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J. H. SAGER.

MEANS FOR COOLING HEATED SURFACES.

APPLICATION FILED JAN. 19, 1905.

FIG. 1.

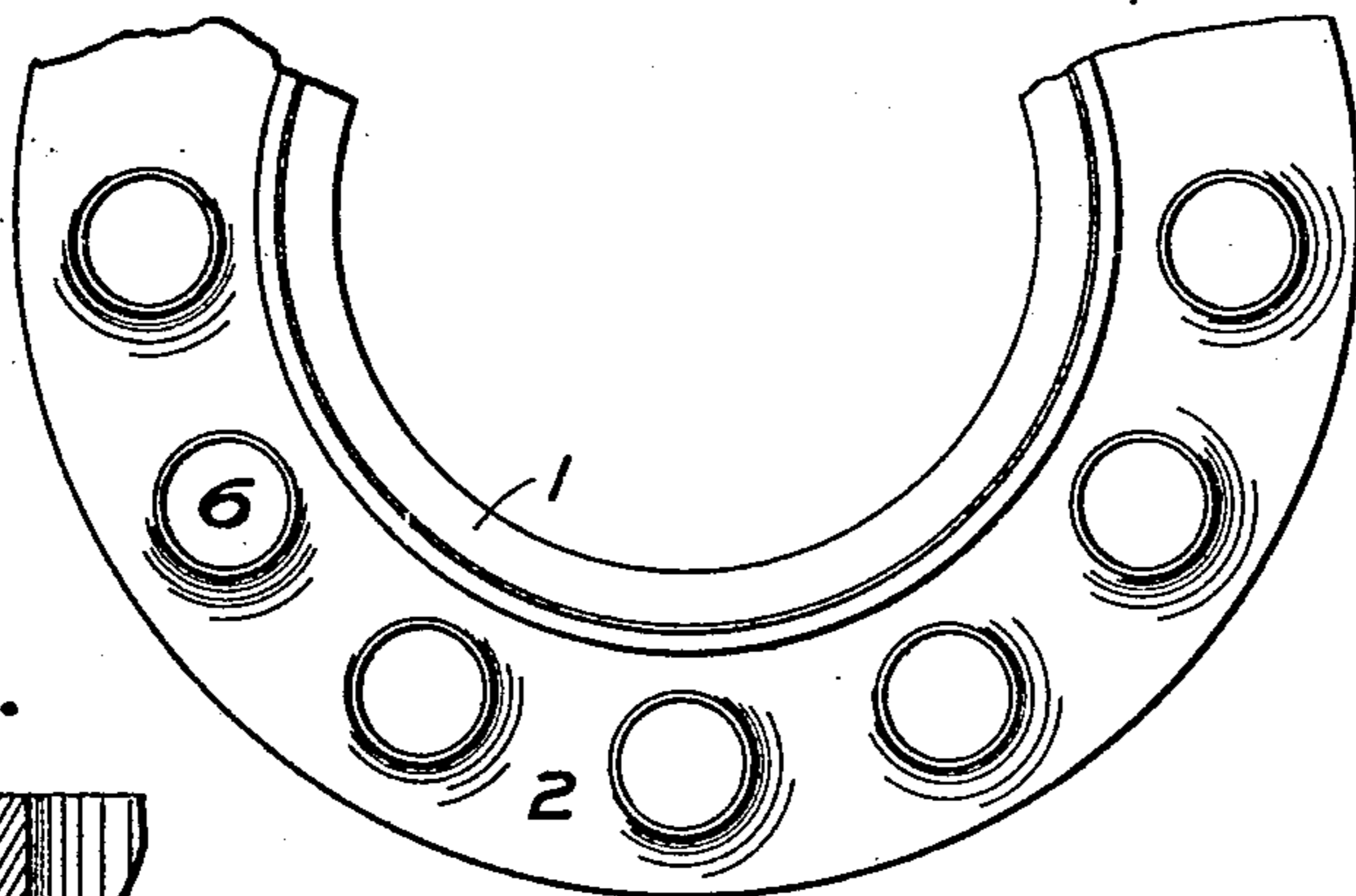


FIG. 3.

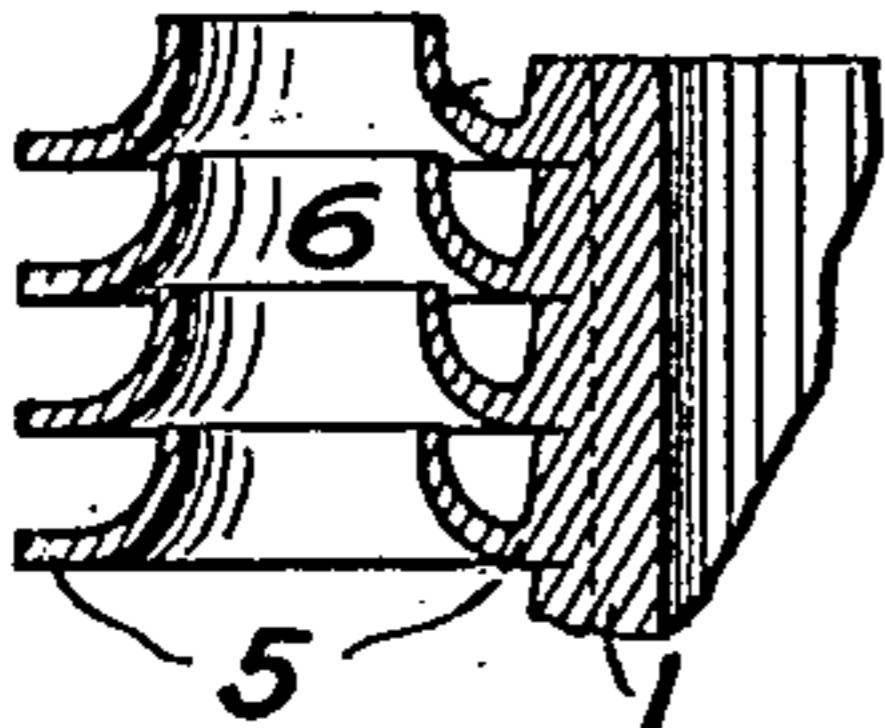
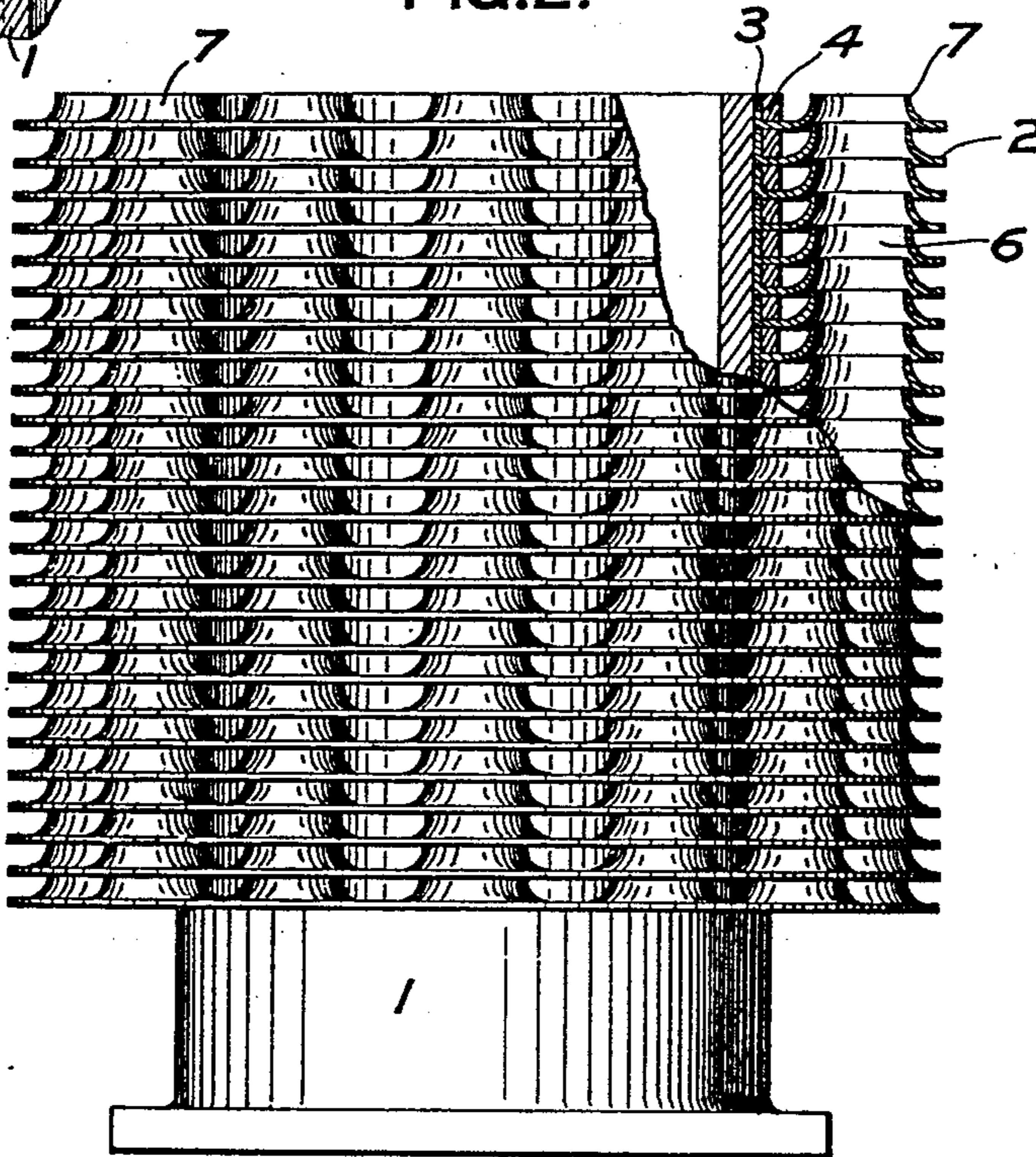


FIG. 2.



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MEANS FOR COOLING HEATED SURFACES.

No. 871,636.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES HENRY SAGER, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Means for Cooling Heated Surfaces, of which the following is a specification.

My invention relates to means for cooling heated surfaces. Its object is both to improve the circulation of air around the heated surfaces, and to increase the radiating surfaces.

In the drawings:—Figure 1 is a fragmental top view of one of the radiating ringlike flanges employed; Fig. 2 is a side view of a cylinder provided with the radiating flanges, partly in section to show construction; and Fig. 3 is a partial longitudinal section of a cylinder, showing a modification.

The cylinder is represented by 1. In the form shown in Fig. 2 the flanges 2 are adapted to encircle the cylinder snugly, and have each an upwardly turned edge 3 that lies along the outer surface of the cylinder. Each flange 2 is clamped to the cylinder by an unbroken ring 4 that is adapted to overlies the upturned portion 3 of the flange. In practice the rings 4 are so snug a fit for the flanges that they require to be forcibly driven down upon them. When in place the rings 4 lock the flanges upon the cylinder and in close contact therewith. The flanges are shown placed one above the other, as close together as their inwardly turned edges 3 will permit, and thus present additional radiating surfaces to which heat is readily conveyed from the cylinder, and from which it is dissipated to the surrounding atmosphere. The efficiency of the radiator thus constructed is also enhanced in that there is a free and open space between the flanges for the circulation of air. In the form shown in Fig. 3 the flanges 5 are cast directly upon the cylinder 1, thereby obviating the difficulty of securing proper contact between the cylinder and flanges, which is important in order that the heat may be conducted from the cylinder to the flanges.

Flues, or air passages, are constructed through the flanges to aid and increase the circulation of fresh, cool air through them. In the construction shown in Figs. 1 and 2 flues are formed by punching each of the flanges 2, as shown at 6 in Fig. 1, and turning up the edges around the perforation into

tubular flanges 7, in the manner shown in Fig. 2. The number of perforations 6 corresponds with the number of flues that are to be constructed, and the location of the perforations corresponds in all the flanges so that they will register when the flanges are placed in position one above the other on the cylinder. The tubular flanges 7 around the perforations, respectively, are shown in Fig. 2 as projecting, respectively, into the perforations in the adjacent flange, and a space is left between each tube and the edge of the perforation that it enters, so that air not only passes into the continuous flues thus formed through the flanges, but also enters said flues through all the spaces between the tops of said tubes and the flange adjacent to them, respectively.

It is obvious that the construction shown in Figs. 1 and 2 is cheap as well as efficient, for the flanges can be made from sheet metal, and stamped out complete by a single operation.

What I claim is:—

1. In a cooling device the combination with the body to be cooled, of ringlike flanges, encircling said body and attached thereto, at intervals, each of said flanges having one or more perforations that register with those in the adjacent flanges, and also having tubes around said perforations, respectively, each of which tubes projects toward a perforation in an adjacent flange.

2. In a cooling device the combination with the body to be cooled, of ringlike flanges, encircling said body and attached thereto, at intervals, each of said flanges having one or more perforations that register with those in the adjacent flanges, and also having tubes around said perforations, respectively, each of which tubes enters a perforation in an adjacent flange, whereby flues are formed through said flanges.

3. In a cooling device the combination with the body to be cooled, of ringlike flanges, encircling said body and attached thereto, at intervals, each of said flanges having one or more perforations that register with those in the adjacent flanges, and also having tubes around said perforations, respectively, each of which tubes projects towards a perforation in an adjacent flange, but leaves a passage for air between it and such flange.

4. In a cooling device the combination with the body to be cooled, of ringlike flanges adapted to encircle said body and having

each a portion adapted to lie against the surface of said body; and rings adapted, respectively, to engage said last mentioned portions of said flanges, and thereby to lock 5 said flanges to said body at intervals.

5. In a cooling device the combination with the body to be cooled, of ringlike flanges adapted to encircle said body and having 10 each a portion adapted to lie against the surface of said body; and unbroken rings adapted, respectively, to fit so snugly over said last mentioned portions of said flanges as to require to be driven over them, and thereby to lock said flanges to said body at 15 intervals.

6. In a cooling device the combination with the body to be cooled, of ringlike flanges

2, adapted to encircle said body, and having their inner edges 3 bent to lie against the surface of said body; and unbroken rings 4 20 adapted, respectively, to engage said edges 3, and thereby to lock said flanges to said body at intervals.

7. In a cooling device the combination with the body to be cooled, of ringlike flanges 25 2, having perforations 6, and tubular flanges 7 around said perforations, respectively, each extending to a perforation in an adjacent flange; and means for locking said flanges to said body, respectively.

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Witnesses:

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