

No. 713,590.

Patented Nov. 18, 1902.

J. W. BILLINGS.
COOLING APPARATUS.

(Application filed July 24, 1901.)

(No Model.)

Fig. 1.

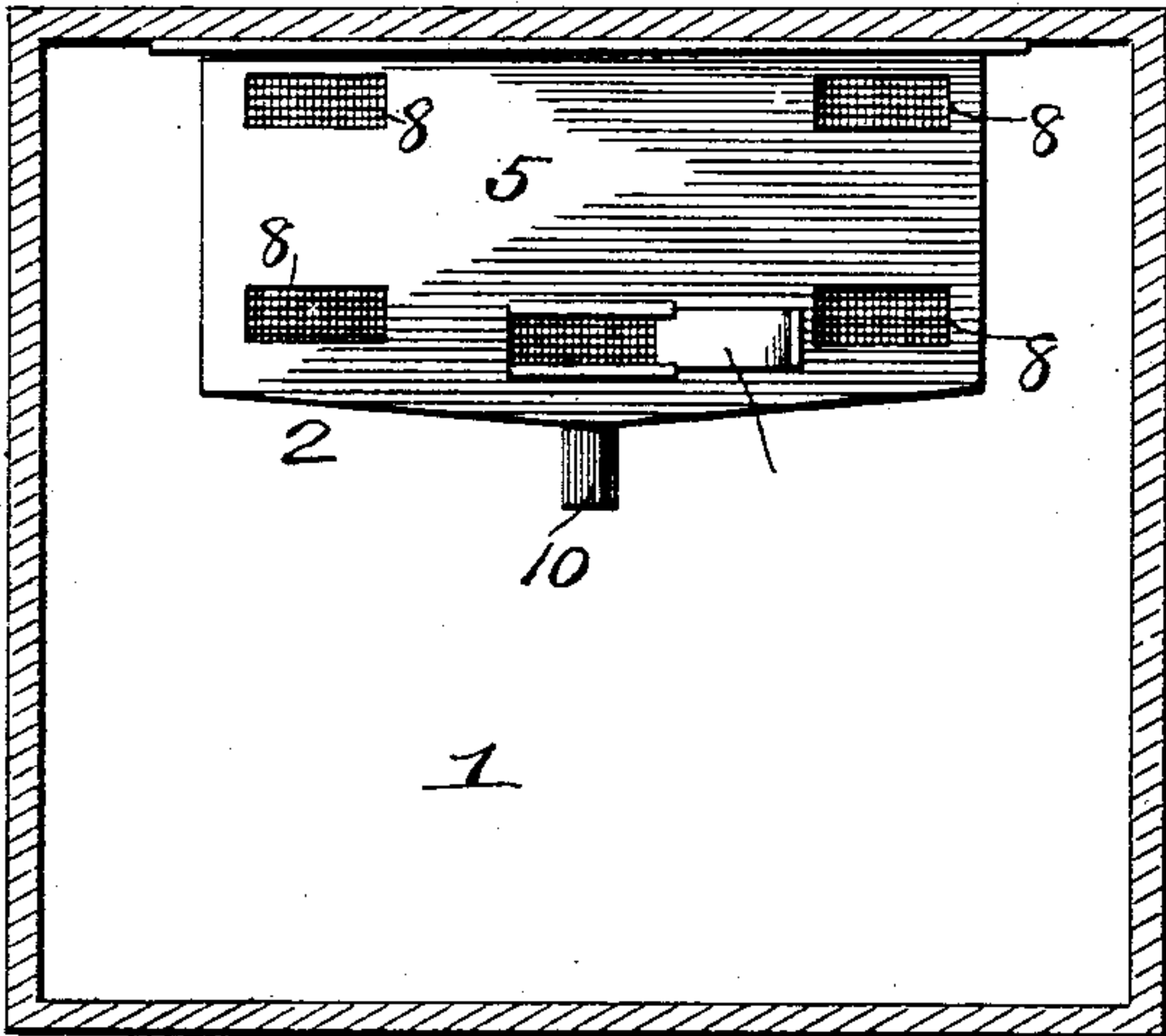


Fig. 2.

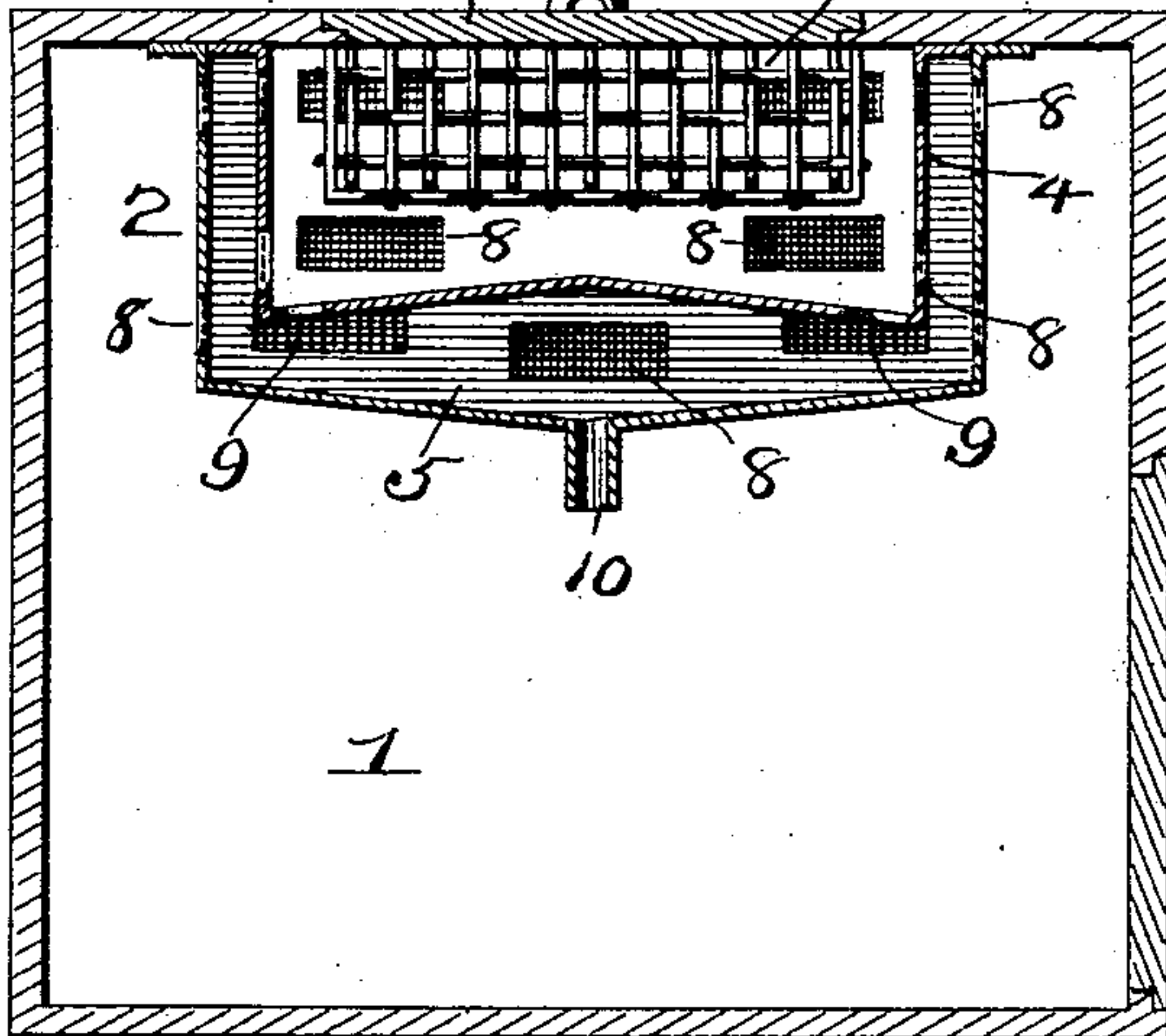


Fig. 3.

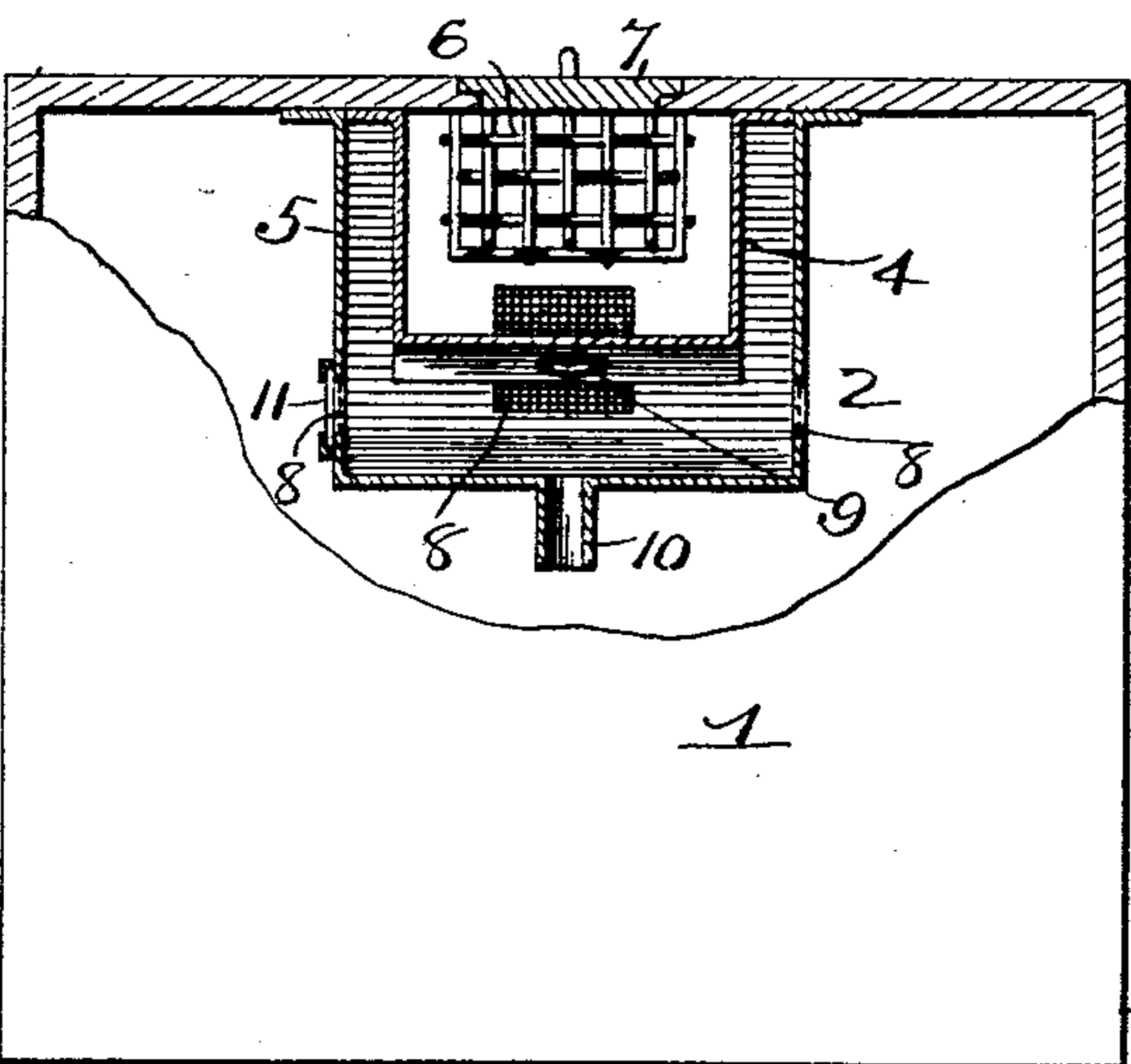
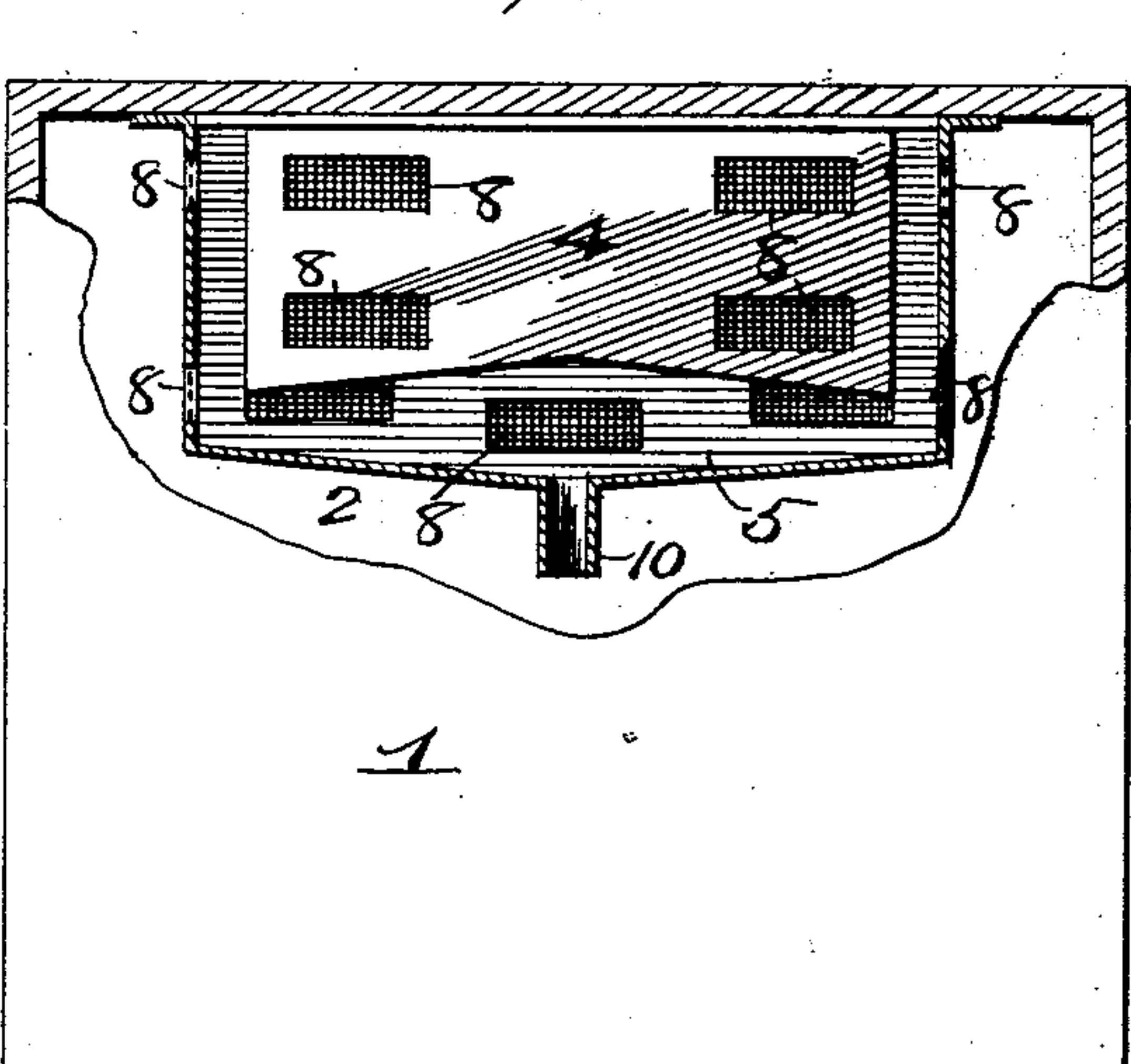


Fig. 4.



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COOLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 713,590, dated November 18, 1902.

Application filed July 24, 1901. Serial No. 69,508. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILSON BILLINGS, a resident of Beatrice, in the county of Gage and State of Nebraska, have invented certain
5 new and useful Improvements in Cooling Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to
10 make and use the same.

My invention relates to an improvement in cooling apparatus for rooms, cars, and the like, the object of the invention being to provide a device of this character which will
15 effectually cool the air of a room or car with the expenditure of the minimum quantity of ice.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts,
20 as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view illustrating my improvements. Fig. 2 is a view in section. Fig. 3 is a view in
25 section taken at right angles to Fig. 2, and Fig. 4 is a view of the device with the outside casing removed.

1 represents the room, car, or other inclosure to be refrigerated, and 2 my improved
30 cooling apparatus, composed, preferably, of metal, secured to the top thereof and comprising an inner casing or shell 4 and an outer casing 5, inclosing the same, and of sufficiently larger size to leave an air-space all around
35 the same. Inside the chamber formed by the casing or shell 4 an ice basket or receptacle 6 is provided and composed of coarse wire mesh, said basket being of sufficiently smaller diameter than the inner chamber to leave a
40 space all around receptacle 6. Ice is supplied to this receptacle 6 through an opening in the top of the car or other inclosure, which opening is normally closed by a door or cover 7.

Both the outer casing 5 and inner casing 4
45 are provided in the side and end walls with screened openings 8 to permit the free circulation of air in the chamber between said casings and through and around the ice in receptacle 6 to effectually cool the air. The
50 upper ends of the casings are provided with

lateral flanges for securing them to the top of the compartment in which they are located, and the lateral flanges of the inner casing serve to close the top of the chamber between
said casings. The bottom of casing or shell 55 4 is provided at both ends with holes 9, through which the drippings from the ice fall onto the bottom of casing 5, which latter slopes to the center, where it is provided with a drip-pipe 10 for carrying off the water, and as the
60 air circulates all through and about the casing or shell 4 this cold dripping is also utilized for cooling the air. Suitable slides 11 may be provided for closing the screened
65 openings in casing 5 when the car or other inclosure is empty, and thereby preserve the ice for a greater length of time.

It will be seen that with my improvements the air is free to pass among the pieces of ice and becomes thoroughly cooled by such pas-
70 sage. Sweating of the apparatus will be reduced to a minimum by the provision of the chamber between the casings, through which air will circulate, and thereby promote dryness of the atmosphere in the room or car,
75 which is a great advantage over all devices of this character heretofore known.

Instead of providing drip-pipe 10 in the center of the bottom of casing 5 I might locate the same at one end or at one side and so
80 incline the bottom as to direct the drippings thereto, and instead of making the device of metal I might construct it of wood or other material.

Various other slight changes might be re-
85 sorted to in the general form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not wish to limit myself to the
90 precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

Having fully described my invention, what
95 I claim as new, and desire to secure by Letters Patent, is—

1. A cooling apparatus for cars or rooms, comprising casings or shells disposed one with-
100 in another and spaced apart and forming an

annular chamber between them, each of said casings having openings in its walls and an ice-receptacle suspended in the chamber formed by the inner casing or shell and spaced 5 from the latter.

2. A cooling apparatus for cars or rooms, comprising two casings disposed one within the other and spaced apart, each casing or shell having openings in its side and end walls, 10 screens over said openings, and a coarse-mesh ice-receptacle suspended within the chamber formed by the inner casing or shell and spaced from the latter.

3. A cooling apparatus for cars or rooms, 15 comprising two casings or shells disposed one within the other and spaced apart, said casings or shells having lateral flanges at their upper ends, the flanges of the inner casing or shell closing the upper end of the chamber between the casings or shells and both casings 20 or shells having screened openings in their walls and an ice-receptacle suspended within

the chamber formed by the inner casing or shell and spaced from the latter.

4. A cooling apparatus for cars or rooms, 25 comprising two casings or shells one within the other and spaced apart, said casings or shells having openings in their side and end walls, and the inner casing or shell having holes in its bottom at its ends, the bottom of 30 the inner casing or shell inclined downwardly from its center to its ends, and the bottom of the outer casing or shell inclined downwardly from its ends to its center, and a drip-pipe communicating with the center of the bottom 35 of said outer casing or shell.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN WILSON BILLINGS.

Witnesses:

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