

No. 812,256.

PATENTED FEB. 13, 1906

G. F. BLACK.  
APPARATUS FOR COOLING LIQUIDS.  
APPLICATION FILED JULY 31, 1905.

Fig. 1.

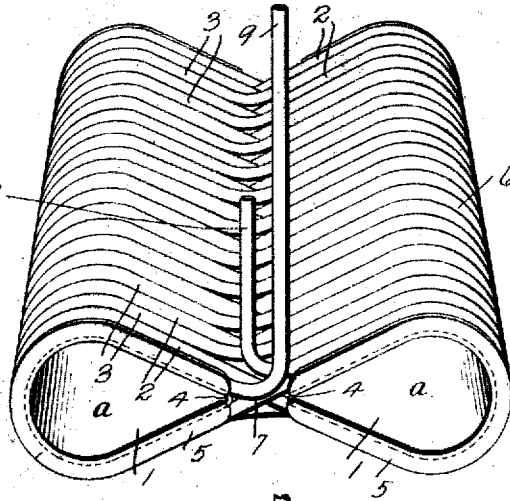


Fig. 2.

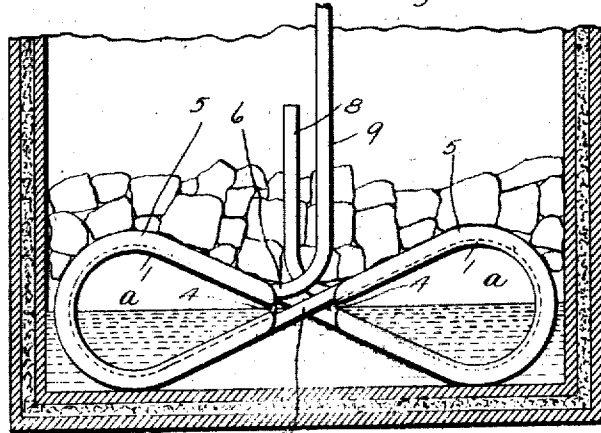
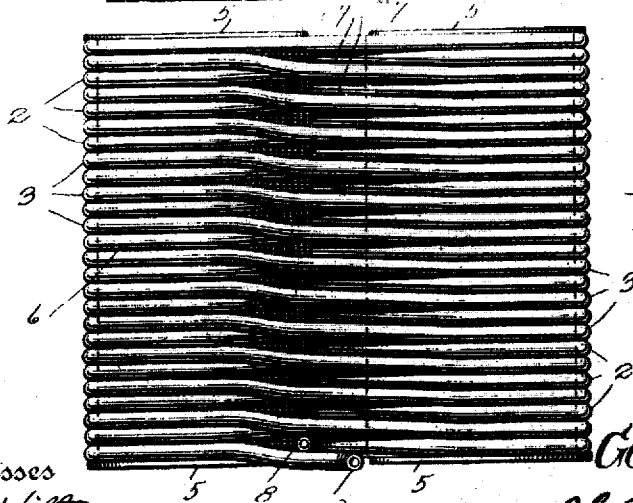


Fig. 3.



Witnesses  
Geo. Hilton  
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# UNITED STATES PATENT OFFICE.

GEORGE F. BLACK, OF BALTIMORE, MARYLAND.

## APPARATUS FOR COOLING LIQUIDS.

No. 812,266.

Specification of Letters Patent.

Patented Feb. 13, 1906.

Application filed July 31, 1905. Serial No. 272,087.

*To all whom it may concern:*

Be it known that I, GEORGE F. BLACK, a citizen of the United States, residing at Baltimore, State of Maryland, have invented certain new and useful Improvements in Apparatus for Cooling Liquids; and I do 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 make and use the same.

My invention relates to improvements in apparatuses for cooling liquids, such as beer, and has among its objects to provide a device which may be placed in an ordinary ice-box supplied with ice to chill the coils thereof, and thereby cool the liquid in the coils, and which may be readily removed from the ice-box, readily cleansed, which effects economy in the use of the ice, and which is adapted to be placed either horizontally or vertically in the ice-box; and my invention consists in the construction, combination, and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved liquid-cooling apparatus. Fig. 2 is an end elevation of the same, and Fig. 3 is a top plan view of the same.

My invention comprises a pair of core-pieces 1 and pipe-coils 2 and 3. Each of the core-pieces is in practice made of sheet or other suitable metal of tubular form open from end to end, and said core-pieces are here shown as of substantially ovoidal form in cross-section, with their pointed sides 4 opposed to each other and appropriately spaced apart. The said core-pieces have outwardly-projecting flanges 5 at their ends. A suitable length of pipe 6 is first bent reversely around the core-pieces to form the inner coils 2, which cross one another, as at 7, in the space between the core-pieces. The said pipe after the inner coils 2 have been thus formed is then bent to form the outer coils 3, each of which embraces and connects both of the core-pieces, so that the inner crossed coils serve to space the core-pieces apart, and the outer coils, each of which embraces both of the core-pieces, are disposed intermediate of the adjacent inner coils, and form at their central portions spaces between themselves and the inner coils. Hence the inner coils are spaced apart by the outer coils and the latter are also spaced apart and their intermediate portions are spaced apart from the crossed connecting portions of the inner coils.

One end of the pipe is upturned to form the intake 8, which is adapted to be connected to the cask, and the other end of the pipe is upturned to form the outlet 9, to which the faucet or spigot is adapted to be connected by a suitable coupling device. The outlet end 9 extends upwardly above the intake end 8.

The core-pieces may be of any suitable size, and any suitable or desirable number of the coils may be provided, according to the size of the ice-box in which my improved cooling apparatus is to be used. Preferably and usually my improved cooling apparatus is placed in a horizontal position in the bottom of an ice-box, (indicated at *a* in Fig. 2,) and the ice used is placed directly upon the coils, so that the lower portions of the coils and the lower sides of the core-pieces become submerged in the water resulting from the melting of the ice, while air-spaces are formed in the upper portions of the core-pieces and between the upper portions of the coils. The open spaces between the coils enable small pieces of ice to get between them, and by thus disposing my cooling-coils horizontally in the bottom of the ice-box even a minimum quantity of ice placed directly on the coils is sufficient to cool the beer or other liquid drawn through the coils to the required temperature.

It will be understood that if it be desired to do so my improved cooling apparatus may be placed in a vertical position in the ice-box. It will also be understood that my improved cooling apparatus may be readily removed from the ice-box at will and that when so removed it may be readily cleansed by placing it in a vessel of boiling water, so as to cause the coils and the intake end 8 thereof to be submerged, while the outlet end 9 projects above the surface of the boiling water, which will be caused to enter the coils through the inlet 8 to circulate entirely through the coils. Hence both the interiors and the exteriors of the coils will be thoroughly and very expeditiously cleansed.

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

1. A liquid-cooling apparatus comprising tubular core-pieces, a pipe having inner coils extending around the core-pieces and crossed between said core-pieces, and outer coils also extending around the core-pieces and disposed intermediate the inner coils.

2. A liquid-cooling apparatus comprising tubular core-pieces having outwardly-ex-

tending flanges at their ends, a pipe having  
inner coils extending around the core-pieces  
and crossed between said core-pieces, and  
outer coils also extending around the core-  
pieces and disposed intermediate the inner  
coils, and having their intermediate portions  
opposite the crossed portions of the inner  
coils spaced therefrom.

In testimony whereof I have hereunto set  
my hand in presence of two subscribing wit-  
nesses.

GEORGE F. BLACK.

Witnesses:

KILEAN E. VOLK,  
HARRY F. STEVENSON.