

(No Model.)

F. WIDMER.
BEER COOLING APPARATUS.

No. 325,892.

Patented Sept. 8, 1885.

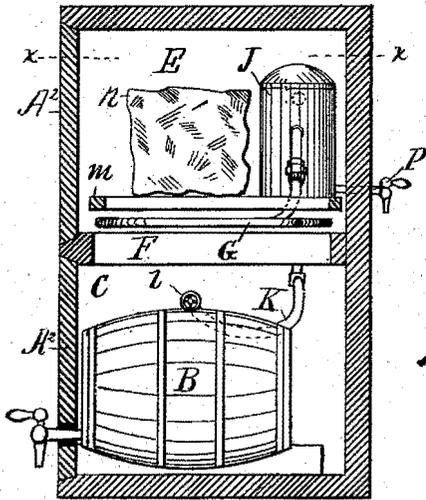


Fig. 1.

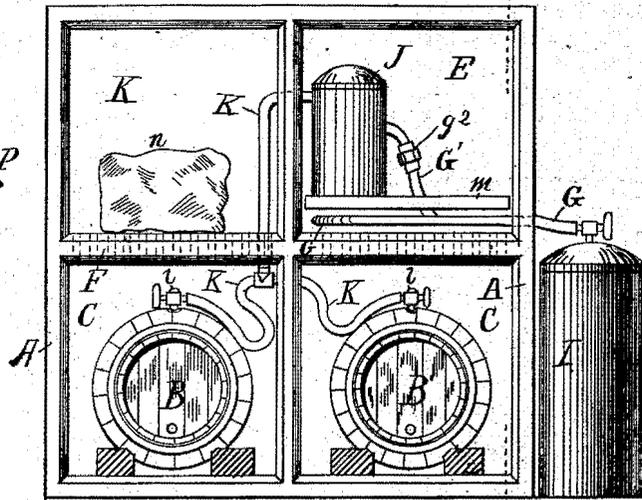


Fig. 3.

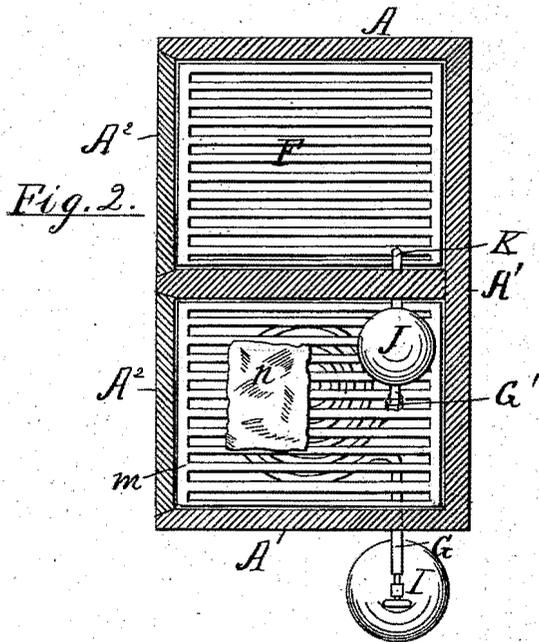


Fig. 2.

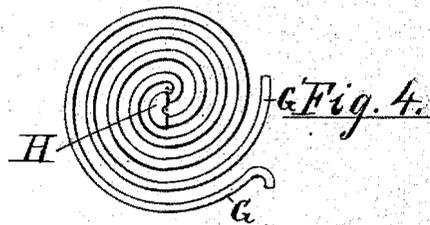


Fig. 4.

Attest:

L. Lee,
Henry J. Theberath,

Inventor,

Frank Widmer, per
Crane & Miller, Attys.

UNITED STATES PATENT OFFICE.

FRANK WIDMER, OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO
ANDREW ALBRIGHT, OF SAME PLACE.

BEER-COOLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 325,892, dated September 8, 1885.

Application filed July 1, 1885. (No model.)

To all whom it may concern:

Be it known that I, FRANK WIDMER, a citizen of the United States, residing in Newark, Essex county, New Jersey, have invented certain new and useful Improvements in Beer-Cooling Apparatus, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

10 This invention is an improvement on Patent No. 315,699, issued April 14, 1885, in which carbonic-acid gas is described as passed through a series of straight pipes to be cooled before its application to the beer. Such a construction
15 for the pipes causes them, by reason of unequal expansion, to speedily leak at the numerous joints; and the object of my invention is to adapt a pipe for convenient application to a beer-keg cooler, when bent into a
20 spiral coil, so as to avoid such leakage. A single pipe bent into a coil obviously requires one of its connections to be made at the center of the coil, and if such coil were placed in
25 the bottom of the ice-chamber the central connection would be liable to displacement, or would be exposed to blows from the ice sufficient to produce leakage.

To avoid such difficulty in the application of a coil beneath the ice, and to obtain connections at both its ends upon the exterior of the same, I form a coil of two pipes united at
30 the center of the coil by coupling or by an integral bend, and coil the two pipes around, parallel with one another, until the spiral is
35 completed, when both pipe ends furnish convenient connections upon the outside of the coil. My construction thus produces a double spiral pipe-coil formed of two pipes coupled and connected together in the center of the
40 coil, and thereby furnishes two separate outlets at the outer extremity of the coil, instead of having one outlet at the center, as has been common heretofore.

The coil is applied to the grated floor of the ice-chamber over the beer-keg, and a grating or perforated board is laid upon the coil to receive the ice.

In the drawings, Figure 1 is a side view of a beer-keg cooler, with the nearer side cut

away on line *yy* in Fig. 3 to expose the interior construction. Fig. 2 is a plan in section on line *xx* in Fig. 1. Fig. 3 is a front view of the same with the doors removed, and Fig. 4 is a plan of the coil detached from the cooler.

A is the refrigerator; B, a couple of kegs inserted in chambers C, provided with doors D. E are the ice-chambers, and F a grated floor for the same over each beer-keg.

The coil is formed, as shown in Fig. 4, of two pipes, G and G', connected by a coupling, H, at the center, and curved spirally around one another, with their outer ends connected, respectively, to the gas-receiver I and beer-saver J. From the latter india-rubber pipes K are passed through the slots of the floor F and carried to cocks *l* upon the kegs B.

m is the grating laid over the coil to support the ice *n*, the cooled air from the ice circulating freely through openings in the gratings *m* and F, and thus cooling the beer in the kegs
70 below.

In the plan in Fig. 2 the side and rear walls of the refrigerator are shown at A A', the pipe G being extended through the side wall, A, to be coupled to the gas-receiver I.

The beer-saver is located in the chamber E behind the ice *n*, and connected with the other coil-pipe, G', and is shown with a discharge-cock, P, extended outside the wall A' to empty it of any beer that may be forced from the kegs into the pipes K when the latter are first connected to kegs highly charged with gas.

The coil formed of the pipes G G' evidently occupies a very small space in the chamber by reason of its introduction beneath the ice *n*, while its location secures the utmost cooling effect of the ice upon the gas forced through the coil.

The pipe G may be carried directly through the wall A by means of suitable detachable connections, so as to be readily connected with the gas-receiver I, and the pipe G' is shown applied to the beer-saver J by a union, *g*², and the entire coil may thus be made removable with great ease from the apartment E.

The pipes K are in practice made so long that they may extend outside of the doors A² while the cocks *l* are being connected with the

kegs, and the latter are then pushed into the cooler and the doors closed, as shown in Fig. 1.

From the above description it will be seen that by my construction for the coil the latter may be readily inserted in any beer-cooler and connected with the receiver I and kegs B, and that by reason of its flat shape and the absence of any central projection it may be readily covered by the grating *m* or a perforated board or plate of metal, and thus protected from any injury by the ice, while it better effects the intended objects than if placed vertically behind the ice.

The coil is shown in the drawings applied to only one of the ice-chambers E; but this I find in practice is sufficient to cool the gas properly in its passage from the receiver to the beer in the kegs B.

I hereby fully disclaim the said United States Patent No. 315,699, as my present invention relates only to the form and arrangement of the coil; and

I therefore claim my improvement as follows:

1. The combination, with a beer-keg cooler having beer-chambers C and ice chambers E, of the coil formed of double parallel spiral pipes applied to the floor of the ice-chamber, and connected, respectively, with the gas-receiver I and kegs B, as and for the purpose set forth.

2. In a beer-cooler having beer-keg chambers C and ice-chambers E, the combination, with a grated floor beneath one of the ice-chambers, of the double spiral coil formed of pipes G G', connected together at the center of the coil, the coil being covered with a removable grating, *m*, and the pipe G being extended through the wall A to connect with the gas-receiver I, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANK WIDMER.

Witnesses:

L. LEE,

HENRY J. THEBERATH.

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