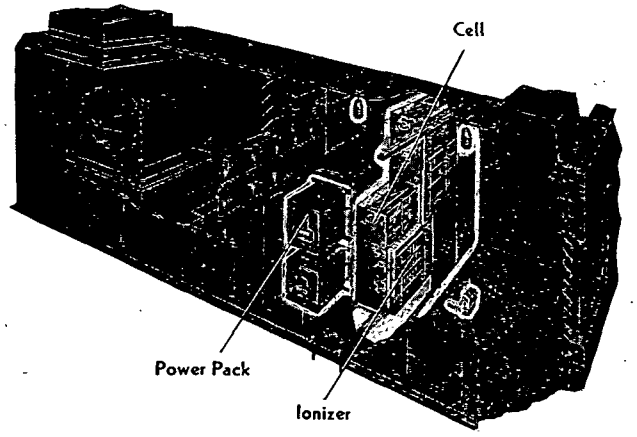
B. F. Sturtevant Company

Division of Westinghouse Electric Corporation

Hyde Park, Boston, Mass.

PRECIPITRON*

Westinghouse Precipitron—the electronic air cleaner—now makes possible greater efficiency in removing dust, dirt, smoke and other foreign particles from the air. The Precipitron cells are simply installed in the forced-air or air-conditioning system and sealed so the air must pass through them (see illustration). Dirt, smoke and soot pass through an electrostatic field, receive a positive charge, and are drawn to a collection plate of opposite polarity where they remain until flushed down the drain.



ADVANTAGES

The following major advantages make Precipitron the complete answer to mass air cleaning in all buildings using forced ventilation or air-conditioning duct systems.

Unmatched Efficiency — Precipitron removes particles as small as 1/250,000 of an inch in diameter, and removes 90 per cent of all air-borne dust particles in the air stream.

Easily Cleaned—New vertical collector plates make it still easier to clean the Precipitron. Collected dirt is flushed harmlessly down the drain.

Safe—Precipitron is approved by Underwriters' Laboratories without installation of additional fire protection apparatus.

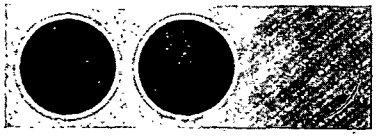
Nothing to Clog—Precipitron creates only negligible resistance in the forced air system under continuous operation.

No Moving Parts—Precipitron has no more moving parts than a storage battery.

*Trademark registered in U.S.A.

TESTS PROVE EFFICIENCY

Accepted testing methods previously conducted on a weight basis have been obsoleted since Precipitron entered the field of air cleaning. The Blackness Test reproduced here provides greater accuracy, approximates the actual particle count and is made without the addition of artificial dust. The efficiency of Precipitron by Weight Test showed over 99% and by the Blackness Test as high as 90% at 300 FPM per 36 in.



Uncleaned Air — *Mechanically Cleaned Air* — *Electronically Cleaned Air*

Test Comparisons Proving High Efficiency of Precipitron

MAJOR COMPONENTS OF INSTALLATION WITH AUTOMATIC WASHER

CELLS

The cell itself, known as the Collector, is composed of two duplicate sets of high voltage and ground plates mounted between two load-bearing end plates laced together by steel bars, angles and channels to form a rigid structure.

Precipitron is built in sizes to handle from 1200 cfm (for a single 24 in. cell) to any desired volume through multiple cell arrangements. Cells are available in two sizes: 24 in. x 24 in. x 26½ in. and 36 in. × 24 in. × 26½ in. For 90 per cent efficiency, the 24 in. and 36 in. cells are rated at 1200 and 1800 cfm respectively. For 85 per cent efficiency, ratings are 1500 and 2250 cfm.

IONIZERS

Made of formed sheet steel, top, bottom and side plates welded together to form a rigid frame. The ground tubes run vertically between the top and bottom plates. Two sets of Ionizing wires are used; one, the usual vertical set, and another set stretching horizontal at the ends to prevent leakage around the ends of the wires.

POWER PACKS

The Power Pack is employed to change the a-c supply to d-c of suitable voltage to charge the Ionizers and Collector Cells. They furnish approximately 6 kv (6000 volts) d-c to the plate circuit of Collector Cells and 13 kv (13,000 volts) d-c to the Ionizer circuit.

The Power Packs contain rectifier tubes, Inerteen impregnated capacitors, and an indicator system and panel. Cabinet doors, opened by a thumb screw, provide time delay, simultaneously breaking the primary circuit, if this has not already been done at another point.

Three types of Packs are available, differing principally in the number of cells they will energize. These types are:

Type L—Suitable for 4 to 16-36 in. cells.

Type S—Suitable for 1 to 5-36 in. cells.

Type M—Suitable for 1-24 in., 2-24 in., 1-36 in., or 1-24 in. and 1-36 in. cell.

All Power Packs are designed to operate from 115 volts ± 5 volts on single phase a-c systems.

TRAVELING HEADER

The basic element of the automatic washer is a set of spray nozzles which spray either water, compressed air or adhesive on the Precipitron cells. Water nozzles are mounted on a horizontal header and a mechanism is provided to move this header vertically up and down over the face of the cells. The secondary element of the washer is the control of its automatic operation which is described under "Control Panel."

Illustration below shows complete washer with back vanes closed, the washing being done with vanes in this position as air is prevented from going through this group and forced through the balance of the cells where it is cleaned.

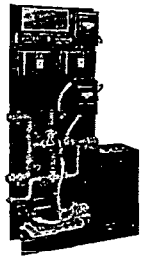
Header is moved by means of roller chains driven through a gear reducer by a ½ hp, 220-440 volt, 3 phase motor. A limit switch controls up and down travel of header.

CONTROL PANEL

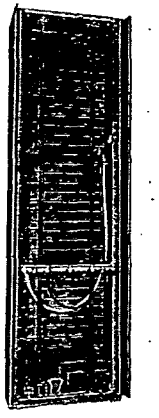
This panel operates the two traveling headers of the washer automatically once they have been placed in position on either side of the cell group to be washed and the momentary contact pushbutton on the panel has been pushed.

Control Panel comes fully assembled, is internally wired and ready to be set in place. The control circuit requires 110 volts single-phase (25 or 60 cycles) of sufficient capacity to carry a ¼ hp motor. The power circuit requires either 220-volt or 440-volt, 3-phase, 25 or 60 cycle power of sufficient capacity to handle two ½ hp motors in reversing service.

FULL DETAILS—For complete information on this new principle of cleaning air electronically, write Westinghouse Electric Corporation, Box 868, Pittsburgh 30, Pa. or contact your nearest Westinghouse office.



Control Panel



Travelling Header