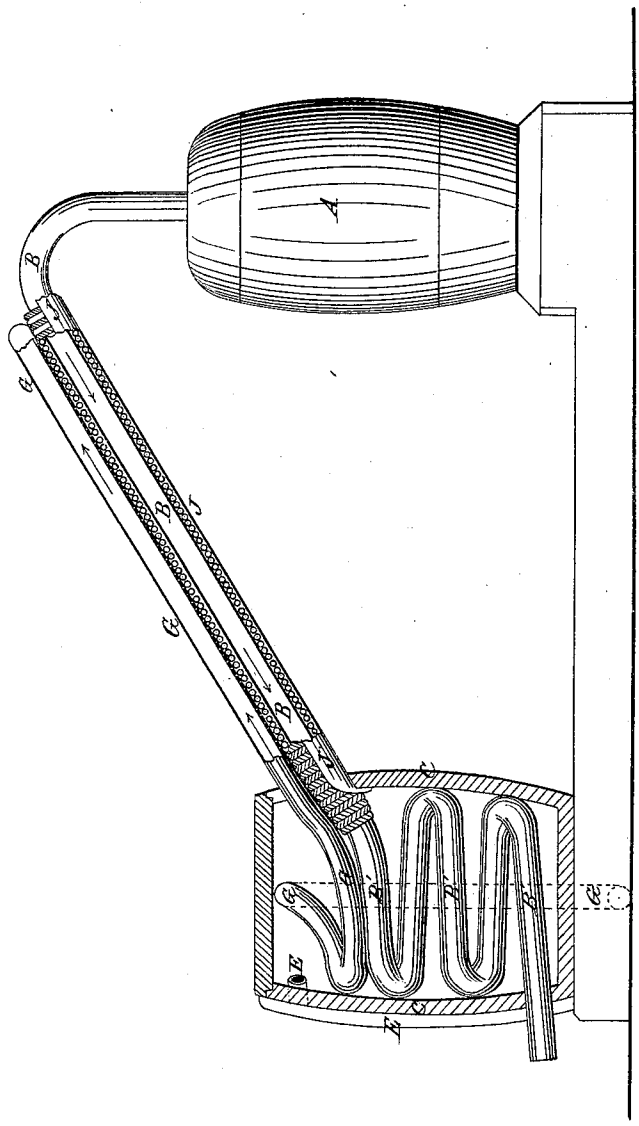
A. C. BROWN.

Condensing Apparatus.

No. 29,054. Patented July 10, 1860.



Witnesses:

Chas Bradfield

Thos. Lamb

Inventor:

Abram C Brown

AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

ABRAM C. BROWN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CONDENSERS.

Specification forming part of Letters Patent No. 29,054, dated July 10, 1860.

To all whom it may concern:

Be it known that I, A. C. BROWN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Cooling Liquids; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 of the accompanying drawings represents a distillatory apparatus for beer, in which my invention for cooling and hastening condensation is shown. The worm tub and pipe communicating with the still-tub are shown in section.

The object of this invention is to facilitate the refrigeration or cooling of the vapor rising from the still of distillatory apparatuses of any description, and to condense the same while passing from the still to the worm-tub by keeping the main pipe, or that between the worm-tub and still, as cool as the worm in the tub, and to accomplish this without waste of water and in a simple and practical way.

To enable those skilled in the art to fully understand my invention, I will proceed to describe its construction and operation.

A represents a still tub or retort, from the top of which leads a pipe, B, communicating with the worm B′ in tub C, which latter is the refrigeratory. Pipe B is inclined toward the worm-tub in the usual manner, so that the condensed matters will flow toward the worm-tub down through the worm and out near the bottom of this tub to the receiver.

E is a vertical waste-pipe, which conducts the water from the top of worm-tub C as fast as the water flows into the tub, thus preventing overflow.

G is a pipe, which I will call the "feed-pipe," which passes up alongside the worm-tub, around said tub once, and then out and over the pipe B, up to the highest point of this pipe. The end of pipe G is closed, but it is perforated along its under side with small holes, from which water is supplied copiously to the pipe B. This water may be forced up by pumps or from a suitable reservoir elevated above the apparatus, so as to obtain sufficient head or force to cause the water to ascend the pipe G. The pipe B is wrapped with some soft and absorbing material, so as to retain the water in suitable quantities in contact with the surface of the pipe. The water which escapes from the pipe G after it passes over pipe B is received and conducted back to the worm-tub by a trough, J, for keeping the worm B′ cool, this being the only supply of water the worm-tub receives.

From this description it will be seen that the water, while in its coolest state, will be supplied to the worm-pipe at a point where it is most desirable to have it kept cool—viz., where the vapor is rarest and contains the greatest amount of caloric. By this arrangement the pipe leading from the still to the worm tub will be kept cool, and the vapor as it pours through this pipe will be rapidly condensed or liquefied before it arrives at the worm in the tub, where liquefaction is completed. This operation with my arrangement proceeds very rapidly, is constant, simple, and effective, and economizes water where this is an object.

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

The employment of a perforated refrigerating-conductor, G, in combination with the discharge-pipe B of the still or retort A, substantially as and for the purpose herein shown and described.

ABRAM C. BROWN.

Witnesses:

CHAS. BRADFIELD,

THOS. LAMB.