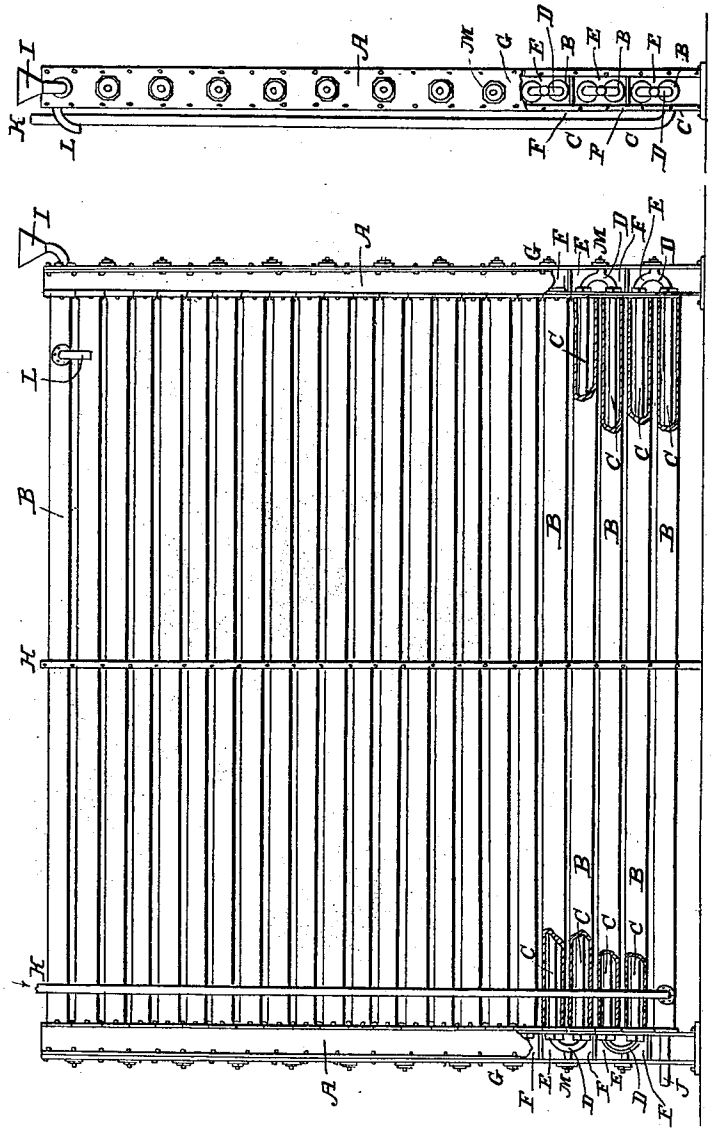
STREUBEL & ROOS.

Beer Cooler.

No. 33,549. Patented Oct. 22, 1861.



Witnesses:
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UNITED STATES PATENT OFFICE.

FREDRICK STREUBEL AND AUGUST ROOS, OF NEW YORK, N. Y.

IMPROVEMENT IN COOLERS FOR BEER AND OTHER LIQUIDS.

Specification forming part of Letters Patent No. **33,549**, dated October 22, 1861.

To all whom it may concern:

Be it known that we, FREDRICK STREUBEL and AUGUST ROOS, of the city and State of New York, have invented a new Cooler and an Improved Mode of Cooling Beer and other Liquids; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of our invention consists in passing beer or any other liquid while it is hot through a series of metal tubes surrounded by cold water, whereby it is cooled without being exposed to the air or suffering loss by evaporation.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

The cooler consists of the metal columns A A, connected together by the series of metal pipes or tubes B B, through which another series of metal tubes C C, of smaller diameter, pass, and are made continuous by the return-bends D D from the upper part to bottom. The chambers E E, formed by the partitions F F between every two of the large tubes B B in the column A A, are equivalent to return-bends for the tubes B B. The return-bends D D of the smaller series of tubes C C are carried through the covers G G of the column A A and covered by a cap and lock-nut M M, to permit of the smaller series of tubes C C being cleaned without taking off the covers G G of the column A A. The covers G G of the columns A A are secured by nuts and bolts. When the tubes are of great length, a brace H, of wood or metal, may be employed to give them support.

The mode of operating with the cooler is as follows: Supposing the cooler to be in a vertical position, the funnel I or any convenient vessel receives the beer or other liquid to be cooled, from which it passes downward through the whole series of metal tubes C C and return-bends D D, as shown in the lower part of the drawings, and it escapes by the pipe J, a prolongation of the tubes C C outside the metal column A A. The water or other cooling-liquid is admitted to the lower tubes of the larger series of tubes B B by the pipe K or any other convenient inlet, and rises upward through the series of metal tubes B B by means of the return-bends formed by the chambers E E in the metal column A A, and escapes from the upper part of the cooler at the pipe L or any other convenient outlet. By means of the operations here described the beer or other liquid to be cooled, descending through the smaller series of tubes C C, meets with an ascending current of water or other cooling-liquid in the tubes B B, which surround it in the tubes C C, and flows out cool through the pipe J at the bottom of the cooler, while the water or cooling-liquid flows out warm at the top of the cooler by the pipe L. The currents of cool and hot liquids meet each other gradually and are exposed to each other throughout a large area of surface, and thereby the cooling process is rendered effective. The beer or liquid to be cooled being confined throughout its circuit in the metal tubes C C and excluded from the air, there is no loss by evaporation of the volatile parts of it, and which consequently retains its full strength.

The cooler thus described may be employed for a condenser or heater, but especially is it useful for cooling beer during the operation of brewing and all liquids requiring a reduction of temperature without being exposed to the air.

What we claim as our invention, and desire to secure by Letters Patent, is—

The cooler for beer and other liquids, as herein described and referred to in the drawings attached, as set forth in this specification, or any other substantially the same, to produce the intended effect.

FREDRICK STREUBEL.
AUGUST ROOS.

Witnesses:
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