No. 686,542. Patented Nov. 12, 1901.

C. A. SCHNEIBLE.

COOLING APPARATUS.

(Application filed May 29, 1901.)

(No Model.)

FIG. 3.

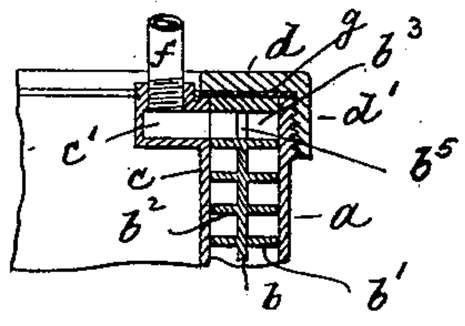


FIG. 1.

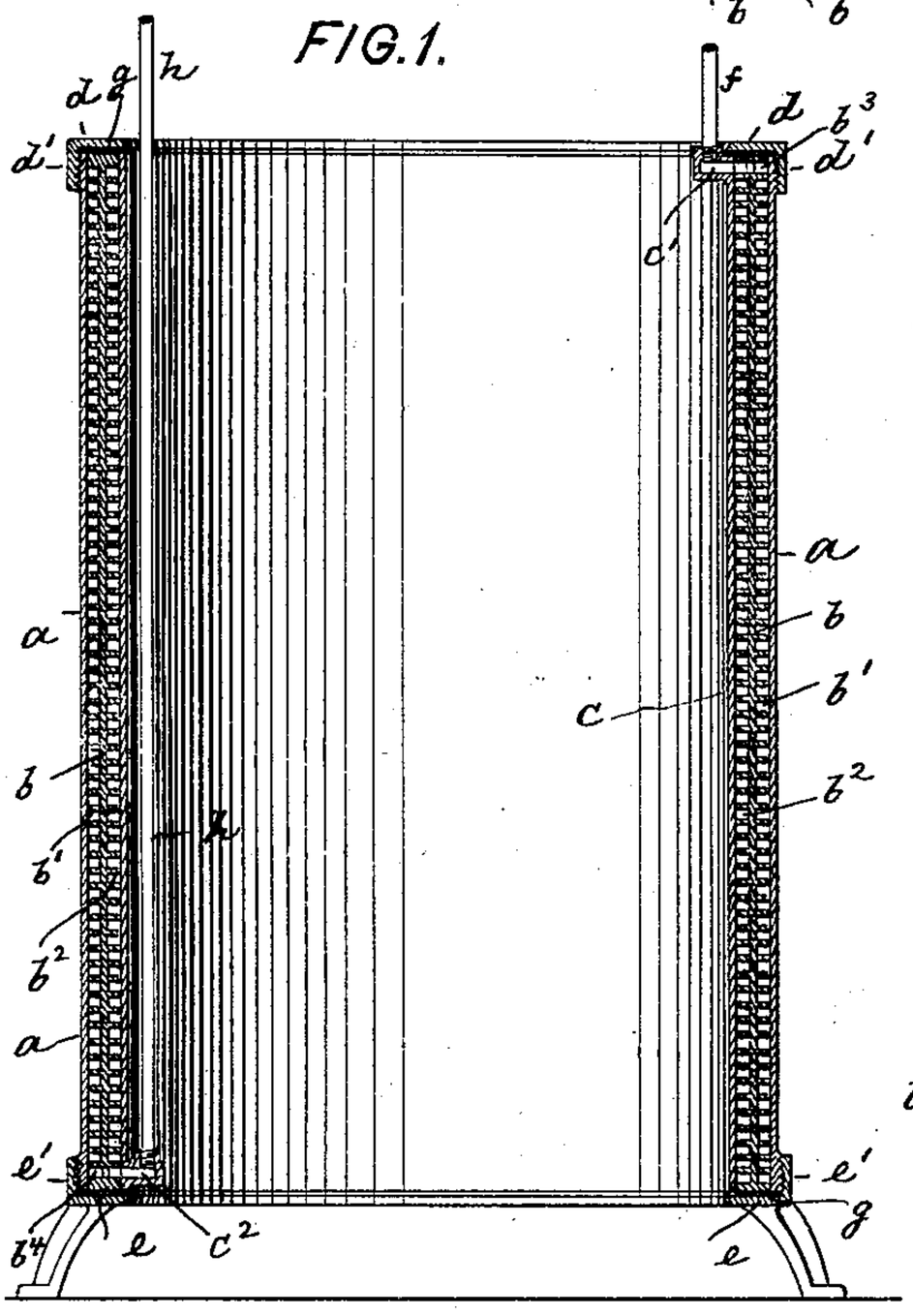


FIG. 2.

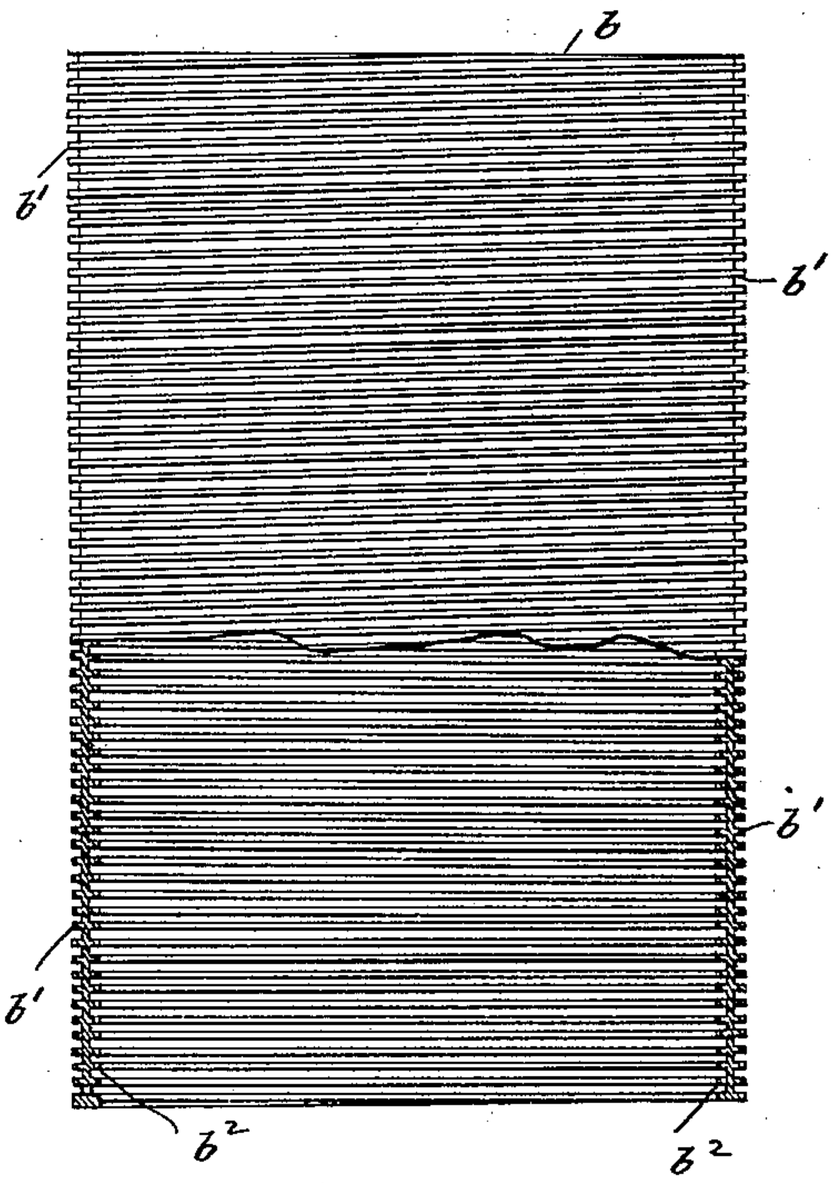


FIG. 5.

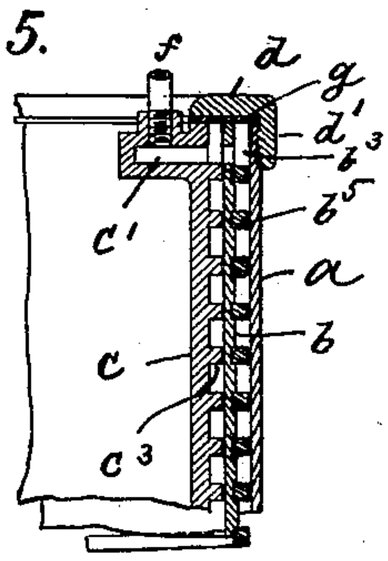
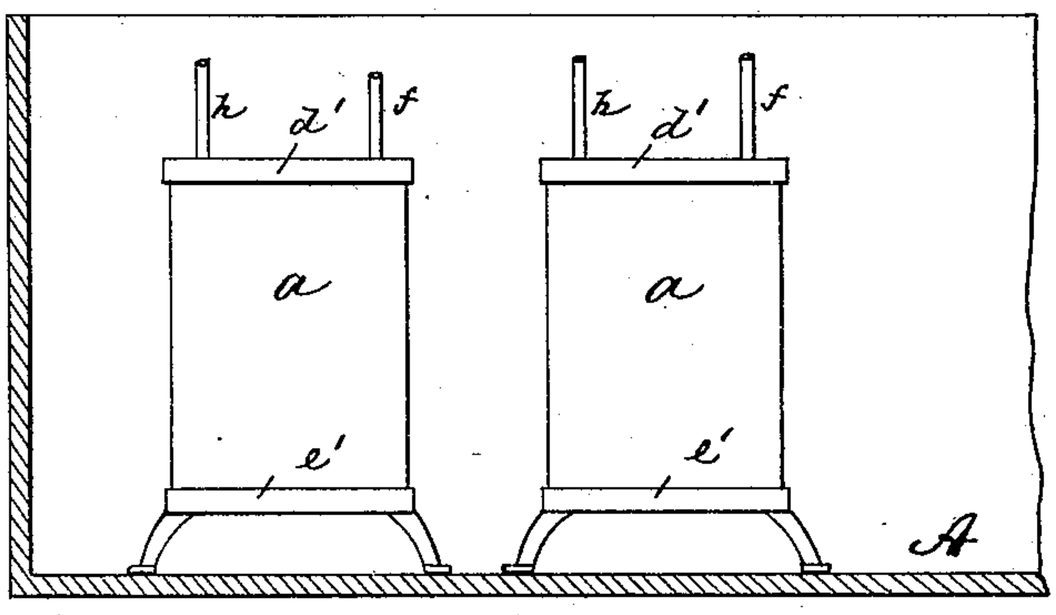


FIG. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

CARL A. SCHNEIBLE, OF NEW YORK, N. Y.

COOLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 686,542, dated November 12, 1901.

Application filed May 29, 1901. Serial No. 62,327. (No model.)

To all whom it may concern:

Be it known that I, CARL A. SCHNEIBLE, a citizen of the United States, and a resident of New York city, county and State of New York, have invented certain new and useful Improvements in Cooling Apparatus, of which the following is a specification.

This invention relates to an apparatus for rapidly and effectively cooling beer and other liquids and which is so constructed that an increased cooling-surface is obtained and that the apparatus may be readily removed in sections or taken apart for the purposes of cleaning and repair.

In the accompanying drawings, Figure 1 is a vertical longitudinal section of my improved cooling apparatus. Fig. 2 is a side view, partly in section, of the grooved cylinder *b;* Fig. 3, a detail of the joint between the cylinders and the upper head; Fig. 4, a side view of a pair of the coolers set up in a refrigerator, and Fig. 5 a section through a modification of the cylinders.

The cooler is composed, essentially, of three cylinders *a*, *b*, and *c*, fitted one within the other. The outer and inner cylinders *a* and *c* are smooth, while the central cylinder *b* is provided with a spiral thread b' at its outer face and with a second spiral thread b^2 at its inner face. When the cylinders are properly assembled, the thread b' will form a contiuous spiral liquid passage or groove between the vessels *b* and *a*, while the thread b^2 will form a similar passage between the vessels *b* and *c*. At their top and bottom the cylinders are connected by annular heads *d* and *e*, having threaded flanges d' e', that engage corresponding threads formed at the upper and lower ends of the outer cylinder *a*. The heads are entirely open within the inner cylinder *c*, so that they will not obstruct the free introduction of ice or cooling liquid into the interior of the apparatus. Annular gaskets *g* are interposed between the upper and lower edges of the cylinders and the heads *d* and *e* to prevent leakage. The inner cylinder *c* is provided at its top with an inlet-pocket c', that communicates with a similar pocket b^3 through the pockets c' b^3 simultaneously to both the liquid-passages of cylinder *b*. The pocket b^3 extends over both the liquid-passages of the cooler and is formed by means of a circumferential slot b^5, which is cut into the cylinder *b* intermediate its two uppermost threads. A pipe *f* enters the pocket c' through the opening of the upper head *d* and conveys the beer, &c., to be cooled from the barrel to the cooler. At its lower end the cylinder *c* is provided with an exit-pocket c^2, that communicates with a pocket b^4 of cylinder *b*, which is formed similar to the pocket b^3. The pocket c^2 is connected to a pipe *h*, leading upward through the cylinder *c* and head *d* and conveying the cooled beer to the dispensing-cock.

The coolers constructed in the manner described are placed into the vessel A, containing the ice, brine, or other cooling medium, which not only surrounds the outer cylinder *a*, but enters freely into the space inclosed by the inner cylinder *c*, so that the apparatus is thoroughly cooled from all sides. The beer or other liquid to be cooled flows from the pipe *f* into the pockets c' b^3, within which it is divided into two streams, one flowing along the cylindrical passage between the parts *a b* and the other flowing along the cylindrical passage between the parts *b c*. When the two streams have completed their course around the cooler, they are reunited within the pockets b^4 c^2 and are conveyed to the dispensing-cock by pipe *h*.

It will be seen that in my improved cooler a large cooling-surface is obtained and that a large quantity of liquid can be rapidly and effectively cooled. The apparatus may be readily taken apart for cleaning and may be taken out in sections from the top of the vessel A by first unscrewing the upper head *d*. Moreover, as both the pipes *f* and *h* lead upwardly and out through the top of vessel A leakage through the openings required for the passage of such pipes through the walls of vessel A is avoided.

In Fig. 5 the outer spiral passage is formed by the thread b^5 of cylinder *b*, as in Fig. 1; but the inner passage is formed by a thread c^3 on cylinder *c*, that abuts against the inner smooth side of cylinder *b*. The cylinder *b* is preferably drawn and the thread b^5 is formed

by a continuous wire seated within a shallow spiral groove that is cut into the outer face of said cylinder.

What I claim is—

1. A cooling apparatus composed of an outer cylinder, a central cylinder slotted at the top, and an inner cylinder, threads on the cylinders to form an outer and an inner liquid-passage, and an inlet-pocket on the inner cylinder that communicates with the slotted section of the central cylinder so that the liquid is simultaneously conducted to both the liquid-passages, substantially as specified.

2. A cooling apparatus composed of an outer smooth cylinder, a central grooved cylinder, an inner threaded cylinder, and a spiral wire fitted within the groove of the central cylinder, substantially as specified.

Signed by me at New York city, county and State of New York, this 28th day of May, 1901.

CARL A. SCHNEIBLE.

Witnesses:
F. v. BRIESEN,
WILLIAM SCHULZ.