-8)

1 This invention relates to water coolers, and more in particular to the bubbler spout and deflector plate arrangement on such apparatus.

An object of this invention is to provide a thoroughly practical and simple and sturdy construction for the bubbler spout and deflection plate assembly on the top of a water cooler. A further object is to provide a water cooler which will operate efficiently and be attractive even though it is subjected to considerable abuse and neglect. A still further object is to provide apparatus of the above character which will meet the most exacting requirements of use under widely varying conditions. These and other objects will be in part obvious and in part pointed out below.

In the drawings:

Figure 1 is a top plan view of one embodiment of the invention;

Figure 2 is a vertical section on the line 2-2 of Figure 1;

Figure 3 is an enlarged view similar to Figure 2 and showing only the deflector plate or "stream breaker"; and

Figure 4 is a bottom view of the "stream breaker."

In water coolers of the so-called "bubbler type" a stream of water flows upwardly from a spout at an angle and it falls into a basin unless intercepted. The stream should be steady and should not tend to spread out. Furthermore, the arrangement should be such that relatively wide variations in the water pressure will not cause the water stream to overshoot the basin or to splash. As a practical matter, the basin of a water cooler is often used as a depository for foreign substances and these substances are apt to clog up the drain; this is unsanitary and unattractive and it may cause the basin to overflow. The problem of preventing the splashing of the water as it falls into the basin is serious because this also tends to make the water cooler unattractive. In the illustrative embodiment of the invention the water does not splash and the water cooler is always attractive to the user. Furthermore, the drain is not readily stopped up by foreign materials, and, even when there is such stoppage, the drain is easily cleaned.

Referring particularly to Figure 1 of the drawings, the top of a water cooler cabinet is represented at 2 and it has a circular basin 4 therein at one side of which is a bubbler spout 6. The basin is formed by a frustum of a sphere and at the bottom it has a water outlet opening 8. Projecting through opening 8 is a drain pipe 10

2 which is clamped to the basin by a flange nut 12. Snugly received by pipe 10 is a cup 14 which has welded to it three evenly-spaced, radial bracket arms 16. Cup 14 has its bottom closed by a wire mesh strainer 18, and bracket arms 16 project upwardly and outwardly along the upper surface of basin 4. Welded to the upper ends of bracket arms 16 is a deflector plate or stream breaker 20 which is a frustum of a sphere with a downwardly disposed cylindrical flange 22 at its periphery.

The stream breaker is rigidly held by the bracket arms so that flange 22 is spaced slightly above the surface of the basin to provide an annular slot opening 24 through which water flows from the stream breaker into the basin. This slot opening is narrow but it extends uninterrupted around the periphery of the deflection plate; therefore, even though the slot is partially stopped, there is still a sufficient outlet for the water to flow from the plate. However, most materials which fall into the basin do not pass through the slot opening but are held around the rim of the plate so that they may be removed. Some materials of small size may pass through the slot opening, but these are collected in strainer 18. When this occurs the stream breaker is lifted and this withdraws the entire bracket assembly, including bracket arms 16 and cup 14, and then strainer 18 may be readily cleaned.

Normally, the stream of water from spout 6 strikes the center of the deflection plate or stream breaker 20 and the water flows smoothly onto and down the plate without splashing. Variations in the water pressure may cause changes in the height and trajectory of the stream so that the stream hits the deflection plate at a point away from the center. However, with the deflection plate shaped and positioned as shown, such changes in the stream do not result in splashing and the water still flows onto the deflection plate smoothly and thence downwardly along the deflection plate in a thin sheet.

As many possible embodiments may be made of the above invention and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth, or shown in the accompanying drawings, is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In a water cooler, the combination of, a top portion having an integral circular basin formed

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therein with a water outlet opening at the bottom, a deflection plate having an upwardly convex stream-deflecting surface centrally positioned within said basin with its periphery adjacent to but slightly spaced from the basin wall whereby a substantially annular slot is provided through which water may flow from the deflection plate into the basin, a strainer cup positioned in said water outlet opening, a plurality of arms fixed to said strainer cup and extending radially outwardly and fixed at their outer ends to said deflection plate thereby to provide support for said deflection plate, and a bubbler spout mounted to direct a stream of water upwardly from the side of said basin in such a manner that it will fall on said deflection plate unless intercepted.

2. In apparatus of the character described, a deflection plate comprising, a segment of a sphere presenting an upwardly concave water deflection surface and having at its periphery a downwardly directed annular flange portion, and a plurality of radial spring arms fixed to the periphery of the deflection plate and extending radially inwardly therefrom and providing resilient support therefor.

3. Apparatus as described in claim 2 which includes, a strainer assembly fixed to said spring arms and including strainer means extending between the adjacent ends thereof.

4. In a water bubbler and deflection plate construction, the combination of, a basin portion forming a dish-like basin having a water outlet opening at its bottom, a deflection plate assembly positioned within said basin and formed by de-

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flection means presenting an upwardly concave deflecting surface which is convex upwardly and which is substantially a segment of a sphere and which has its periphery adjacent to but slightly spaced from the basin wall whereby a slot is provided through which water may run from said deflecting surface into said basin and thence through said slot to said water outlet opening and supporting means for said deflection means, supporting means for the deflection plate assembly comprising a plurality of arms radially positioned with respect to said water outlet opening and each of which is resiliently mounted with said opening and has its opposite end connected to said deflection means, and a bubbler spout mounted to direct a stream of water upwardly from the side of said basin along a trajectory such that it will fall onto the central portion of said deflecting surface unless intercepted.

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