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VISIT TO FIRE AT RITZ CINEMA MUSWELL HILL

by

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June, 1955.

Fire Research Station,  
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Boreham Wood, Herts.

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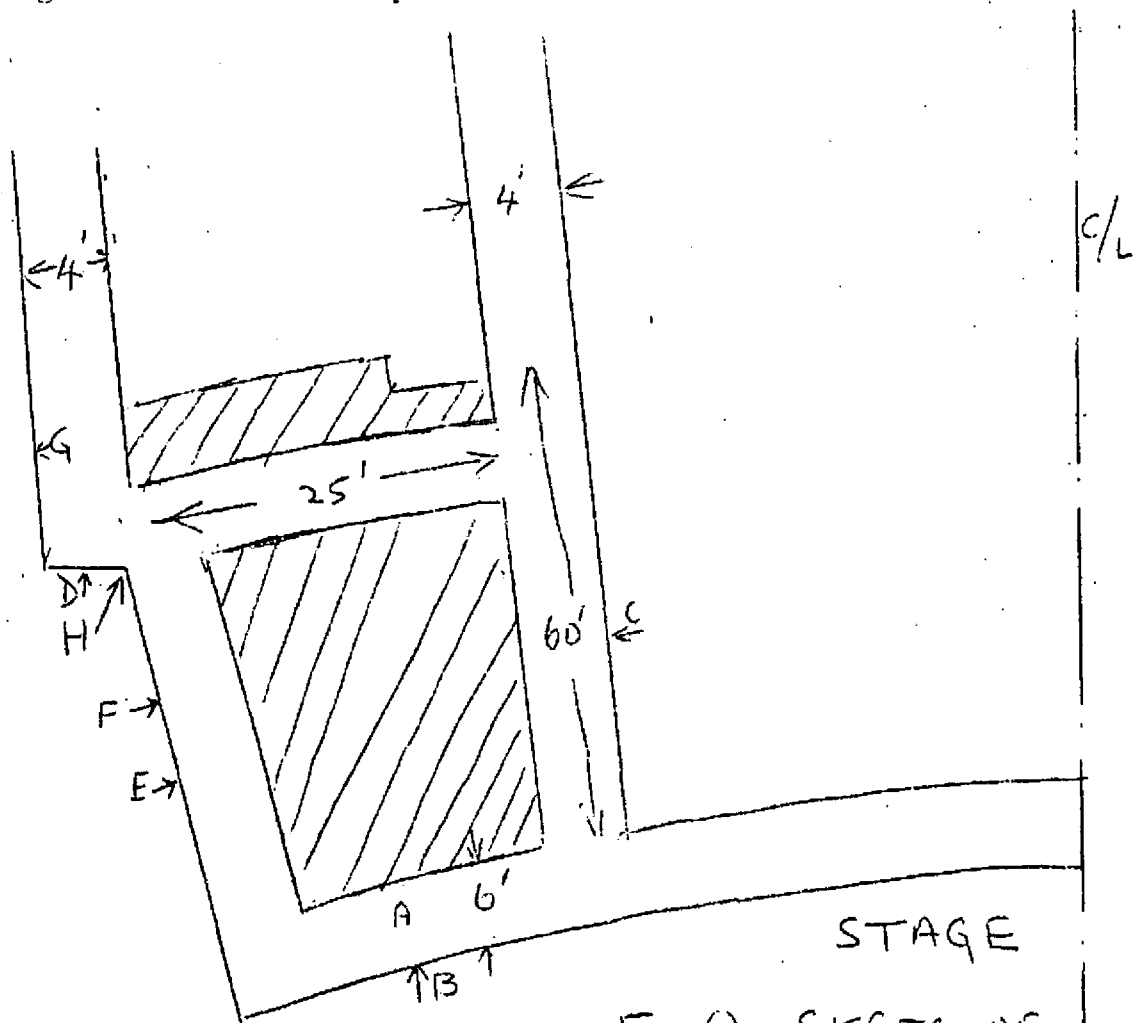
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On the night of 5 - 6th May a fire occurred in the auditorium of the Ritz Cinema, Muswell Hill, after the last performance on the 5th, and the inspection by the staff at about 10.15 p.m.

At 7.00 a.m. the following morning a cleaner found a fire involving an area of about 1,400 sq.ft. of seating of the front stalls; flames were about 18 in. above some of the seats.

The alarm was given and the fire readily extinguished by the fire brigade without further spread.



FIG(1). SKETCH OF  
FIRE AREA  
(Dimensions  
approximate)

Observation

The above sketch shows the area burnt and the surrounding gangways and exits. By 10.45 a.m. all the burnt seats and carpeting in the nearby gangways had been removed but the following features could be observed.

1. The burnt material consisted of 144 seats each weighing about 20 lbs. (The total stalls capacity was 1,200). The burnt seats had various coverings, moquette, duck and mohair. In addition about 1,400 sq.ft. of 1 in. timber and 100 - 150 sq.ft. of carpet in the gangways, principally between the two parts of the burnt seating area.

2. Timber beneath the carpets in the gangways, including that between the larger and smaller areas burnt, was uncharred.
3. The carpeting at (A) was unburnt and there was no charring of the wooden balustrade (4 ft. high) (B) in front of the stage nor on the seats of the centre block (C). Paintwork on the exit doors (D) and (E) was blistered but the rubber hose reel in a recess in the side wall at (F) was unaffected.
4. Plaster had fallen from the wall at (G) and (H). The area of (G) was about 15 sq. ft and at (H) about 1 sq. ft. The plaster on the underside of the ground of the balcony was cracked in about six places but none had fallen.

#### Discussion

The total heat liberated, assuming complete combustion, was about  $4 \times 10^{10}$  calories.

The heating is approximately equivalent to 1000 cal/sq.cm. while the corresponding figure for flashover in a plasterboard model room was 500 cal/sq.cm. Had the ventilation in the model room been comparable to that of the cinema this figure would have been much reduced and it would probably not have flashed over.

On an area basis, it would be seen that relatively more heat was produced in the cinema than in the model room, but at about  $1/10$ th of the rate. It is this much lower rate of heat generation that presumably accounts for the absence of flash-over.

The approximate ratio of weight of air present in the cinema to the weight burnt is 2. The theoretical value for complete combustion is 6, so there may well have been some oxygen starvation.