

(1). That the production of smoke was in most cases unnecessary and could be prevented with economy to the power-plant operator.

(2). No thoroughly practical method is known for abating the smoke in round-houses, coke ovens, and one or two special furnaces.

(3). No matter how perfect a smoke-preventing device has been installed, without intelligent operation, it will not be of much value for the prevention of smoke; that is to say, the fireman must be educated to do his work in a proper manner.

(4). Public opinion viewed the smoke nuisance as implying industry and prosperity for the city.

(5). No investigation of the subject as a whole has been made by the co-ordinated efforts of a group of men.

We find that certain types of installation are notorious 'smokers' while others are practically free from smoke at all times.

Furnace	No. of Stacks Observed	No. Violating the City Ordinance
Type 1	45	26
" 2	21	3
" 3	8	0
" 4	23	15
" 5	15	0
" 6	1	0

The human element must not, however, be neglected in this connection. It is possible for a skilled fireman to operate a hand-fired furnace without objectionable smoke, even if it is not correctly constructed. But, given an unskilled or careless man in charge, the most modern of plants may become the most objectionable smokers in the neighbourhood.

To do away with smoke and thus increase efficiency, one must bear in mind three things:

(1). The mechanical contrivance for burning the coal must be suited to the purpose.

(2). The fireman must be trained to do his work in a proper manner.

(3). Some method of furnace control should be employed—CO<sub>2</sub> recorders and pyrometers—so that the efficiency of the furnace and the amount of smoke produced may be known both to the fireman and the superintendent.