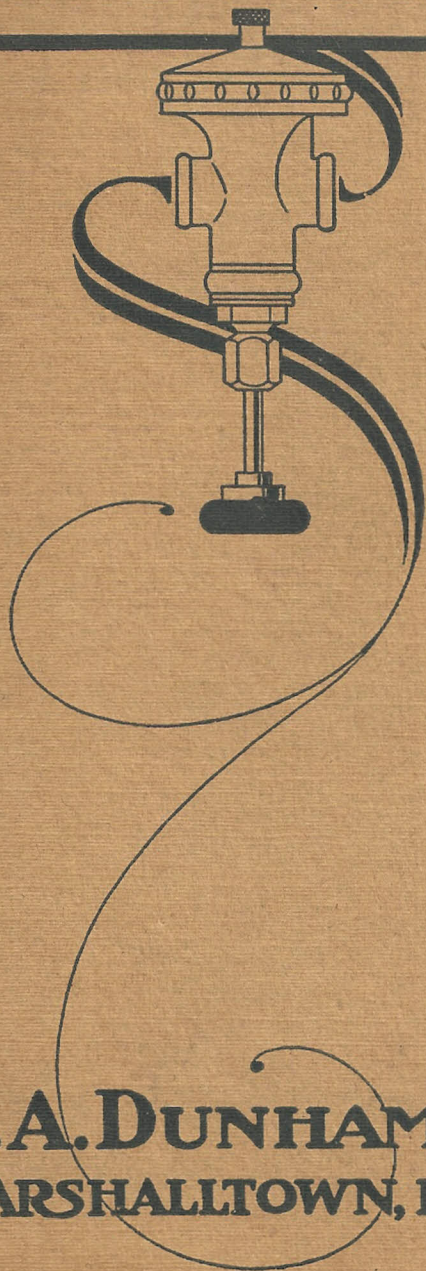


**:- DUNHAM :-  
SPECIALTIES**



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



BULLETIN No. 12

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# 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 subject heretofore published by us. )

## ==SUBJECT==

# The Dunham Packless Inlet 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. 7—The Dunham Air Line Valve 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.

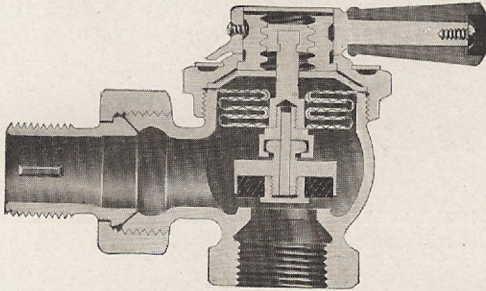
BULLETIN No. 11—The Dunham Vapor System.



## THE DUNHAM PACKLESS INLET VALVE

**Introduction** The Dunham Packless Inlet Valve is all that the name implies. It is really a packless valve. No packing of any kind is used in its construction (see cut below). In designing this valve the C. A. Dunham Co. kept in mind; first, utility; second, appearance; and third, the feature of quick opening and closing. The Dunham Inlet Valve is made of the very best material that can be procured. It is neat in appearance, in fact no valve on the market can compete with it in this respect. It is an ornament to any room regardless of the furnishings and architecture. It also has the very desirable feature of quick opening and closing. The Dunham Packless Inlet Valve can be fully opened or closed with a seven-eighths turn of the handle. All of these features are of extreme importance to the person who is seeking a supply valve to his radiator that harmonizes with the architectural embellishments of his home; a valve that needs no attention after once having been installed, and a valve that can be easily and quickly operated.

**Description** The Dunham Packless Inlet Valve (see cut below) utilizes a series of diaphragms for allowing the free up and down movement of the spindle without



steam leakage. A weak feature of many of the supply valves of the past has been the danger of leakage around the handle.

In the Dunham valve the series of diaphragms above mentioned entirely obvi-

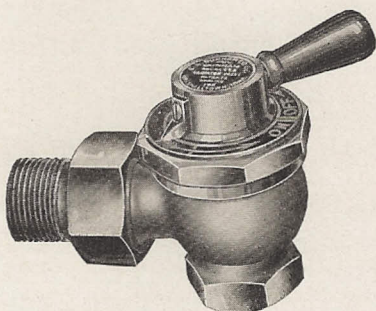
ate the possibility of such leakage and it is accomplished without the use of any packing or stuffing boxes of any kind. Even to a person little accustomed to the handling of valves this feature will appear most practicable and sensible. And the prohibition of leakage as above described is not the sole advantage of such a diaphragm construction. There is also the advantage of no steam or water or dirt from the heating system coming in contact with the threads of the handle and making them hard to operate. We insert hard oil in the chamber on the upper side of the diaphragm to keep the threads permanently lubricated and make the handle operate easily.

The body of the valve is constructed of pure red brass, the handle of cocabola, and the diaphragms of a specially constructed metal which offers the greatest resilience and durability.



## THE DUNHAM PACKLESS INLET VALVE

The Dunham Packless Inlet Valve is not made in the graduated type although it is equipped with plate and indicator showing when valve is "On" and "Off." The C. A. Dunham



Company does not believe in the possibility, as propounded by some manufacturers, of graduating the supply of steam to radiators. They believe that the amount of steam that will flow through a certain orifice is dependant upon the differential in pressure as between one side of that orifice and the other. In a heating system that differential is beyond the

control of the operator. It is next to impossible to maintain an absolutely constant pressure of steam upon the boiler and it is absolutely impossible to regulate accurately the condensing powers of the radiator. Some concerns claim that they are able to positively regulate the pressure upon the boiler but no one claims to be able to establish a constancy in the outside weather conditions which changing also change the condensing capacity of the radiator. Aside from this, the C. A. Dunham Company maintain that the graduating feature even if practical, would not be used in the manner intended. When a room in a building becomes chilly, the inlet valve is not graduated but opened full wide so that the temperature of the room will be brought back to the proper point as quickly as possible. Likewise, if the room becomes too warm, the operator will close the valve entirely so that the room will cool off as quickly as possible. Therefore, we make no claims for the graduated valve feature, although as constructed, our valve can be partially opened or closed at will, thus restricting the flow of steam to the radiator the same as is claimed for other valves.

**Application** The Dunham Packless Inlet Valve can be used on any two-pipe steam heating system, either vapor, vacuum or pressure. It is made in the angle pattern lever handled type *only*, and for that reason we recommend it only for radiators with top connection. It will operate just as satisfactorily when connected to the bottom of radiators but there is the danger of handles being bent or broken.

Another reason for installing the valve at the top of radiators is due to the fact that it gives the valve a slightly larger capacity, due to the aspirating action of the steam after entering the radiators.



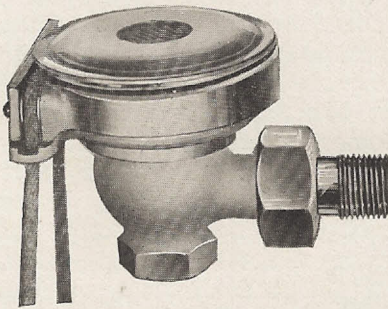
## THE DUNHAM PACKLESS INLET VALVE

The Dunham Valve is not applicable to hot water heating plants or to one-pipe steam plants.

**Capacities** The Dunham Packless Inlet Valve when applied to radiators with top connections, has the following capacities on vapor, vacuum and gravity steam heating work:

$\frac{1}{2}$ in.—	Up to	40 sq. ft.	direct radiation
$\frac{3}{4}$ in.—	41 to 100	“ “ “	“
1 in.—	101 to 180	“ “ “	“

### Dunham Packless Ceiling Valve



The Dunham Packless Inlet Valve is made in what is termed the CEILING TYPE, for use on radiators attached to ceilings. This valve is identical in construction with our regular pattern valve, except that it is supplied with a special cover casting enabling the valve to be opened and closed from the floor by means of cords. There is a large demand for this type of valve for use in basements where often it is necessary

to install radiators on the ceiling.

### ROUGHING-IN DIMENSIONS DUNHAM PACKLESS INLET VALVE

