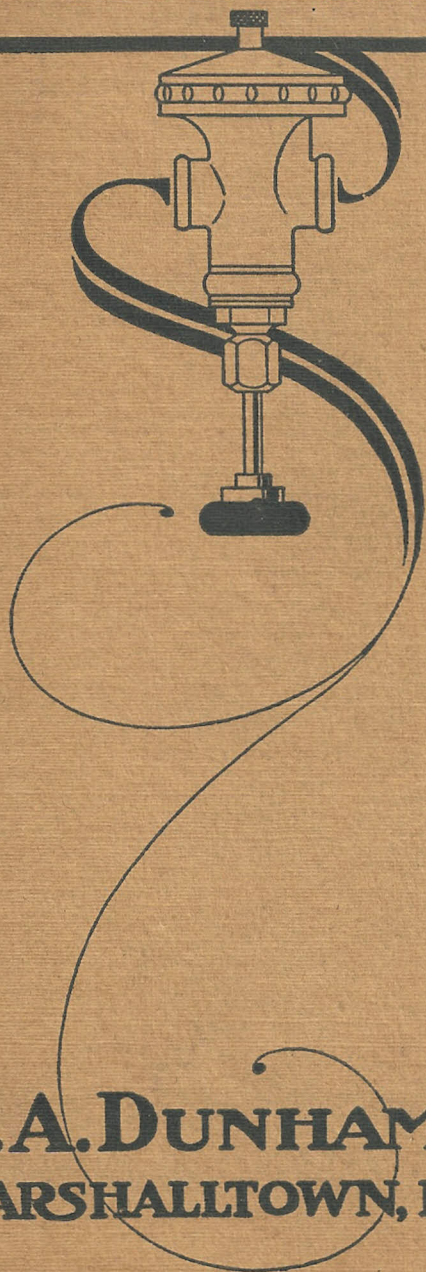


**· DUNHAM ·
SPECIALTIES**



**|| C.A. DUNHAM Co. ||
|| MARSHALLTOWN, IOWA. ||**

BULLETIN No. 7

Jan. 1, 1916

C. A. Dunham Company

MARSHALLTOWN, IOWA

NEW YORK

CHICAGO

SAN FRANCISCO

Branch Offices in All the Principal Cities

(This Bulletin supersedes all information covering same subjects heretofore published by us.)

== SUBJECT ==

The Dunham Air Line Service Valve and its Application

OTHER BULLETINS WHICH MAY BE HAD ON APPLICATION ARE

- BULLETIN No. 1—The Dunham Vacuo Vapor System of Heating—
What it is—How it Operates.
- BULLETIN No. 2—Advantages of Steam for Heating—Why the Dunham
Vacuo Vapor System is Superior.
- BULLETIN No. 3—How to Install the Dunham Vacuo Vapor System
of Heating
- BULLETIN No. 4—How to Operate the Dunham Vacuo Vapor System
of Heating.
- BULLETIN No. 5—The Dunham Radiator Trap and its Application.
- BULLETIN No. 6—The Dunham Blast Trap and its Application.
- BULLETIN No. 8—Dunham Traps for High Pressure Service.
- BULLETIN No. 9—The Dunham Reducing Pressure Valve and
Vacuum Pump Governor.
- BULLETIN No. 10—Some Buildings where the Dunham Systems of
Heating are now Installed.
- BULLETIN No. 11—The Dunham Vapor System.
- BULLETIN No. 12—The Dunham Packless Inlet Valve.

THE DUNHAM AIR LINE SERVICE VALVE

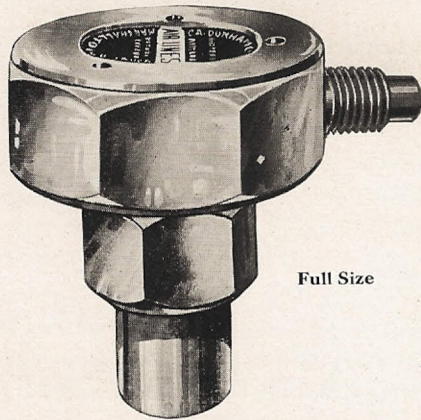
Introductory: The almost unparalleled success of the well known Dunham Radiator Trap used in two pipe vacuum steam heating work was the direct cause of our bringing out the Dunham Air Line Valve. Users of the Dunham Radiator Trap who were so well pleased with its efficiency, demanded to know why an air line valve built upon the same principle was not just the thing for one pipe air line systems. Their expressions showed that they particularly desired such a valve to equip the old systems where for one reason or another, other air line valves have failed to give satisfaction.

Following up these inquiries from customers with requests for more information as to the nature of the troubles, we learned that there was a demand for an air line valve that would let the air out of the radiator without loss of steam, and without clogging up, and that would automatically adjust itself to varying steam pressure conditions within the radiator.

Knowing the Dunham Radiator Trap would meet and was meeting such requirements we could see no reason why an air line valve built upon the same principle would not do the same. Thereupon we designed the Dunham Air Line Service Valve, and its operation has met our most sanguine expectations.

As the Dunham Radiator Trap will meet and remedy trap troubles in two pipe vacuum systems of heating, so will the Dunham Air Line Service Valve meet and remedy air line valve troubles in Air Line Systems of heating.

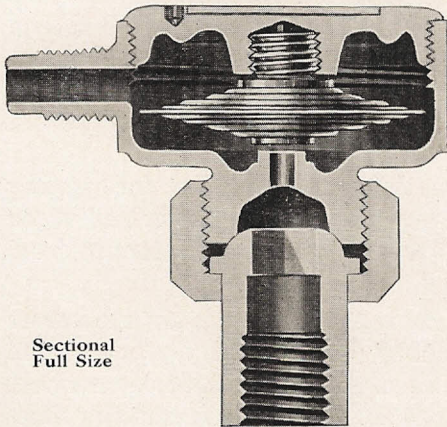
Description: On the next page we print a sectional view of the Dunham Air Line Service Valve. The principle of operation is identical with the Dunham Radiator Trap and is as follows: The valve consists of a body made of a non-corrosive steam metal, a cover for same and a union nut and nipple to connect to the air line. Suspended from the



Full Size

THE DUNHAM AIR LINE SERVICE VALVE

cover is a hollow corrugated disc, made of a special metal. Hermetically sealed within this disc is a combination of volatile liquids which vaporize and expand when surrounded by steam. Attached to the disc is a flat valve which, when the disc is expanded, seats tightly over the valve opening in the body casting. When the valve is seated communication between the radiator and the air line is shut off.

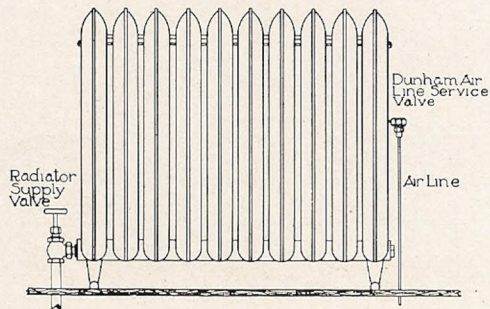


Sectional
Full Size

Now assume the valve is connected in service. Air coming along is not warm enough to affect the liquids within the disc, hence it passes out of the radiator and into the air line. Steam following, vaporizes the liquids within the disc causing the latter to expand and seat the valve. Hence, we see

that the air passes out while the steam is retained in the radiator where it belongs.

The valve has no loose parts to rattle, or get out of place, and it has no sliding contacts to stick or clog up. It has a large $\frac{5}{8}$ -inch valve opening—we believe it to be the largest valve opening of any satisfactory air valve made—and thus it operates freely and quickly. There is nothing within or without to wear out. It has the further advantage of being a non-adjustable air valve and one that cannot be tampered with by tenants or irresponsible parties. The Dunham Air Line Valve is nickel-plated and can be furnished with either $\frac{1}{8}$ in. or $\frac{1}{4}$ in. radiator connection. It is built to operate on steam pressures up to ten pounds and will remove the air from 200 square feet of direct radiation.

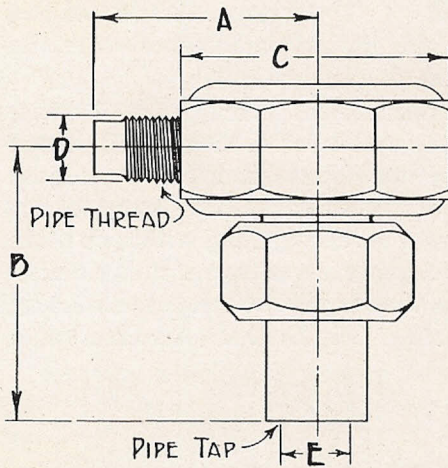


THE DUNHAM AIR LINE SERVICE VALVE

Application: The Dunham Air Line Service Valve is applicable to any type of air line system of heating. It is also applicable to any single pipe system of heating which it is desired to convert into an air line system by means of installing a system of air line return piping. This air line return piping has numerous advantages over the old type of open air vents used on the old style of single pipe systems. It prevents the flowing of stagnant and foul smelling air from the radiator into the room, and prevents water from dripping onto and ruining floors, rugs and ceilings below. It also presents the opportunity of obtaining a vacuum upon the system, providing the proper apparatus is installed on the end of the air line in the boiler room.

The Dunham Air Line Valve is unexcelled for venting the ends of steam mains in vacuum, vacuo-vapor and vapor systems of heating. Also for venting the air from indirect radiators, vento heaters and blast coils.

Proposition: If you are having trouble with air line valves in your building, let us send you one of the Dunham Air Line Service Valves for trial. You can connect



it in five minutes time, and after you have used it for thirty days, if it doesn't eliminate your difficulties, take it off and return it to us at our expense.

This plan gives you the opportunity of satisfying yourself that the Dunham Air Line Valve will add materially to the efficiency of your heating system. If it makes a bad radiator good, then the expense of installing it upon the balance is hardly worth considering, as anyone with a small wrench can do it.

DIMENSIONS IN INCHES					
SIZE	A	B	C	D	E
$\frac{1}{8}$ "	$1\frac{7}{16}$	$\frac{7}{8}$	$1\frac{3}{4}$	$\frac{1}{8}$	$\frac{1}{4}$
$\frac{1}{4}$ "	$1\frac{5}{8}$	$\frac{7}{8}$	$1\frac{3}{4}$	$\frac{1}{4}$	$\frac{1}{4}$