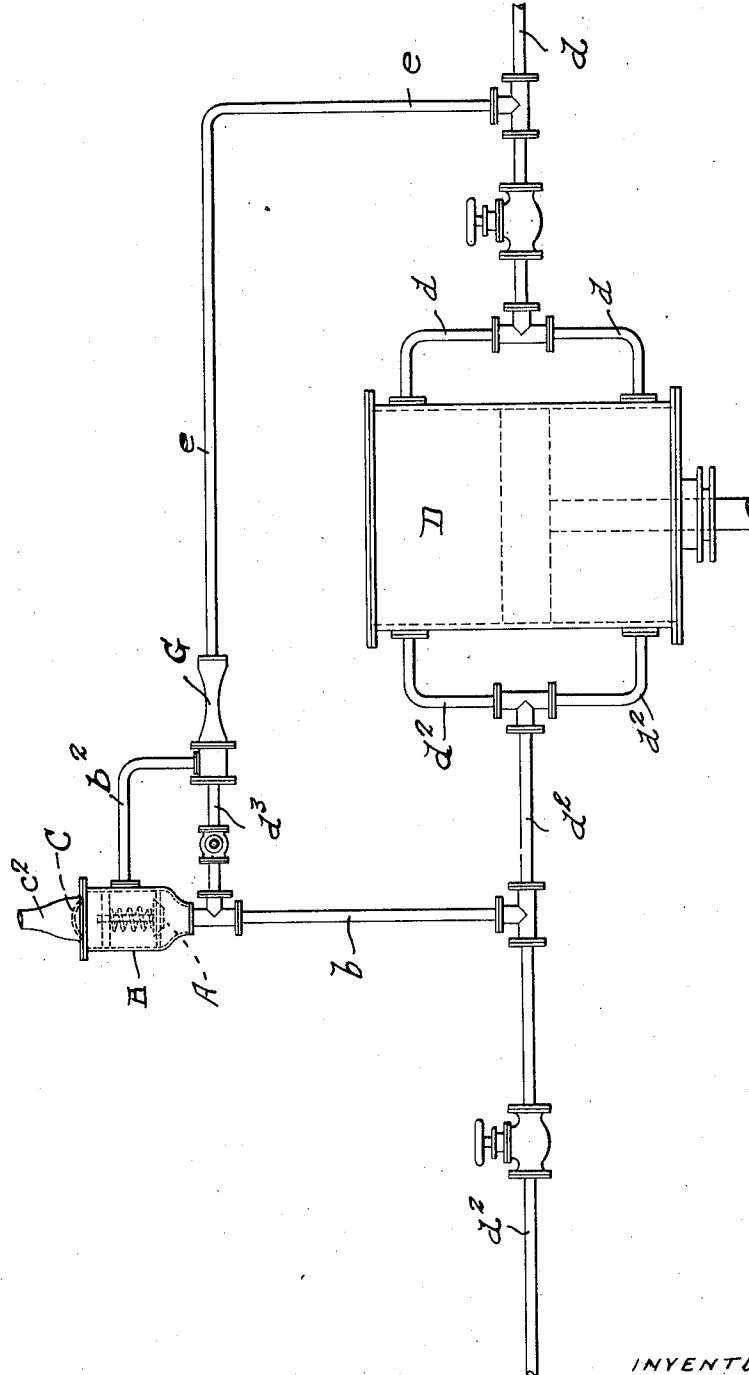


F. A. WILLCOX.
SAFETY DEVICE FOR USE IN CONNECTION WITH REFRIGERATING MACHINES.
APPLICATION FILED AUG. 3, 1918.

1,339,244.

Patented May 4, 1920.



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UNITED STATES PATENT OFFICE.

FRANK AINSWORTH WILLCOX, OF DARTFORD, ENGLAND.

SAFETY DEVICE FOR USE IN CONNECTION WITH REFRIGERATING-MACHINES.

1,339,244.

Specification of Letters Patent.

Patented May 4, 1920.

Original application filed December 20, 1917, Serial No. 208,145. Patent No. 1,297,975, dated March 18, 1919. Divided and this application filed August 3, 1918. Serial No. 248,225.

To all whom it may concern:

Be it known that I, FRANK AINSWORTH WILLCOX, a subject of the King of Great Britain, residing at Dartford Ironworks, Dartford, in the county of Kent, England, have invented new and useful Improvements in Safety Devices for Use in Connection with Refrigerating-Machines, of which the following is a specification.

10 The present invention relates to safety devices for refrigerating machines and constitutes a modified form of the apparatus shown in my Patent No. 1,297,975, of which the present application is a division.

15 The accompanying drawing shows, diagrammatically, in elevation, my invention applied to a vapor compression refrigerating machine, the feature to which the present application is directed being the ejector associated with the safety device for removing the gases or vapors from the casing of the safety device to the delivery passage of the main compressor.

25 The safety device is shown as a spring valve A mounted in a surrounding casing B, at the top of which is a frangible diaphragm C, which breaks at predetermined pressure. The valve is in communication through pipe *b* with the delivery or compression pipe *d*² of the main compressor D of the refrigerating machine, the remainder of which it is unnecessary to show or describe.

35 Below the valve A a pipe *d*³ opens to the pipe *b* and is thus in communication with the delivery pipe *d*² of the main compressor. The pipe *d*³ leads to an ejector G, into the casing of which opens the pipe *b*² leading from the casing B at a point above the valve A. Consequently the gases or vapors from the upper portion of the casing B are sucked into the injector and delivered thereby through the pipe *e* to the suction pipe *d* of the main compressor.

45 Upon excessive pressure in the casing B

the valve A opens and the rush of gases ruptures the diaphragm C and escapes through the pipe *e*² as explained in my patent aforesaid.

What I claim is:—

1. In connection with the safety devices of refrigerating machines, a casing constituting a vessel normally closed to the surrounding atmosphere and adapted to receive gases, or vapors, which may pass the safety device, and means distinct from the main compressor of the machine for removing such gases, or vapors, from the said casing, and comprising an injector connected with the interior of the casing and with a pipe leading from the delivery pipe of the main compressor of the refrigerating machine so that gases, or vapors, therefrom effect the withdrawal of gases, or vapors, from the said casing.

2. In connection with the safety devices of refrigerating machines, a casing constituting a vessel normally closed to the surrounding atmosphere and adapted to receive gases, or vapors, which may pass the safety device, and means distinct from the main compressor of the machine for removing such gases, or vapors, from the said casing, and comprising an injector connected with the interior of the casing and with a pipe leading from the delivery pipe of the main compressor of the refrigerating machine so that gases, or vapors, therefrom effect the withdrawal of gases, or vapors, from the said casing, the injector delivery being connected to the suction pipe of the main compressor.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK AINSWORTH WILLCOX.

Witnesses:

ARTHUR MILNE,
FREDERICK HARRAD.