

(No Model.)

2 Sheets—Sheet 1.

E. A. HAYT.
Apparatus for Refrigerating Rooms.

No. 235,870.

Patented Dec. 28, 1880.

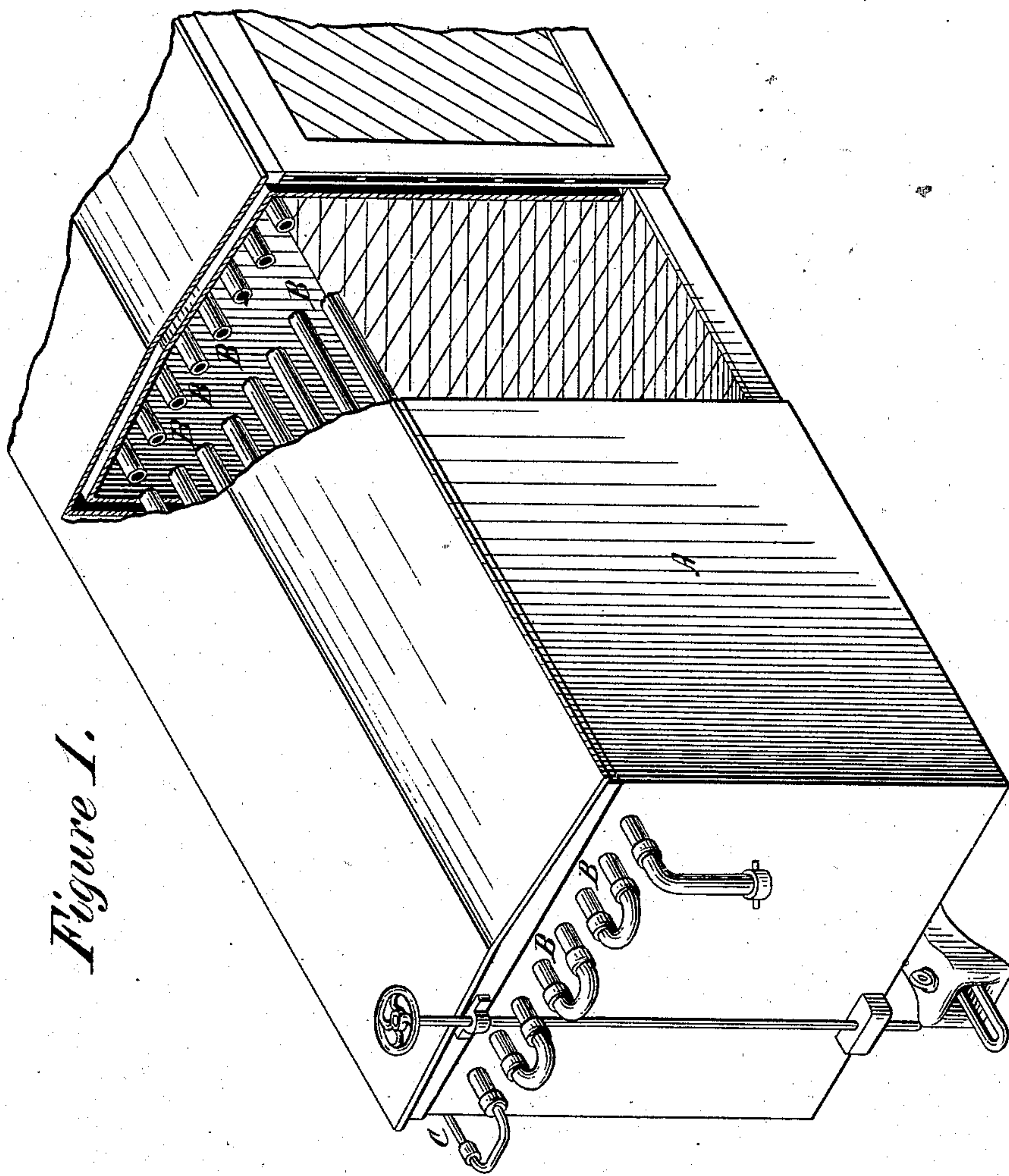


Figure 1.

Witnesses:

Geo. H. Mott

S. J. Sullivan

Inventor:

Ezra A. Hayt

By his attorney,
E. N. Dickerson

(No Model.)

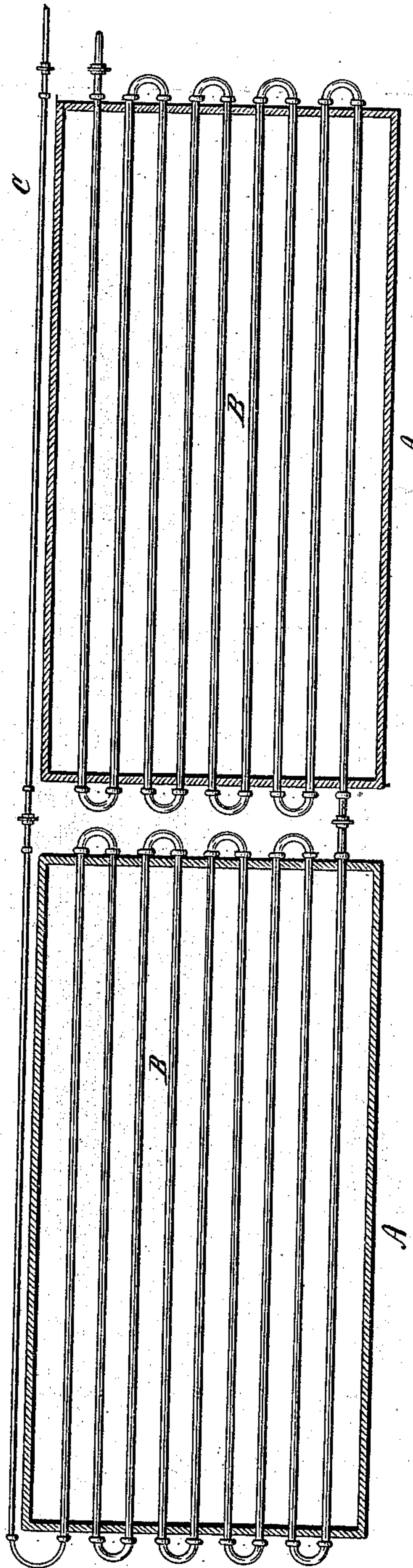
2 Sheets—Sheet 2.

E. A. HAYT.
Apparatus for Refrigerating Rooms.

No. 235,870.

Patented Dec. 28, 1880.

Figure 2.



Witnesses:

Geo. H. Miatt
S. D. Sullivan

Inventor:

Ezra A. Hayt
By his Attorney
E. W. Dickerson

UNITED STATES PATENT OFFICE

EZRA A. HAYT, OF PATTERSON, NEW YORK.

APPARATUS FOR REFRIGERATING ROOMS.

SPECIFICATION forming part of Letters Patent No. 235,870, dated December 28, 1880.

Application filed November 23, 1880. (No model.)

To all whom it may concern:

Be it known that I, EZRA A. HAYT, of Pat-
terson, Putnam county, New York, have in-
vented a new and useful Improvement in Ap-
paratus for Refrigerating Rooms, of which
the following is a full, true, and exact de-
scription, reference being had to the accom-
panying drawings.

In the use of machines for obtaining by the
compression and expansion of gases or va-
pors low temperatures in rooms, it is a matter
of importance to avoid the leakage or escape
of the gases or vapors contained within the
refrigerating apparatus into the rooms to be
cooled. This is especially true where such
vapors as ammonia, sulphurous acid, or simi-
lar corrosive bodies are employed. One of
the difficulties in the practical operation of re-
frigerating apparatus so constructed has been
that the pipes placed within the rooms de-
sired to be cooled have been liable to allow
the escape of the contained vapors under
pressure at their connecting-joints.

My invention is designed to prevent the
possibility of any escape of the contained va-
pors or gases within the apartment which it
is desired to refrigerate. This I do by plac-
ing within the apartment to be refrigerated a
series of returning-pipes, so arranged as to
present no joint or place of possible escape
within the room. The pipes which I use are,
preferably, welded iron pipes, which extend
through the apartment to be refrigerated and
into the space beyond at both ends of said
apartment. Each pipe is connected to the
next by a coupling outside of the apartment
to be refrigerated, and consequently, if any es-
cape occur, it can do no damage to the arti-
cles contained in said apartment. I propose,
in practice, to use this method of coupling
the refrigerating-pipes in connection with
chambers, cars, and other apartments which
it is desired to refrigerate.

In my drawings, Figure 1 represents an out-
side perspective view, partly broken away,
of a car provided with my apparatus. Fig.
2 represents the method of connecting two or
more cars in a train so that the gas or vapor
may be supplied from one car to the others
in the train and return to its place of com-
pression.

In the second figure, C represents a supply-
pipe extending the length of the train of cars
to be refrigerated. B represents the return-
ing refrigerating-coil. The pipes C should

be preferably made of less diameter than the
pipes B, so as to allow of the expansion of
the escaping vapor or gas in such pipes.

In the first figure, A represents, generally,
a car; B, a series of parallel pipes, which
should be preferably arranged in the upper
part of the car. They are constructed, as
shown in the drawings, so as to pass through
both ends of the car, and each pair of pipes
is connected by a coupling outside of the car,
so that, in fact, a continuous circuit of pipe is
made, each pipe being connected with the next
in couples, one at either end of the car. By
this method, as will be readily seen, all possible
danger of injury to the contents of the car by
escaping vapors or gas is prevented.

My cars may be arranged in trains and
connected each with the next by flexible coup-
plings. Said pipes should extend the entire
length of the train, and be connected with the
end car of the series, while the expanding vapor
returns through the series of cars. I do not,
however, limit myself to this method of con-
nection, as others may be found advantage-
ous.

I find it less expensive to carry my welded
pipes through the walls of the chamber and
allow them to project into an external space;
but a continuous welded coil without joints
could also be used and placed within the
room, having its supply and delivery pipes
extending outside of the room, but not pro-
vided with any coupling within the room, and
still carry out the object of my invention.

What I claim as my invention, and desire
to secure by Letters Patent, is—

1. A refrigerating-chamber in which cold is
produced by the expansion of vapors or
gases, provided with a series of pipes or tubes
extending beyond and outside of the walls of
said chamber and connected with each other
by connections solely outside of said cham-
ber, for the purpose of preventing the escape
of injurious gases or vapors within the refrig-
erating-chamber, substantially as described.

2. A refrigerating-chamber wherein cold is
produced by the expansion of vapors or
gases, provided with a refrigerating-coil with-
out joint or connection within such chill-room,
substantially as described.

EZRA A. HAYT.

Witnesses:

S. F. SULLIVAN,
GEO. W. MIATT.