ESTABLISHED 1888

WARREN WEBSTER & COMPANY

Pioneers of the Vacuum System of Steam Heating

Camden, N. J. **50 Branch Offices**

Manufacturers of Webster Systems of Steam Heating and Webster System Equipment—More Than 37,000 Installations—Also Webster Feed Water Heaters of Genuine Puddled Wrought Iron

Webster Products

WEBSTER VACUUM AND MODULATION SYSTEMS OF STEAM HEATING.

WEBSTER SYSTEM APPARATUS: Including Sylphon Traps; Diaphragm (No. 7) Traps; Modulation Supply Valves; Sylphon Quick-opening Packless Valves; Dirt Strainers; Heavy-duty Traps; Double Service Valves; Water Accumulators; Expansion Joints; Lift Fittings; Suction Strainers; Vacuum Governors; Hy-Lo Traps and Controllers; Damper Regulators; Vent Traps and Vent Valves; Boiler Return Traps; Air Separating Tank, Feed-Water Heaters, Webster-Lea Heater-Meters, Steam and Oil Separators.

Webster Service

Is an integral part of every Webster System delivered through 50 branch offices. Webster Service places the accurate, comprehensive information resulting from the extensive experience of this organization at the disposal of heating engineers, architects and heating contractors.

Webster Service in printed form includes STEAM HEATING, a useful manual of design; SERVICE DETAILS, a loose-leaf service showing correct connections and saving a substantial amount of the designer's time; CATALOGUE BULLETINS describing Webster apparatus from the standpoint of the engineer.

Webster Vacuum Systems

Operate on exhaust or live steam at very low pressure. Used with direct radiation or in combination with blast coils or unit heaters. Particularly suited for large buildings or where process steam is used.

Webster Type "R" Modulation Systems

A low pressure steam heating system suitable for all types of buildings having little or no demand for process steam and a basement or other means for placing low pressure boiler *below* the lowest radiator. For installations from 500 to 32,000 sq. ft. of equivalent direct cast iron radiation. Can be operated safely and satisfactorily by unskilled labor.

Operation:—Steam pressure is controlled by the sensitive Webster Damper Regulator. Steam is admitted to radiators thru Webster Modulation Valves or Webster Sylphon Valves. Condensation and air are freely discharged past Webster Return Traps which close on contact with steam, thus avoiding waste. Air and condensation are carried to the basement apparatus consisting of the Webster Boiler Return Trap and Vent Trap in combination. All air escapes thru the Webster Vent Valve. The Webster Boiler Return Trap provides positive equalization of pressure assuring return of water to boiler.

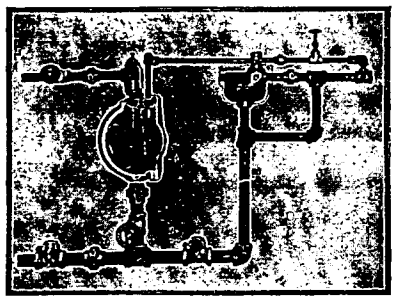


Fig. 1. Webster Type "R" System Basement Equipment

Webster Sylphon Packless Quick-opening Supply Valves

Open with less than a turn of lever or wheel handle. Positively packless, having flexible laminated Sylphon bellows completely enclosing stem. Body of steam brass, composition disc, hard rubber handle. Made in ½ to 1½-in. sizes. Ask for Bulletin 705-51.

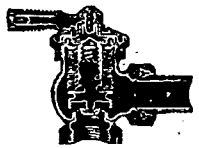


Fig. 2. Webster Sylphon Packless Quick-Opening Valve

Webster Modulation Supply Valves

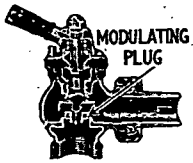


Fig. 3. Webster Modulation Supply Valve

Provide by means of the tapered modulating plug, close heat control of each radiator. Particularly well-suited for residence heating systems, as it permits heating any desired portion of radiator. Sizes, ½ to 1¼ in. Ask for Bulletin 705-3.

Webster Sylphon Traps

Effectively discharge all condensation and entrained air from radiators or coils without permitting passage of steam. Operation is by means of a sensitive volatile liquid contained in a rugged Sylphon bellows. Factory adjusted, and made in sizes from ½ to 1¼ in. Ask for Bulletin 701.

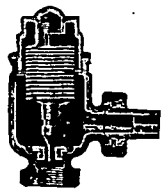


Fig. 4. Webster Sylphon Trap

Webster High Pressure Traps

Webster No. 78 series Thermostatic Traps provide an effective means for drainage condensation and air under high pressure conditions. Made in two classes for service up to 100 lbs. per sq. in. The cooperation of the Webster Sales Engineering organization is extended to all those having high pressure drainage problems.

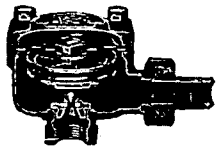


Fig. 5. Webster High Pressure Trap, No. 78 Series

CoKal Stoker Corporation

1010 Wrigley Building, CHICAGO, ILL.

Combustion Engineers

Representatives in

BUFFALO KANSAS CITY NEW YORK CITY PHILADELPHIA PITTSBURGH ST. LOUIS

and in all Principal Cities

PRODUCTS

CoKal Plain Hand Fired Stoker.

CoKal Hopper Feed Stoker.

CoKal Power Feed Stoker.

CoKal CombustiKator for Low Pressure Boilers.

CoKal Pulverzone

Also CoKal Hang-over Arch for H. R. T. Boilers; all standard types of Boiler Arches.

The "PULVERZONE" undoubtedly represents the ideal method of burning coal, for it burns the fines in suspension and spreads the larger particles of coal according to their weight over the entire grate area. Smokeless at all loads, it meets the strictest smoke ordinances.

A blast passes through the curtain of coal, carrying the fines into the furnace space where they ignite in suspension. Eight nozzles are arranged so that turbulence before, at and after ignition causes intimate mixing of air and volatile with very high combustion efficiency and full utilization of furnace volume in consequence. By distributing coal particles over fuel bed according to their weight, the coarser coal dropping down directly in the coking zone at front while the lighter pieces pass toward the rear, a porous fuel bed of low resistance to air supply is obtained while holes in fire are prevented. Intensive combustion rates with low draft become possible. Hand cleaning is eliminated.

The PULVERZONE combines the three most approved methods of burning coal:

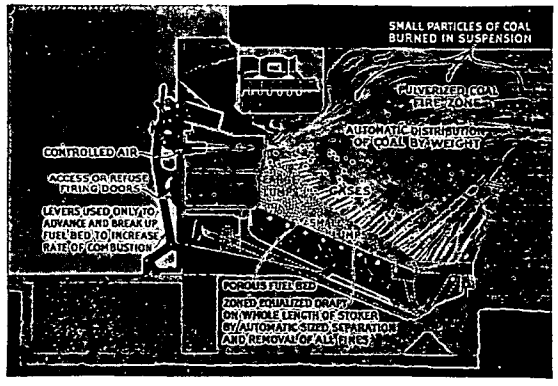
1—PULVERIZED COAL BURNING
Instantaneous ignition of the fine particles in suspension without danger of explosion.

2—SPREAD METHOD
(Light and Continuous) by automatically separating, grading and distributing of coal sizes by weight.

3—COKING METHOD
The Standard CoKal Stoker fuel bed provides the intense heat necessary for burning the fines and the spread coal.

The outstanding features of the PULVERZONE are—smokelessness; high efficiencies; quick response to load changes; large overloads; perfect combustion using standard screenings (wet or dry); no slagging; eliminates cleaning periods.

The PULVERZONE is suitable for all boilers from 100 to 2000 boiler horsepower. The CombustiKator is ideal for boilers of the Kewanee firebox type. Ask for full particulars about the five types of CoKal coal burning equipment.



PULVERZONE showing "turbulence before, at and after ignition" and general arrangement of fuel bed