

(No Model.)

F. DIENER.
ICE MACHINE.

No. 348,192.

Patented Aug. 31, 1886.

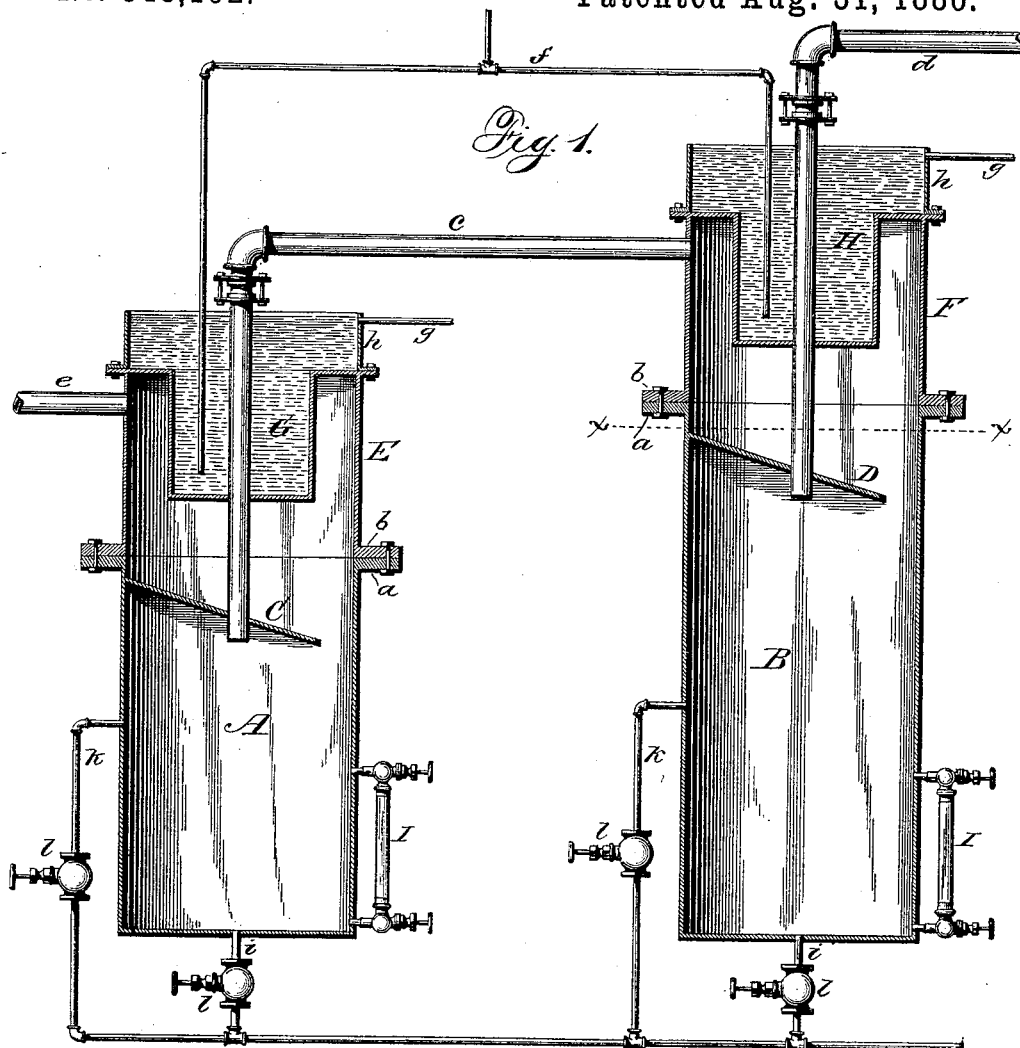
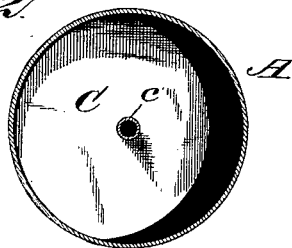


Fig. 2.



Witnesses

Chas. Williamson
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Inventor

Frederic Diener.
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UNITED STATES PATENT OFFICE.

FREDERIC DIENER, OF SAN ANTONIO, TEXAS.

ICE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 348,192, dated August 31, 1886.

Application filed June 30, 1886. Serial No. 206,682. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC DIENER, a citizen of the United States, residing at San Antonio, in the county of Bexar and State of Texas, have invented certain new and useful Improvements in Ice-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a side elevation of my invention, showing the cylinders and their connections in section; and Fig. 2, a horizontal section through one of the cylinders, taken on line *x x* of Fig. 2.

The present invention has for its object to provide a simple, effective, and practically-operating oil-trap for compression ice-machines; and it consists in the details of construction, substantially as shown in the drawings, and hereinafter described and claimed.

In the accompanying drawings, A B represent two cylinders of any desirable size and construction, the latter being of greater height than the former-mentioned cylinder, and each has a downwardly-inclined diaphragm, CD, respectively, which extends only partly across the cylinder, to leave a space between the interior thereof and the diaphragm, as shown more clearly in Fig. 2. The upper end of each cylinder has a circumferential flange, *a*, for attaching thereto by suitable bolts or other fastenings extensions E F, respectively, said extensions having flanges *b*, corresponding to the flanges *a*, through which pass the bolts or fastenings. The extensions to the cylinders have water-chambers G H, which extend down into the extensions a suitable distance, which portions are of less diameter than said extensions, to form a space between the interior thereof and the exterior of the chambers. The extension F communicates with the cylinder A at a point below the diaphragm C by means of a pipe, *e*, said pipe passing down through the water-chamber G and the diaphragm. A pipe, *d*, which leads from the discharge of ammonia-pump, passes down through water-chamber H and through the diaphragm D to communicate with the cylinder B. As

the ammonia is forced through the pipe *d*, which is surrounded by water, the oil coming from pump is condensed and drops in the cylinder B, which I term the "trap." The ammonia, as it rises in the cylinders, will strike the under side of the diaphragms CD and drop the oil which ascends with the ammonia, the inclination of the diaphragms rendering them more effective for this purpose. The ammonia will, through pipe *e*, be forced into the trap or cylinder A, said pipe being also surrounded by water in the same manner as pipe *d*, which will condense the remainder of oil coming from cylinder B. A pipe, *e*, which comes from the condenser, where the ammonia is liquefied, communicates with the extension E of cylinder A near the top thereof. A water-pipe, *f*, extends down into the chambers G H, for supplying them with water from a tank to which the pipe is connected. The chambers are each provided with an overflow-pipe, *g*, communicating with a jacket, *h*, forming the upper end of the chambers. The cylinders are each provided with a suitable gage, *i*, and pipes communicate with the bottom of each cylinder, as shown at *i*, and also at the sides, as shown at *k*, the pipes communicating with each other and provided with suitable valves, *l*, by which means the oil can be removed from the cylinders, and also the ammonia in its liquid form, should there be any remaining in the cylinders.

To take the liquefied ammonia out of the cylinder B, the valves of the pipes *i* are closed, as is also the valve of the pipe *k*, which communicates with the cylinder A; and to take the liquefied ammonia from cylinder A the valve *l* of pipe *k* thereof is open and the valves of pipes *i* closed, as is also the valve of pipe *k*, which communicates with cylinder B. It should be understood that the pipes *k* are closed by means of their valves, except when used as heretofore described.

Having now fully described my invention, what I desire to secure by Letters Patent is—

An oil-trap for compression ice-machines, consisting of cylinders provided with inclined diaphragms, and having extensions provided with water-chambers and pipes extending down through the same and through the dia-

phragms to communicate with the cylinders,
one of said pipes communicating with the ex-
tension of one of the cylinders and the other
pipe leading from the ammonia-pump, said
5 cylinders having a suitable arrangement of
pipes and valves, as and for the purpose set
forth.

In testimony that I claim the above I have
hereunto subscribed my name in the presence
of two witnesses.

FREDERIC DIENER.

Witnesses:

J. B. SIMPSON,

A. I. LOCKWOOD.