No. 654,358. Patented July 24, 1900.

O. RODERWALD.

BEER COOLER.

(Application filed Apr. 21, 1900.)

(No Model.) 2 Sheets—Sheet 1.

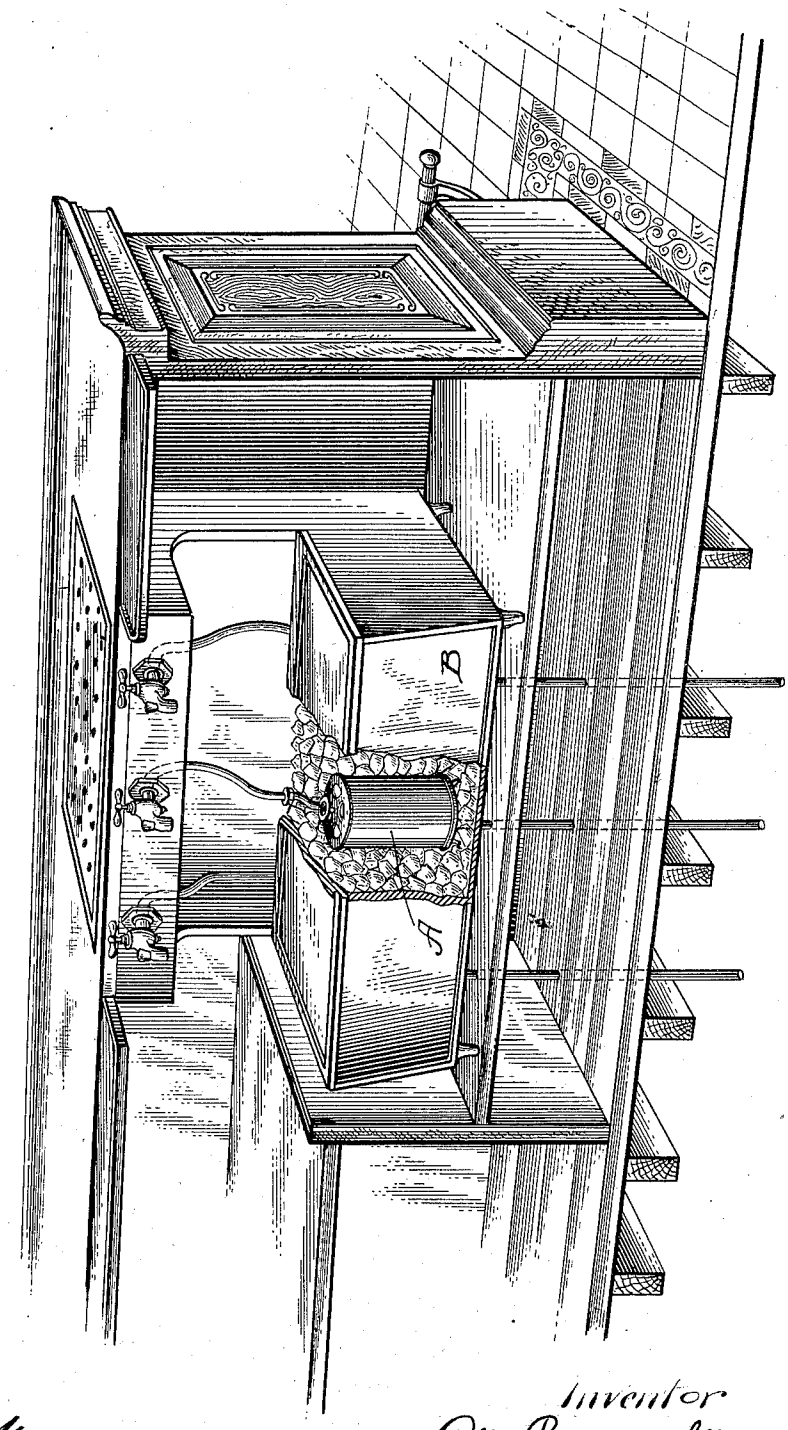


Fig. 1.

Witnesses:
Edmund A. Strauss
Geo. E. Dawson.

Inventor
by Otto Roderwald.
Wm. Zimmerman.
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 654,358. Patented July 24, 1900.

O. RODERWALD.

BEER COOLER.

(Application filed Apr. 21, 1900.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 2

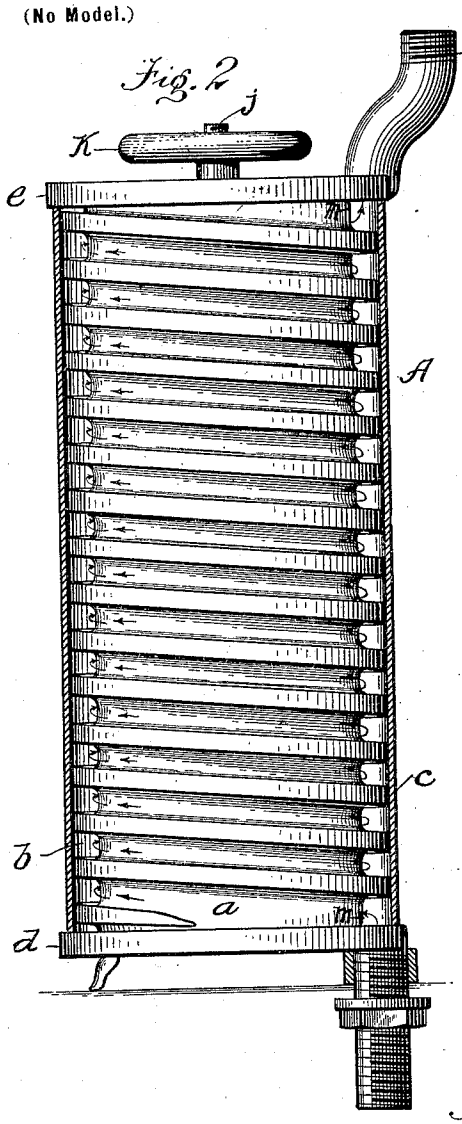


Fig. 3

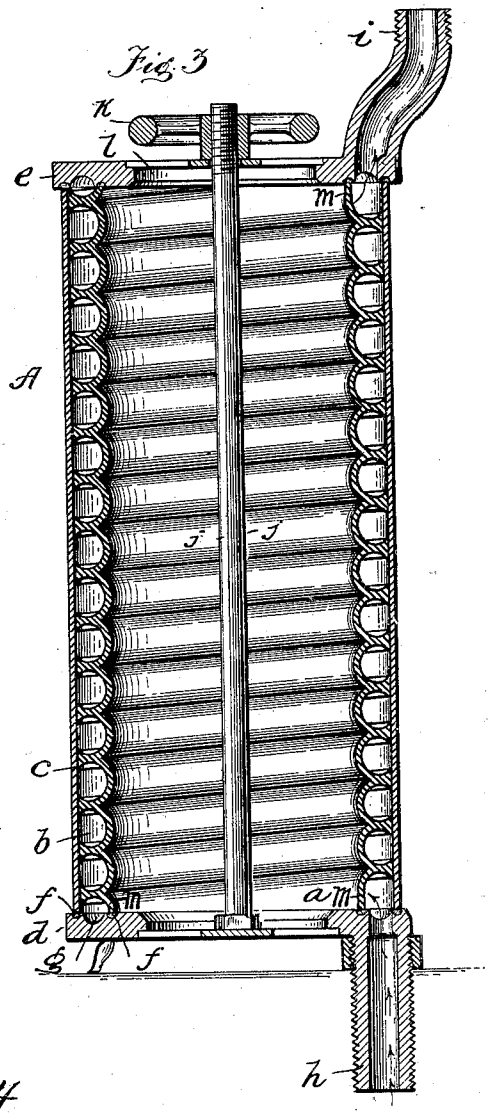


Fig. 4

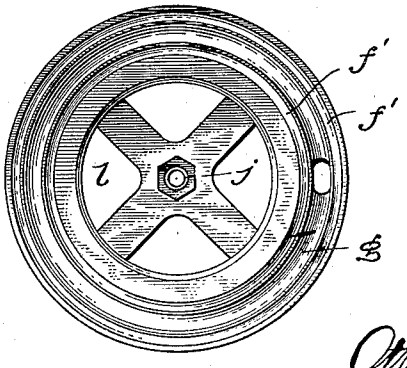
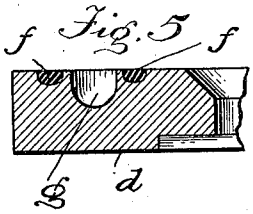


Fig. 5



Witnesses:
Edmund A. Strauss
H. E. Dawson.

Inventor
Otto Roderwald.
by Wm. Zimmerman.
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

OTTO RODERWALD, OF CHICAGO, ILLINOIS.

BEER-COOLER.

SPECIFICATION forming part of Letters Patent No. 654,358, dated July 24, 1900.

Application filed April 21, 1900. Serial No. 13,692. (No model.)

To all whom it may concern:

Be it known that I, OTTO RODERWALD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Beer-Coolers, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 shows my said device in perspective as set up in a refrigerator or cooler, having a portion thereof broken away to show the internal construction. Fig. 2 shows a vertical central section of the outer shell of my said device with the remaining parts in full elevation. Fig. 3 shows my said device in central vertical section in all its parts, except the central stem or connecting-rod. Fig. 4 shows the bottom head or end piece in plan view on its interior surface. Fig. 5 shows a fragment of Fig. 4 on an enlarged scale to more fully show the details of the construction.

Like letters of reference denote like parts in all figures.

The object of my invention is to provide a cooler for beer or liquids in which the cooling may be most effectually done and at the same time so constructed that the several parts may readily be separated and thoroughly cleaned and replaced by any intelligent operator.

It is well known that the cooling-worms for liquids, especially those used for beer, readily become foul, and thereby unsanitary. To provide means to avoid such difficulty and danger as far as possible is one of the objects of my invention.

To attain said desirable ends, I construct my said cooler in substantially the following manner, namely: I provide two circular disks or heads *d e*, provided with a half-round channel *g* of a diameter corresponding to the pipe to be used at each end of my said device, and on each side thereof is a smaller channel *f' f'*, in which lie soft-rubber gaskets *f f*, and radially within said inner channel are cut four holes or central openings *l*, as shown, leaving a cross of metal in the central part of said ends, through the axial center of which is a hole to receive the stem or connecting-rod *j*, which forms the connecting-rod holding all of the several parts of my said device together. For convenience one end of the central rod *j* is permanently attached to the head *d* and passed through a hole in the head *e*, at which end it is provided with a thread and a hand-wheeled nut *k*. On the inner or smaller circle or gaskets *f* are held the ends *m* of the interior cylinder *a*, in the surface of which is cut a spiral groove *b* between said ends, and the ends of said groove connect with the annular groove *g* of the heads *d e*, and in said grooves are openings whereof the one connects with the entrance-pipe *h* and the other with the discharge-pipe *i*. Said open or spiral channel *b* is nearly circular in transverse section and is closed on the outside by passing over the cylinder *a* the closely-fitting smooth cylinder *c* of the same length as said internal cylinder, its ends fitting on the outer gasket. By means of said construction a continuous spiral or worm *b* is formed, through which the liquid passes from the pipes *h* to *i* or oppositely to said direction. When said parts are connected, as shown, the screw *k* drives the heads *d e* upon the soft-rubber gaskets *f f* until tight joints are formed.

My said completed apparatus A is placed in a cooler or ice-box B and surrounded with ice and ice-water, which also passes through the central openings *l* to the interior of the cylinder *a*, and thereby my apparatus is cooled on every side. It is also to be noted that in my apparatus the liquid has a direct continuous flow from end to end and is thereby free from the churning and consequent foaming produced where repeated and sharp turns are given to the beer in going through the cooler. Short legs under the base secure a free circulation of the water to the internal part of the cylinder *a*.

By means of my construction the said several parts are very easily and quickly taken apart and again assembled, and owing to their simple form are very easily susceptible of thorough cleansing and of being kept in a thoroughly-sanitary condition, which is one of the chief objects of my invention.

What I claim is—

1. The combination with a pair of heads provided with annular channel and gaskets on each side thereof, an entrance-pipe to one and an exit to the other of said heads, of a

spirally-grooved cylindrical shell inclosed by a smooth and close-fitting shell, each shell fitting upon a pair of said gaskets, a central rod and means thereon to compress said heads upon said cylinder ends, substantially as specified.

2. The combination with a pair of heads provided with central openings, an annular channel and gaskets on each side thereof, an entrance-pipe to one and an exit-pipe to the other of said heads, of a spirally-grooved cylindrical shell inclosed by a smooth and close-fitting shell, each shell fitting upon a pair of said gaskets, a central rod and means thereon to compress said heads upon said cylinder ends, substantially as specified.

OTTO RODERWALD.

Witnesses:
B. EVART SHERMAN,
HENRY H. LUNT.