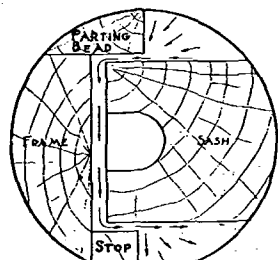


Comparison of fuel quantities and costs to heat air entering various sliding sash windows, as air infiltration or in-leakage. Assuming 65% overall efficiency of heating plant.

Window,	3' x 7' Crack 23 lin. feet
Wind,	20 miles per hour
B.t.u. to raise 1 cu. ft. air from zero to 70°,	1.439
B.t.u. per lb. best coal,	13,080
Duration Heating Season (24 hr. per day),	130 days
Cost Coal,	\$6.00 per ton
Overall efficiency of heating plant,	65% (high)
Net B.t.u. - 13,080 x .65 = 8500 B.t.u. effective.	

Leakage—		
Unstripped window,	114 cu. ft. per hr. per ft. crack	
Monarch Rib Strip, No. 404,	55.8 " " " " " "	
Monarch Adjustable Strip, No. 400,	24 " " " " " "	

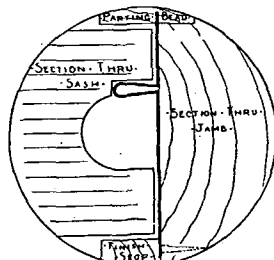


Unstripped Window "A"

$$\frac{23 \times 114 \times 1.439}{8500} = 0.445 \text{ sq. ft. coal per hour}$$

$$\frac{0.445 \times 24 \times 130}{2000} = \frac{1385}{2000} = .694 \text{ tons per season}$$

$$\$6.00 \times .694 = \$4.16 \text{ per season}$$

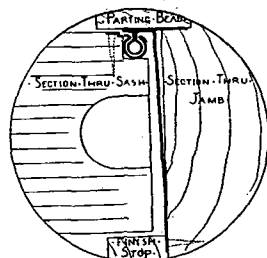


Monarch Rib Strip No. 404 "B"

$$\frac{23 \times 55.8 \times 1.439}{8500} = 0.218 \text{ sq. ft. coal per hour}$$

$$\frac{0.218 \times 24 \times 130}{2000} = \frac{680}{2000} = 0.34 \text{ tons per season}$$

$$\$6.00 \times .34 = \$2.04 \text{ per season}$$



Monarch Adjustable Strip No. 400 "C"

$$\frac{23 \times 24 \times 1.439}{8500} = 0.0935 \text{ sq. ft. coal per hour}$$

$$\frac{0.0935 \times 24 \times 130}{2000} = \frac{0.292}{2000} = 0.146 \text{ tons per season}$$

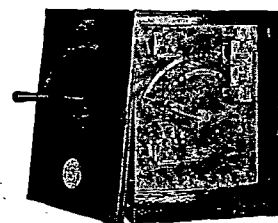
$$\$6.00 \times 0.146 = \$0.875 \text{ per season}$$

Using the figures above, comparisons may be drawn between the old method of using air change and the new method of infiltration, that the air changes are dependent directly on the lineal footage of window cracks. For instance, a room having four windows would require four times as much radiation for air change as another room with a single window of the same size, irrespective of the cubical contents of the room. Heating specifications should provide, that the owner or architect guarantee the efficiency of the window to insure the satisfactory operation and low cost of a heating plant.

GENERAL ELECTRIC COMPANY

Schenectady New York

Sprague Ventilating Equipments

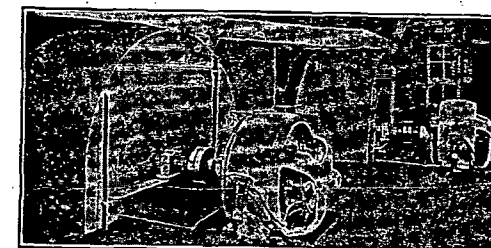


From the early efforts at ventilating large buildings twenty years ago to the present day, the Sprague Engineers have been co-operating with architects and engineers in the making of practical ventilating equipment. Resulting installations are now found in many well known hotels, office buildings and department stores, where they have distinguished themselves for exceptional reliability and economical operation.

Three typical pieces of modern Sprague equipment are illustrated below:

Sprague Electric controllers for varying speed A. C. fan motors with magnetic main line contractor, under-voltage and overload protection, large number of speed steps, and complete enclosure of live parts are the ideal equipment for architects and engineers to specify when the circuit is alternating current.

The Sprague type LC D. C. slow speed motor is especially adapted for driving ventilating fans. The steel field, laminated poles, commutating poles, substantial end-brackets, correct oiling systems, ideal electrical design, well built commutators, rigidly supported brush holders—these insure a long life, lowest possible current consumption and the smallest maintenance charges.



Sprague Electric remote controlled push button operated, automatic self-starting speed regulators (D. C. here illustrated) for either A. C. or D. C. motors are being used to an increasing extent. These controllers are simple in operation, with negligible up-keep expense, and control the motor, at any desired predetermined speed, from a remote point. They are destined to be adopted generally for all classes of work to supplement manually operated controllers as the standard for the future.

We shall be glad to co-operate with Architects and Engineers in laying out their Ventilating Equipments.

