

DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH  
AND  
FIRE OFFICES' COMMITTEE  
JOINT FIRE RESEARCH ORGANIZATION

**STATISTICAL ANALYSIS  
OF  
REPORTS OF FIRES ATTENDED BY  
FIRE BRIGADES IN THE UNITED KINGDOM  
DURING 1955**

(Prepared by the Joint Fire Research Organization for  
the Home Office and the Scottish Home Department)

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## PREFACE

Tables of statistics relating to fires attended by national and Local Authority fire services in the United Kingdom have been compiled annually for the Home Office since 1946 and have been available to Fire Brigades and certain other bodies with a direct interest in fire prevention and fire protection. Summary tables have also been published in the Annual Reports of the Joint Fire Research Organization.

From enquiries received by the Organization it appears that there may be an interest in the fuller fire statistics which is not catered for by the limited circulation so far undertaken and, with the agreement of the Home Office and Scottish Home Department, the tables for 1955 contained in this volume are being made more generally available.

By arrangement with the Home Office, the Scottish Home Department, and Local Authorities, a report is received on every fire attended by a Local Authority Fire Brigade in the United Kingdom. The tables are compiled from these reports. They do not give information on all the fires that occur, but they give an accurate assessment of all the fires to which Fire Brigades are called.

For the purpose of statistical analysis a one-in-four sample of reports received has been used. Details of the method of selecting the sample, and information on the possible sampling errors involved, are given in the Appendix.

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Statistics of fires attended by Fire Brigades in the United Kingdom

The tables are divided into four sections. The first section provides a summary of the United Kingdom figures for the years 1951 - 1955. More detailed statistical information for 1955 is given in sections II, III, and IV for England and Wales, Scotland, and Northern Ireland respectively.

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	England and Wales	Scotland	Northern Ireland
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## SECTION I

Table 1

## HAZARD IN WHICH FIRE STARTED

Reports from Fire Brigades in the United Kingdom, 1951-1955

Hazard in which fire started	No. of fires				
	1951	1952	1953	1954	1955
Fires in buildings					
Industrial and agricultural premises	7,902	8,588	8,080	8,290	9,408
Gas, water, electricity and sewage undertakings	236	224	215	212	192
Transport and communications	1,748	1,720	1,635	1,722	2,148
Commercial premises	3,482	3,640	3,470	3,508	3,872
Offices, Government and other	552	704	505	596	636
Navy, Army, Air Force and Fire Service establishments	362	420	330	442	432
Professional establishments, public institutions	1,640	1,852	1,475	1,740	1,816
Places of public entertainment	608	720	610	532	616
Private residential houses and flats	20,034	22,488	21,240	22,808	23,520
Clubs, hotels, restaurants, public houses	2,822	2,804	2,765	2,516	2,888
Other buildings	3,008	3,536	3,550	3,604	4,964
TOTAL FIRES IN BUILDINGS	42,394	46,696	43,875	45,970	50,492
Fires other than those in buildings					
Crops, standing or stooked, ricks, stacks, etc.	1,942	2,932	2,425	1,808	3,596
Grassland, heathland, railway embankments	10,140	19,252	17,285	14,940	35,636
Woods, forests, plantations	548	1,024	870	432	724
Other hazards of agriculture and forestry	2,078	3,608	3,440	2,862	5,572
Aircraft	100	140	90	142	100
Railway rolling stock, etc.	394	448	505	346	616
Road vehicles	5,824	6,524	6,760	6,602	7,920
Ships and river craft; marine structures	450	524	530	552	652
Refuse	3,204	4,416	4,755	4,600	7,340
Outdoor storage	1,878	2,120	2,155	2,078	3,620
Other fires	34,544	4,084	4,310	4,168	5,504
TOTAL FIRES OTHER THAN THOSE IN BUILDINGS	30,102	45,072	43,125	38,530	71,280
TOTAL FIRES ATTENDED	72,496	91,768	87,000	84,500	121,772

## SECTION I

Table 2A

## SUPPOSED CAUSES OF FIRES IN BUILDINGS

Reports from Fire Brigades in the United Kingdom, 1951-1955

Supposed cause of fire	No. of fires				
	1951	1952	1953	1954	1955
Ashes, soot	1,064	872	930	822	1,088
Braziers	100	76	90	100	68
Campfire, fire in open air <sup>(1)</sup>	...	...	...	-	12
Candle	344	356	340	364	308
Chimney on fire, not confined to chimney	1,192	2,556	2,610	3,168	3,164
Chimney, sparks from (outside building)	370	484	530	400	416
Cooker, cooking range, oven, other than coal gas, electric or oil. <sup>(1)</sup>	416	376	420	408	380
Electric cooker	784	804	930	924	976
fire, heater, radiator	1,180	1,148	1,045	1,190	1,416
iron	364	372	365	376	364
motor	310	324	295	256	268
refrigerator	1,020	1,124	1,025	918	880
wire and cable	2,694	2,728	2,825	2,630	2,536
wireless, television	548	584	560	592	540
other apparatus	948	924	970	1,298	1,772
Explosives, fireworks	182	232	190	280	272
Fire in grate igniting -					
bedding, clothing, linen, furniture and furnishings	1,096	1,044	1,035	1,178	1,064
structural timber under	798	1,148	930	1,060	1,116
hearth	1,956	2,592	740	2,712	2,472
other materials	3,616	3,868	4,085	2,752	2,724
Fish frying range (all fuels)	1,040	876	1,020	864	936
Flue	848	956	1,120	1,148	956
Furnace (coal or coke)	64	76	50	68	64
Gas (coal) burner, jet, ring cooker	658	640	575	524	400
fire, heater, radiator	268	232	160	286	304
other apparatus	480	472	395	608	640
Incubator, brooder (all fuels)	592	496	850	582	720
International burning of grassland, gorse etc.	16	4	10	24	28
Lightning	76	198	145	60	104
Lime	22	12	5	16	-
Locomotives, sparks from	208	272	215	242	336
Malicious ignition, (1) (2)	212	184	155	228	244
Matches	646	852	760	770	924
Matches, children playing with	2,128	2,168	2,130	2,254	3,192
Mechanical heat or sparks	536	524	555	500	588
Metal, hot	264	268	185	240	212
Naked light <sup>(1)</sup> (3)	558	640	645	484	584
Oil blow lamp	920	800	890	1,058	1,036
engine (including petrol)	220	204	285	200	256
lamp, stove	906	880	725	1,034	1,224
tractor	88	100	95	102	80
other apparatus	180	180	170	238	200
Oxyacetylene cutting and welding apparatus	374	400	345	366	336
Rubbish burning	520	576	675	682	672
Slow combustion stove igniting					
structural woodwork	378	496	300	376	400
other materials	942	1,184	935	996	1,032
Smoking materials	3,754	3,876	3,640	3,714	4,412
Spontaneous combustion	352	216	150	182	364
Static electricity	32	8	35	34	36
Steam roller, engine, traction engine	4	-	10	4	-
Sun's rays	56	60	60	22	120
Taper, lighted paper or sticks	268	332	360	330	380
Taper, lighted paper or sticks, children playing with	132	96	85	128	156
Miscellaneous <sup>(4)</sup>	1,036	928	790	724	1,012
Unknown source of ignition	3,618	4,708	4,385	4,182	5,148
TOTAL FIRES IN BUILDINGS		42,394	46,696	43,875	45,970
					50,492

Notes (1) Causes specified for the first time in the Annual Statistical Tables for 1954.

(2) Malicious ignition is a general heading for suspected or proven arson or incendiarism.

(3) No further information given in original reports.

(4) Not comparable with the miscellaneous category in Annual Statistical Tables for the years prior to 1954.

## SECTION I

Table 2B

## SUPPOSED CAUSES OF FIRES OTHER THAN THOSE IN BUILDINGS

Reports from Fire Brigades, in the United Kingdom, 1951-1955

Supposed cause of fire	No. of fires				
	1951	1952	1953	1954	1955
Aircraft, crashed	80	104	85	132	80
Ashes, soot	750	976	1,240	1,280	1,872
Brazier	156	152	120	148	168
Camp fire, fire in open air <sup>(1)</sup>	...	...	...	226	360
Candle	8	8	10	8	20
Chimney on fire not confined to chimney	-	-	-	-	4
Chimney, sparks from (outside building)	58	64	85	76	112
Cooker, cooking range, oven other than coal gas, electric or oil <sup>(1)</sup>	20	20	25	12	16
Electric motor	28	32	65	50	36
wire and cable	2,722	3,140	2,885	2,966	2,724
other apparatus	370	384	625	532	1,056
Explosives, fireworks	312	492	410	506	708
Fish frying range, (all fuels)	36	36	20	22	20
Flue	48	78	90	142	116
Furnace (coal or coke)	2	8	-	4	4
Gas (coal) apparatus	312	332	370	412	512
Incubator, brooder (all fuels)	6	4	20	28	20
Intentional burning of grassland, gorse, etc.	294	388	640	400	824
Lightning	36	100	35	60	52
Lime	36	44	60	28	12
Locomotives, sparks from	4,782	7,612	5,635	5,070	13,340
Malicious ignition <sup>(1) (2)</sup>	116	48	80	90	108
Matches	406	732	850	600	1,256
Matches, children playing with	5,312	8,512	8,440	8,088	15,368
Mechanical heat or sparks	448	324	400	458	604
Metal, hot	92	40	60	54	96
Naked light <sup>(1) (3)</sup>	576	904	855	508	1,252
Oil blow lamp	36	76	30	66	48
engine (including petrol)	1,992	2,160	2,420	2,150	2,784
lamp, stove	134	204	230	178	288
tractor	238	416	420	278	440
other apparatus	74	136	205	150	312
Oxyacetylene cutting and welding apparatus	298	264	360	352	432
Rubbish burning	2,430	4,052	3,640	3,214	6,940
Slow combustion stove	250	404	390	322	332
Smoking materials	2,918	4,804	4,255	3,238	7,060
Spontaneous combustion in rubbish other materials	94	104	105	148	220
	632	644	335	366	660
Static electricity	-	4	-	4	8
Steam engine, roller, traction engine	4	4	5	12	24
Sun's rays	86	196	100	38	296
Taper, lighted paper or sticks	46	64	100	150	176
Taper, lighted paper or sticks, children playing with	44	56	40	18	52
Miscellaneous <sup>(4)</sup>	356	636	570	300	336
Unknown source of ignition	3,464	6,316	6,825	5,650	10,132
 TOTAL FIRES OTHER THAN THOSE IN BUILDINGS	 30,102	 45,072	 43,125	 38,530	 71,280

Note: (1) Causes specified for the first time in the Annual Statistical Tables for 1954.

(2) Malicious ignition is a general heading for suspected or proven arson or incendiarism.

(3) No further information given in original reports.

(4) Not comparable with the miscellaneous category in Annual Statistical Tables for the years prior to 1954.

## SECTION I

Table 3A

## METHOD OF EXTINCTION OF FIRES IN BUILDINGS

Reports from Fire Brigades in the United Kingdom, 1951-1955

Method of extinction	Extinguished before arrival of Fire Brigade					Extinguished by Fire Brigade					Total				
	1951	1952	1953	1954	1955	1951	1952	1953	1954	1955	1951	1952	1953	1954	1955
1 Burned out	702	892	815	904	844	-	-	-	-	-	702	892	815	904	844
2 Removal	1,106	1,144	1,210	1,278	1,100	3,518	3,872	3,315	3,616	3,008	4,624	5,016	4,525	4,894	4,108
3 Automatic sprinkler system	36	12	25	42	60	-	-	-	-	-	36	12	25	42	60
4 Beating	180	240	170	240	316	60	52	50	54	64	240	292	220	294	360
5 Smothering	868	804	690	830	952	236	256	315	298	388	1,104	1,060	1,005	1,128	1,340
6 Sand, earth, etc.	152	156	175	130	188	46	48	55	38	44	198	204	230	168	232
7 Water from buckets	3,240	3,168	2,910	3,022	3,368	2,556	2,912	2,560	2,692	2,636	5,796	6,080	5,470	5,714	6,004
8 Water from stirrup or hand pumps	44	56	30	50	48	4,184	4,868	4,055	4,446	4,408	4,228	4,924	4,085	4,496	4,456
9 Chemicals and chemical extinguishers	1,114	1,276	1,125	1,216	1,146	2,050	2,156	2,000	1,862	1,916	3,164	3,432	3,125	3,078	3,064
10 Two or more methods 4 - 9	406	364	350	374	436	314	232	95	150	248	720	596	445	524	684
11 Water from garden hose	172	164	115	170	216	-	-	-	-	-	172	164	115	170	216
12 Hose reel jets (using water in tank only)	36	32	20	48	40	11,960	13,964	14,625	15,696	18,568	11,996	13,996	14,645	15,744	18,608
13 Hose reel jets (using more water than that in tank)	6	-	5	8	-	2,400	2,656	2,470	2,184	2,552	2,406	2,656	2,475	2,172	2,552
14 Jets from inside hose reel or inside hydrant	64	72	45	60	60	100	92	135	102	100	164	164	180	162	160
15 Hose reel jets and jets from hydrants	-	-	-	2	-	26	12	35	8	28	26	12	35	10	28
16 Jets from pumps and hydrants	112	88	120	104	96	5,858	6,140	5,490	5,528	6,536	5,970	6,228	5,610	5,632	6,632
17 Other and undefined methods	422	452	455	450	616	426	516	415	388	508	848	968	870	838	1,124
18 TOTAL FIRES IN BUILDINGS	8,660	8,920	8,260	8,928	9,488	33,734	37,776	35,615	37,042	41,004	42,394	46,696	43,875	45,970	50,492

Notes on methods of extinction

1. "Removal" includes occurrences where (a) burning material was removed from the building (b) gas supply was turned off. If the burning material was tackled with methods 3-11 before removing it from the building, then such occurrences were classified under whichever of these methods applied.
2. Methods 11-15 and method 16 include those occurrences in which methods 3-10 and 3-15 respectively may also have been used.
3. "Fires extinguished by the Fire Brigade" include those fires which were tackled but not extinguished before the arrival of the Fire Brigade.

## SECTION I

Table 3B

## METHOD OF EXTINCTION OF FIRES OTHER THAN THOSE IN BUILDINGS

Reports from Fire Brigades in the United Kingdom, 1951-1955

Method of extinction	Extinguished before arrival of Fire Brigade					Extinguished by Fire Brigade					Total				
	1951	1952	1953	1954	1955	1951	1952	1953*	1954	1955	1951	1952	1953*	1954	1955
1 Burned out	828	1,020	1,065	1,276	1,572	-	-	-	-	-	828	1,020	1,065	1,276	1,572
2 Removal	338	364	355	394	508	644	676	720	732	728	982	1,040	1,075	1,126	1,236
3 Automatic sprinkler system	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
4 Beating	484	896	925	784	1,432	3,634	6,348	7,345	6,468	11,540	4,118	7,244	8,270	7,252	12,972
5 Smothering	364	360	400	366	428	28	92	45	60	56	392	452	445	426	484
6 Sand, earth, etc.	232	288	275	270	312	134	136	150	174	188	366	424	425	444	500
7 Water from buckets	664	848	865	750	1,160	478	636	345	428	620	1,142	1,484	1,210	1,178	1,780
8 Water from stirrup or hand pumps	10	-	10	10	12	224	316	255	190	340	234	316	265	200	352
9 Chemicals and chemical extinguishers	942	1,116	995	1,036	1,276	1,656	1,724	1,700	1,638	2,108	2,598	2,840	2,695	2,674	3,384
10 Two or more methods 4 - 9	250	272	285	236	316	312	504	485	326	880	562	776	770	562	1,196
11 Water from garden hose	56	92	70	58	120	-	-	-	-	-	56	92	70	58	120
12 Hose reel jets (using water in tank only)	56	96	125	150	200	10,270	17,132	16,700	15,444	31,552	10,326	17,228	16,825	15,594	31,752
13 Hose reel jets (using more water than that in tank)	4	4	5	6	8	1,238	1,916	1,495	1,202	2,896	1,242	1,920	1,500	1,208	2,904
14 Jets from pumps and hydrants	142	184	150	120	232	6,708	9,468	7,855	6,008	12,244	6,850	9,652	8,005	6,128	12,476
15 Other and undefined methods	270	344	335	258	356	136	240	170	144	196	406	584	505	402	552
16 TOTAL FIRES OTHER THAN THOSE IN BUILDINGS	4,640	5,884	5,860	5,716	7,932	25,462	39,188	37,265	32,814	63,348	30,102	45,072	43,125	38,530	71,280

Notes on methods of extinction

1. Methods 10-12 and method 13 include those occurrences in which methods 3-9 and 3-12 respectively may also have been used.
2. "Fires extinguished by the Fire Brigade" include those fires which were tackled but not extinguished before the arrival of the Fire Brigade.

\* Revised figures.

## SECTION I

Table 4

## CASUALTIES IN FIRES

Reports from Fire Brigades in the United Kingdom, 1951-1955\*

Casualties	England and Wales					Scotland					Northern Ireland					United Kingdom				
	1951	1952	1953	1954	1955	1951	1952	1953	1954	1955	1951	1952	1953	1954	1955	1951	1952	1953	1954	1955
<u>Fatal casualties</u>																				
Fire Brigade	3	-	3	3	2	-	-	-	-	-	-	-	-	-	-	3	-	3	3	2
Other casualties	570	581	377	423	574	45	49	48	67	50	3	6	37	2	7	618	636	480	492	631
Total	573	581	380	426	576	45	49	46	67	50	3	6	37	2	7	621	636	483	495	633
<u>Non-fatal casualties</u>																				
Fire Brigade	1,146	1,250	1,126	**584	**347	115	152	78	**40	**60	21	28	33	**7	**10	1,282	1,430	1,237	**631	**417
Other casualties	3,705	3,700	3,582	3,454	3,065	240	267	248	210	218	46	37	58	27	44	3,991	4,004	3,888	3,691	3,327
Total	4,851	4,950	4,708	4,038	3,412	355	419	326	250	278	67	65	91	34	54	5,273	5,434	5,125	4,322	3,744
Total casualties	5,424	5,531	5,088	4,464	3,988	400	468	372	317	328	70	71	128	36	61	5,894	6,070	5,588	4,817	4,377

\* The number of fatalities is less than the number of deaths recorded by the Registrars General as being due to conflagration and accidental burns and scalds because although the Fire Brigades most probably attend all occurrences where persons are burnt to death by being trapped in burning buildings, etc., they only attend a proportion of the much larger number of incidents where deaths due to accidental burns and scalds occur.

\*\* Change in reporting procedure excludes casualties requiring first-aid treatment only in 1954 and subsequent years.

## SECTION II

## STATISTICAL TABLES FOR FIRE BRIGADES IN ENGLAND AND WALES, 1955

Table 1

## METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of a one in four sample of reports by four)

Method of Calling	County Fire Brigades																																	
	Anglesey	Bedfordshire	Berkshire and Reading C.B.	Breconshire and Radnorshire	Buckinghamshire	Caernarvonshire	Cambridgeshire	Cardiganshire and Carmarthenshire	Cheshire	Cornwall	Cumberland	Derbyshire	Devon	Dorset	Durham	Ely, Isle of	Essex	Flintshire	Glamorgan	Gloucestershire	Hampshire	Herefordshire	Hertfordshire	Huntingdonshire	Kent and Canterbury	Lancashire	Leicestershire and Rutland	Lincolnshire, Holland	Lincolnshire, Рестевен	Lincolnshire, Линдсей				
By Special Fire Service methods	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-							
Automatic fire alarm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4							
Fire and police pillar box	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4							
Police telephone	-	48	84	-	-	40	8	8	32	1	1	16	-	-	-	24	4	16	4	-	48	-	8	-	4	20	92	16	56	16	48	16	8	32
Private fire telephone	-	-	4	12	-	-	-	-	-	4	-	52	4	-	-	24	-	24	48	-	60	-	52	-	16	-	16	4	64	72	-	-	8	
Street fire alarm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	-	-	68	-	-	-	-	4	-	-	-	-	-	-	-	
Total	-	52	100	-	40	8	12	32	76	4	-	-	48	4	52	52	-	176	-	60	-	20	20	120	20	124	92	48	16	8	44			
Exchange telephone	112	672	984	92	964	336	420	404	1,792	892	340	480	1,088	992	700	1,504	212	4,032	292	972	848	2,144	244	1,512	180	3,420	3,840	428	164	244	536			
Running call	8	56	44	12	72	24	40	20	128	16	56	88	116	52	20	140	24	236	24	68	28	80	4	88	16	164	396	44	8	4	80			
Late call	4	12	48	-	12	12	4	8	8	8	12	20	20	32	20	32	4	148	8	88	12	236	8	68	4	240	128	12	-	4	8			
Other and unde- fined methods	12	8	8	-	4	12	4	-	12	24	-	-	16	-	168	28	-	40	12	8	8	24	-	16	-	44	20	8	-	4	-			
Total fires	136	800	1,184	104	1,092	392	480	464	2,016	944	408	588	1,288	1,080	960	1,756	240	4,632	336	1,196	896	2,504	276	1,804	220	3,992	4,476	540	188	264	668			

SECTION II  
Table 1 (contd.)

METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of a one in four sample of reports by four)

Method of Calling	County Fire Brigades (Contd.)																										
	London	Merioneth	Middlesex	Monmouthshire	Norfolk	Northamptonshire	Northumberland	Nottinghamshire	Oxfordshire	Pembrokeshire	Peterborough, Soke of	Salop	Scilly, Isles of	Somerset	Staffordshire	Suffolk and	Sussex, East	Sussex, West	Warwickshire	Westmorland	Wight, Isle of	Wiltshire	Worcestershire and Worcester C.B.	Yorkshire East Riding	Yorkshire North Riding	Yorkshire West Riding	
By Special Fire Service methods																											
Automatic fire alarm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Fire and police pillar box	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	12		
Police telephone	20	-	4	16	-	16	20	-	24	-	4	40	-	24	124	44	152	12	24	28	8	-	20	60	12	60	
Private fire telephone	116	-	76	-	-	-	12	-	8	-	-	16	-	8	4	-	20	-	-	12	-	-	8	-	64	12	
Street fire alarm	136	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	272	-	80	16	-	16	32	-	32	-	8	56	-	32	152	44	172	16	24	44	8	-	20	68	16	108	84
Exchange telephone	7,608	108	4,144	372	960	456	896	1,336	388	224	116	488	-	728	1,504	1,144	2,984	720	656	1,168	84	156	800	916	308	628	3,336
Running call	564	-	220	80	52	36	72	104	24	20	16	48	-	32	172	104	96	44	32	60	24	4	36	80	32	52	424
Late call	528	-	336	24	4	-	8	64	8	4	20	44	-	20	28	12	113	12	8	48	4	8	32	44	8	32	44
Other and undefined methods	12	4	4	-	8	4	-	20	-	-	-	4	-	16	8	36	20	8	-	28	40	-	4	8	-	16	28
Total fires	8,984	112	4,784	492	1,024	512	1,008	1,524	452	248	160	640	-	828	1,864	1,340	3,388	800	720	1,348	160	168	892	1,116	364	836	3,916

## SECTION II

Table 1 (Contd.)

## METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of a one in four sample of reports by four)

Method of Calling	County Borough Fire Brigades																										
	Barnsley	Barrow in Furness	Bath	Birkenhead	Birmingham	Blackburn	Blackpool	Bolton	Bootle	Bournemouth	Bradford	Brighton	Bristol	Burnley	Burton on Trent	Bury	Cardiff	Carlisle	Chester	Coventry	Croydon	Darlington	Derby	Dewsbury	Doncaster	Dudley	Eastbourne
By Special Fire Service methods																											
Automatic fire alarm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Fire and police pillar box	-	-	8	4	-	28	40	32	4	4	-	-	-	4	40	-	4	8	12	-	-	-	4	8	4	-	
Police telephone	28	48	-	76	152	24	24	8	36	24	88	56	188	12	-	8	88	36	20	68	28	16	16	36	52	28	-
Private fire telephone	4	4	-	24	40	-	16	8	20	-	-	4	4	4	8	8	4	4	8	12	-	20	16	-	-	4	
Street fire alarm	-	-	-	-	160	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	8	-	-	-	-	-	
Total	32	52	8	104	352	52	80	48	60	28	88	60	196	56	8	20	124	52	28	80	36	36	44	56	28	4	
Exchange telephone	168	124	164	372	2,172	192	296	260	176	476	604	240	1,096	156	80	136	476	124	132	532	324	184	200	152	180	156	60
Running call	4	20	4	48	204	8	44	16	56	36	32	12	84	12	8	24	28	16	16	48	16	8	32	32	12	20	4
Late call	4	-	8	48	172	20	20	8	20	4	36	16	64	28	-	-	16	12	8	-	60	-	4	4	16	-	8
Other and undefined methods	-	-	-	-	-	-	4	-	-	4	-	4	16	-	-	4	-	8	-	4	8	8	-	4	-	-	20
Total fires	208	196	184	572	2,900	272	444	332	312	548	760	332	1,456	252	96	184	644	212	184	664	444	236	272	236	264	204	96

## SECTION II

Table 1 (Contd.)

## METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of a one in four sample of reports by four)

Method of Calling	County Borough Fire Brigades (Contd.)																										
	East Ham	Exeter	Gloucester	Great Yarmouth	Grimsby	Hallifax	Hastings	Huddersfield	Kingston upon Hull	Leeds	Leicester	Lincoln	Liverpool	Manchester	Merthyr Tydfil	Middlesborough	Newcastle upon Tyne and Gateshead	Newport	Northampton	Norwich	Nottingham	Oldham	Oxford	Plymouth	Portsmouth	Preston	Rochdale
By Special Fire Service methods																											
Automatic fire alarm	-	-	-	-	-	-	-	-	4	-	-	-	4	-	-	-	-	-	-	-	4	-	-	-	-	-	
Fire and police pillar box	-	12	-	-	-	8	-	4	4	-	-	-	-	4	-	-	72	-	-	72	-	4	-	-	16	-	4
Police telephone	8	32	-	20	32	40	16	40	140	156	52	12	240	300	20	60	108	68	36	20	88	36	20	64	36	-	24
Private fire telephone	12	-	-	-	8	-	-	-	-	-	4	-	20	32	-	-	4	-	-	4	28	8	-	36	48	-	4
Street fire alarm	-	-	-	-	-	-	-	-	-	-	-	-	208	100	-	32	-	-	-	-	-	-	-	-	-	-	-
Total	20	44	-	20	40	48	16	44	148	156	56	12	472	436	20	92	184	68	36	96	120	48	20	100	100	-	32
Exchange telephone	184	112	152	132	176	192	116	256	508	932	564	212	1,364	1,184	64	176	608	216	156	272	544	216	132	332	312	244	192
Running Call	-	4	4	28	12	20	8	4	52	32	12	8	152	104	20	12	44	36	12	12	32	4	20	12	28	12	4
Late call	12	8	4	-	-	12	4	4	12	52	-	8	112	108	4	8	12	4	20	16	20	16	12	4	28	8	12
Other and undefined methods	-	12	-	-	-	-	4	4	-	4	4	-	-	32	-	-	-	4	4	4	12	-	-	-	-	4	8
Total fires	216	180	160	180	228	272	148	312	720	1,176	636	240	2,100	1,864	108	288	848	324	228	400	720	296	184	448	468	268	248

## SECTION II

Table 1 (Contd.)

## METHOD OF CALLING FIRE BRIGADE TO FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of a one in four sample of reports by four)

Method of Calling	County Borough Fire Brigades (Contd.)																				Total fires attended in England and Wales				
	Rotherham	St. Helens	Salford	Sheffield	Smetwick and West Bromwich	Southampton	Southend	Southport	South Shields	Stockport	Stoke on Trent	Sunderland	Swansea	Tynemouth	Wakefield	Walsall	Warrington	West Ham	West Hartlepool	Wigan	Wolverhampton	York	No.	Per Cent	
By Special Fire Service methods																									
Automatic Fire alarm	-	-	4	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	
Fire and police pillar box	4	24	7	140	4	-	-	8	-	32	-	16	-	-	4	16	28	-	-	8	-	-	760	0.7	
Police telephone	24	-	84	20	24	-	8	8	60	28	44	68	44	48	16	32	20	16	-	36	20	44	24	4,900	4.6
Private fire telephone	-	-	16	-	12	24	-	-	-	-	4	-	-	32	-	32	-	-	4	-	-	-	1,364	1.3	
Street fire alarm	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	788	0.7	
Total	28	24	104	160	52	24	8	16	64	60	48	84	44	80	20	80	48	16	28	44	20	44	24	7,844	7.3
Exchange telephone	120	164	212	664	320	496	244	136	160	232	344	412	272	160	112	168	192	180	452	152	140	276	200	87,656	81.9
Running call	12	8	12	40	44	28	20	12	4	24	60	24	8	16	4	16	12	36	28	28	4	8	12	6,576	6.1
Late call	12	12	28	12	16	-	16	12	4	-	4	4	12	-	4	12	16	-	28	4	4	12	8	3,972	3.7
Other and undefined methods	4	-	28	-	-	48	-	7	-	4	-	8	-	4	4	-	8	-	-	-	-	-	-	1,036	1.0
Total fires	176	208	384	876	432	596	288	176	232	320	456	532	336	260	144	276	276	232	536	228	168	340	244	107,084	100.0

## SECTION II

Table 2

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of  
a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on		
<u>Agriculture</u>		
Farming (not fruit or poultry) and horse and stock rearing	1,880	1.8
Allotments, market gardening, fruit and poultry farming	480	0.4
TOTAL	2,360	2.2
<u>Mining, quarrying and treatment of non-metalliferous mine and quarry products (excluding gas works)</u>		
	144	0.1
<u>Manufacture of bricks, pottery, glass, etc.</u>		
	112	0.1
<u>Manufacture of chemicals, dyes, explosives, paints, oils</u>		
Chemicals	156	0.1
Explosives	20	-
Paints, varnish, oils, grease	140	0.1
Miscellaneous	76	0.1
TOTAL	392	0.4
<u>Manufacture of metals, machines, implements, conveyances</u>		
Smelting, converting, refining, rolling of iron, steel	156	0.1
Extracting, refining, smelting of other metals	32	-
Foundry, other secondary processes in metal working	212	0.2
Engineering (not marine or electrical)	352	0.3
Electrical installations, cables and apparatus	196	0.2
Construction and repair of vehicles	188	0.2
Shipbuilding and repairing, marine engineering	60	0.1
Cutlery and small tools	60	0.1
Other metal industries	376	0.3
TOTAL	1,632	1.5
<u>Manufacture of textiles and textile goods (not dress)</u>		
Cotton	284	0.3
Wool, worsted, shoddy	112	0.1
Silk, natural and artificial	16	-
Other or mixed fibres	68	0.1
Miscellaneous	104	0.1
Textile dyeing, printing, bleaching, finishing	56	-
TOTAL	640	0.6

## SECTION II

Table 2 (Contd.)

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of  
a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on (contd.)		
Preparation of skins and leather and manufacture of goods of leather and leather substitute (not clothing or footwear)	60	0.1
Manufacture of clothing (not knitted) including footwear	300	0.3
Manufacture of food, drink, tobacco		
Food	372	0.3
Drink	76	0.1
Tobacco, cigars, cigarettes, snuff	4	-
	TOTAL	452
		0.4
Woodworking: manufacture of cane and basket ware, furniture, fittings		
Woodworking and basket ware	288	0.3
Furniture (not metal or basket)	252	0.2
Fittings	20	-
	TOTAL	560
		0.5
Paper making: manufacture of stationery and stationery requisites, printing and bookbinding	192	0.2
Building, decorating, contracting: slate and stone cutting and dressing	1,088	1.0
Rubber and synthetic rubber	100	0.1
Other manufacturing industries	196	0.2
Gas, water, electricity, sewage	164	0.2
Transport and communication		
Railway - stations etc.	360	0.3
Road - garages, depots, etc.	1,284	1.2
Water - dock buildings other than warehouses	36	-
Air, aerodromes, etc.	16	-
Other communication (post, telephone, wireless)	100	0.1
	TOTAL	1,796
		1.7

## SECTION II

Table 2 (Contd.)

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of  
a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on (contd.)		
<u>Commerce</u>		
Departmental stores	128	0.1
Retail shops	2,576	2.4
Wholesale dealers	436	0.4
Dock and other warehouses	44	-
TOTAL	3,184	3.0
<u>Offices, Government and other</u>		
Government departments	72	0.1
Local authorities	164	0.2
Other offices	320	0.3
TOTAL	556	0.5
<u>Navy, Army and Air Force establishments</u>	356	0.3
<u>Fire Service establishments</u>	48	-
<u>Professional establishments (other than offices); public institutions</u>		
Educational establishments	656	0.6
Hospitals, homes, etc. for the care of the sick and infirm	460	0.4
Places of worship	192	0.2
Other public and professional services	300	0.3
TOTAL	1,608	1.5
<u>Places of public entertainment</u>		
Cinemas and theatres	220	0.2
Other places of entertainment	292	0.3
TOTAL	512	0.5
<u>Private residential and personal service (including hotels and catering)</u>		
Private residential houses	16,684	15.6
Private residential flats	3,440	3.2
Clubs, hotels, restaurants, public houses	2,612	2.4
Private huts, unoccupied houses, personal service	2,092	2.0
TOTAL	24,828	23.2
<u>Miscellaneous</u>	1,872	1.7
<u>Undefined</u>	8	-
Total fires in buildings	43,160	40.3

## SECTION II

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Report from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of  
a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires other than those in buildings		
<u>Agriculture and Forestry</u>		
Crops, standing or stooked (including hay fields)	1,300	1.2
Crops, ricks and stacks	1,892	1.8
Agricultural machinery	580	0.5
Agricultural waste	372	0.3
Other agricultural hazards	748	0.7
Allotments and gardens	1,484	1.4
Railway embankments	7,692	7.2
Grassland, heathland	24,316	22.7
Woods, forests, plantations	548	0.5
Single trees	1,880	1.8
Felled timber	104	0.1
TOTAL	40,916	38.2
<u>Transport and communication</u>		
Aircraft	76	0.1
Railway, rolling stock etc.	460	0.4
Road vehicles - electrically driven	88	0.1
- oil, petrol or gas driven	6,996	6.5
- other	120	0.1
Water vessels - craft on inland waters	124	0.1
- ships in dock	376	0.3
- ships at sea	-	-
- marine structures	64	0.1
TOTAL	8,304	7.7
<u>Outdoor storage</u>		
Chemicals, explosives, ammunition, oils, grease	588	0.5
Coal and coke	84	0.1
Refuse	6,904	6.4
Timber	1,236	1.2
Cotton, metal, packing materials, rubber, etc.	1,188	1.1
TOTAL	10,000	9.3
<u>Other outdoor structures</u>		
Total fires other than those in buildings	4,704	4.4
Total fires attended	63,924	59.7
	107,084	100.0

## SECTION II

Table 3

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED FOR EACH BRIGADE

Reports from England and Wales 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Hazard in which fire started	County Fire Brigades																											
	Anglesey	Bedfordshire	Berkshire and Reading C.B.	Breconshire and Radnorshire	Buckinghamshire	Carnarvonshire	Cambridgeshire	Cardiganshire and Carmarthenshire	Cheshire	Cornwall	Cumberland	Dembligh and Montgomery	Derbyshire	Devonshire	Dorsetshire	Durham	Ely, Isle of	Essex	Flintshire	Glamorganshire	Gloucestershire	Hampshire	Herefordshire	Hertfordshire	Huntingdonshire	Kent and Canterbury C.B.	Lancashire	Leicestershire and Rutland
Fires in buildings																												
Industrial premises	4	52	24	4	56	4	18	28	116	20	16	24	72	36	24	108	4	128	8	80	26	24	8	76	4	132	452	36
Commercial premises and offices	-	12	32	4	28	12	8	12	40	32	8	4	38	28	4	48	4	80	4	64	24	24	4	44	4	104	152	12
Transport and public utilities	-	20	4	-	16	4	8	8	52	24	8	8	28	24	4	32	4	76	-	32	16	12	-	20	12	84	124	8
Dwellings	28	132	180	32	120	60	68	92	320	76	96	72	212	256	104	280	44	756	80	332	180	236	80	224	20	808	832	116
Other buildings	16	80	92	16	88	28	48	76	148	124	72	68	140	156	68	196	28	288	28	152	116	216	56	140	32	372	540	52
Fires not in buildings																												
Agriculture, grassland, forestry	64	340	612	32	568	248	268	196	1,036	572	100	324	576	372	652	820	124	2,532	168	320	332	1,696	88	880	124	1,808	1,504	224
Transport	16	52	88	16	92	12	40	20	112	44	60	32	100	112	52	96	12	328	24	116	72	148	32	172	20	300	276	52
Outdoor storage including refuse	8	80	96	-	84	20	12	28	148	32	28	36	88	68	32	104	16	284	12	56	88	76	8	140	4	240	436	16
Other outdoor hazards	-	32	56	-	40	4	12	4	44	20	20	20	36	28	20	72	4	160	12	44	32	72	-	108	-	144	160	24
TOTAL	136	800	1,184	104	1,092	392	480	464	2,016	944	408	588	1,288	1,080	960	1,756	240	4,632	336	1,196	896	2,504	276	1,804	220	3,992	4,476	540

## SECTION II

Table 3 (contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED FOR EACH BRIGADE

Reports from England and Wales 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Hazard in which fire started	County Fire Brigades (Contd.)																													
	Lincolnshire (Holland)	Lincolnshire (Kesteven)	Lincolnshire (Lindsay)	London	Merioneth	Middlesex	Monmouthshire	Norfolk	Northamptonshire	Northumberland	Nottinghamshire	Oxfordshire	Pembrokeshire	Peterborough, Soke of	Salop	Scilly, Isles of	Somersetshire	Staffordshire	Suffolk and Ipswich C.B.	Surrey	Sussex, East	Sussex, West	Warwickshire	Wessexland	Wight, Isle of	Wiltshire	Worcestershire and Worcester C.B.	Yorkshire (East Riding)	Yorkshire (North Riding)	Yorkshire (West Riding)
Fires in buildings																														
Industrial premises	-	-	28	716	-	244	24	8	28	36	60	32	4	8	8	-	24	88	16	88	12	16	24	12	4	56	56	78	48	284
Commercial premises and offices	28	-	32	572	4	136	20	8	4	12	48	4	8	8	8	-	32	36	36	92	20	24	24	4	8	20	28	6	12	68
Transport and public utilities	-	4	8	112	-	116	8	20	8	20	16	-	4	-	16	-	24	44	24	32	16	8	32	4	-	12	12	20	32	64
Dwellings	40	32	96	2,088	16	1,012	96	152	96	152	156	96	44	52	120	-	120	224	216	504	148	132	184	28	28	172	204	64	120	516
Other buildings	28	36	44	1,392	8	384	84	96	56	108	124	60	48	8	80	-	192	164	112	276	108	76	116	24	32	128	124	64	132	388
Fires not in buildings																														
Agriculture, grassland, forestry	80	164	352	728	68	1,752	160	624	220	444	932	164	108	60	276	-	292	968	768	1,800	400	320	664	36	72	352	548	120	312	1,832
Transport	12	20	44	844	4	436	60	68	60	108	96	40	16	12	72	-	60	156	52	260	48	56	152	32	4	52	64	28	68	244
Outdoor storage including refuse	-	4	48	1,780	-	488	24	36	20	60	64	40	12	4	36	-	44	144	80	200	16	64	92	12	4	80	48	80	392	
Other outdoor hazards	-	4	16	752	12	216	16	12	20	68	28	16	4	8	24	-	40	40	36	136	32	24	60	8	16	20	32	4	32	148
TOTAL	188	264	668	8,984	112	4,784	492	1,024	512	1,008	1,524	452	248	160	640	-	828	1,864	1,340	3,388	800	720	1,348	160	168	892	1,116	364	836	3,916

## SECTION II

Table 3 (contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED FOR EACH BRIGADE

Reports from England and Wales 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Hazard in which fire started	County Borough Fire Brigades																																						
	Barnsley	Barrow in Furness	Bath	Birkenhead	Birmingham	Blackburn	Blackpool	Bolton	Bootle	Bournemouth	Bradford	Brighton	Bristol	Burnley	Burton on Trent	Bury	Cardiff	Carlisle	Chester	Coventry	Croydon	Darlington	Derby	Dewsbury	Doncaster	Dudley	Eastbourne	East Ham	Exeter	Gloucester	Great Yarmouth	Grimsby	Hallifax	Hastings	Huddersfield	Kingston upon Hull	Leeds	Leicester	Lincoln
Fires in buildings																																							
Industrial premises	6	4	12	8	332	20	8	40	16	4	76	8	56	24	24	28	32	16	-	16	16	12	-	8	8	16	28	4	8	32	64	44	8						
Commercial premises and offices	4	16	4	16	80	20	20	32	20	12	36	-	48	8	-	4	68	8	8	44	20	8	4	12	8	20	-	8	36	52	48	4							
Transport and public utilities	8	-	4	12	40	16	28	4	12	-	28	-	12	8	4	-	24	-	4	-	8	8	-	4	4	4	4	-	4	28	24	12	8						
Dwellings	52	32	84	132	616	60	56	60	52	68	100	128	216	84	12	40	140	56	36	152	108	40	60	52	44	24	20	68	48	60	148	204	128	24					
Other buildings	20	32	16	60	288	28	108	48	12	40	144	36	64	16	24	8	68	4	16	44	44	44	40	28	20	28	32	4	4	16	32	28	12	60	104	136	72	16	
Fires not in buildings																																							
Agriculture, grass-land, forestry	76	48	24	156	888	64	96	68	80	364	200	92	712	60	12	72	160	68	72	264	112	72	80	80	104	92	16	60	32	40	84	52	108	60	112	124	416	172	124
Transport	24	16	12	64	192	16	20	28	52	28	40	20	136	12	4	4	36	16	8	40	56	28	32	8	20	12	32	8	8	16	40	20	4	28	148	132	72	36	
Outdoor storage including refuse	12	40	24	80	272	40	64	28	48	24	84	24	188	28	4	20	76	28	28	68	52	16	32	36	32	12	8	28	44	8	16	40	20	4	28	148	132	72	36
Other outdoor hazards	4	8	4	44	192	8	44	24	20	8	52	24	24	12	12	8	20	16	12	36	28	8	16	12	16	8	4	4	-	-	-	4	12	16	36	76	36	8	
T O T A L	208	196	184	572	2,900	272	444	332	312	548	760	332	1,456	252	96	184	644	212	184	664	444	236	272	236	264	204	96	216	180	160	180	228	272	148	312	720	1,176	636	240

## SECTION II

Table 3 (contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED FOR EACH BRIGADE

Reports from England and Wales 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Hazard in which fire started	County Borough Fire Brigades (Contd.)																														Total fires in England and Wales								
	Liverpool	Manchester	Merthyr Tydfil	Middlesbrough	Newcastle on Tyne and Gateshead	Nottingham	Northampton	Norwich	Oxford	Plymouth	Portsmouth	Preston	Rochdale	Rotherham	St. Helens	Salford	Sheffield	Southwick and West Brownwich	Southampton	Southend	South Shields	Stockport	Stoke on Trent	Sunderland	Swansea	Tynemouth	Wakefield	Walsall	Warrington	West Ham	West Hartlepool	Wigan	Wolverhampton	York					
Fires in buildings																																							
Industrial premises	108	192	16	36	68	16	20	8	28	48	4	32	12	44	68	8	8	40	160	48	20	16	24	64	48	16	-	12	16	20	36	8	16	28	8	5,868			
Commercial premises and offices	132	124	8	16	48	24	16	24	40	8	-	24	20	16	20	-	4	40	56	24	24	4	12	8	20	44	12	12	-	12	4	4	4	4	3,740				
Transport and public utilities	52	36	4	8	12	12	8	-	12	12	4	-	24	12	4	4	4	4	16	4	12	4	-	16	4	8	4	-	4	4	16	12	4	1,960					
Dwellings	604	628	8	76	200	76	52	68	172	76	48	68	104	88	52	28	56	132	164	72	92	76	64	56	76	84	164	80	48	24	48	56	24	104	32	24	72	68	20,124
Other buildings	272	240	20	52	84	20	20	24	80	52	20	52	48	12	16	16	16	36	92	28	56	32	8	24	28	44	52	32	32	28	20	32	28	28	28	20	11,468		
Fires not in buildings																																							
Agriculture, grass-land, forestry	372	256	24	32	208	80	56	172	204	12	32	120	112	32	40	76	76	32	188	188	260	100	40	84	76	128	140	104	100	84	132	100	80	180	52	52	120	60	40,916
Transport	148	128	4	24	72	40	12	40	68	16	44	56	72	16	8	8	16	36	64	20	52	24	8	12	28	28	24	28	40	4	8	24	28	56	32	12	20	16	8,304
outdoor storage including refuse	284	128	20	32	88	52	32	48	88	60	24	80	40	32	20	24	44	84	32	56	20	12	16	52	40	44	36	44	-	12	32	56	96	48	8	36	52	10,000	
other outdoor hazards	128	132	4	12	68	4	12	16	28	12	8	16	52	8	8	16	4	20	52	16	24	12	20	8	12	16	24	24	8	-	24	4	-	12	8	8	20	12	4,704
T O T A L	2,100	1,864	108	288	848	324	228	400	720	296	184	448	468	268	248	176	208	384	876	432	596	288	176	232	320	456	532	336	260	144	276	276	232	536	228	168	340	244	107,084

## SECTION II

Table 4

## SUPPOSED CAUSE OF FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four).

Each item in the list of supposed causes of fire given in this table represents a group of causes which have a common source of ignition. In some cases the groups have been divided into sub-groups according to the nature of the material first ignited and in others according to the act with the source of ignition which led to the outbreak of fire. Certain causes were specified for the first time in 1954; the miscellaneous item is therefore not comparable with those for years previous to 1954.

Supposed cause of fire	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Aircraft, crashed	-	-	64	0.1	64	0.1
Ashes, soot	656	0.6	1,704	1.6	2,360	2.2
Brazier	56	-	156	0.1	212	0.2
Camp fire, fire in open air <sup>(1)</sup>	8	-	196	0.2	204	0.2
Candle	276	0.3	20	-	296	0.3
Chimney on fire, not confined to chimney	2,420	2.3	4	-	2,424	2.3
Chimney, sparks from (outside building)	308	0.3	88	0.1	396	0.4
Cooker, cooking range, oven other than electric, coal gas or oil <sup>(1)</sup>	336	0.3	16	-	352	0.3
Electric cooker	900	0.8	4	-	904	0.8
fire, heater, radiator	1,280	1.2	4	-	1,284	1.2
Electric iron	312	0.3	-	-	312	0.3
motor	240	0.2	36	-	276	0.3
refrigerator	768	0.7	16	-	784	0.7
television	176	0.2	4	-	180	0.2
wire and cable, other than lead to apparatus	1,944	1.8	1,968	1.8	3,912	3.6
Electric wire and cable, lead to apparatus	280	0.3	496	0.5	776	0.7
wireless	336	0.3	-	-	336	0.3
other apparatus	1,620	1.5	928	0.9	2,548	2.4
Explosives, fireworks	240	0.2	668	0.6	908	0.8
Fire in grate igniting bedding, clothing, linen	1,032	1.0	-	-	1,032	1.0
Fire in grate igniting furniture, furnishings	884	0.8	-	-	884	0.8
structural timber under hearth	2,028	1.9	-	-	2,028	1.9
Other materials	2,316	2.2	-	-	2,316	2.2
Fish frying range (all fuels)	860	0.8	20	-	880	0.8
Flue	868	0.8	112	0.1	980	0.9
Furnace (coal or coke)	52	-	4	-	56	0.1
Gas (coal) burner, jet, ring	372	0.3	284	0.3	656	0.6
cooker	1,160	1.1	-	-	1,160	1.1
fire, heater, radiator	272	0.3	-	-	272	0.3
other apparatus	572	0.5	204	0.2	776	0.7

## SECTION II

Table 4 (Contd.)

## SUPPOSED CAUSE OF FIRE

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four.)

Supposed cause of fire	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Incubator, brooder, (all fuels)	676	0.6	20	-	696	0.6
Intentional burning of grassland, gorse, etc.	28	-	760	0.7	788	0.7
Lightning	100	0.1	52	0.1	152	0.2
Lime	-	-	12	-	12	-
Locomotives, sparks from	216	0.2	11,408	10.7	11,624	10.9
Malicious ignition (1)(2)	220	0.2	104	0.1	324	0.3
Matches	756	0.7	996	0.9	1,752	1.6
Matches, children playing with	2,780	2.6	14,232	13.3	17,012	15.9
Mechanical heat or sparks	536	0.5	536	0.5	1,072	1.0
Metal, hot	204	0.2	88	0.1	292	0.3
Naked light. (1)(3)	364	0.3	1,044	1.0	1,408	1.3
Oil, blow lamp	920	0.9	36	-	956	0.9
engine (including petrol)	228	0.2	2,568	2.4	2,796	2.6
lamp	208	0.2	160	0.1	368	0.3
stove	868	0.8	100	0.1	968	0.9
tractor	56	0.1	356	0.3	412	0.4
other apparatus	148	0.1	304	0.3	452	0.4
Oxyacetylene cutting and welding apparatus	300	0.3	360	0.3	660	0.6
Rubbish burning	800	0.8	6,560	6.1	7,360	6.9
Slow combustion stove igniting structural woodwcrk	364	0.3	-	-	364	0.3
other materials	872	0.8	260	0.3	1,132	1.1
Smoking materials	3,776	3.5	6,352	5.9	10,128	9.5
Spontaneous combustion in rubbish	-	-	220	0.2	220	0.2
Spontaneous combustion in other materials	356	0.3	628	0.6	984	0.9
Static electricity	36	-	4	-	40	-
Steam roller, engine, traction engine	-	-	20	-	20	-
Sun's rays	120	0.1	228	0.2	348	0.3
Taper, lighted paper or sticks	312	0.3	164	0.2	476	0.4
Taper, lighted paper or sticks, children playing with	44	-	-	-	44	-
Miscellaneous (4)	856	0.8	332	0.3	1,188	1.1
Unknown source of ignition	4,444	4.2	9,024	8.4	13,468	12.6
Total number of fires	43,160	40.3	63,924	59.7	107,084	100.0

- Notes:
- (1) Causes specified for the first time in the Annual Statistical Tables for 1954.
  - (2) Malicious ignition is a general heading for suspected or proven arson or incendiarism.
  - (3) No further information given in original reports.
  - (4) Not comparable with the years prior to 1954.





**SECTION II**

SUPPOSED CAUSE OF FIRES IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales. 1959.

(Frequencies obtained by multiplying results of analysis of a one-in-four sample or reports by four.)

51	Smoking materials	116	-	4	28	164	32	60	20	56	28	136	16	12	180	344	64	104	48	4	176	140	1,152	272	296	200	124	3,776	51
52	Spontaneous combustion in rubbish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	
53	Spontaneous combustion in other materials	204	-	-	28	16	20	4	12	4	4	-	12	12	4	4	-	-	-	-	4	4	4	4	20	12	-	356	53
54	Static electricity	-	-	-	4	-	4	12	-	-	4	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	36	54	
55	Steam roller, engine, traction engine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	
56	Suns' rays	4	-	-	-	4	-	4	4	-	-	4	-	-	4	16	4	-	-	4	-	52	4	8	8	-	120	56	
57	Taper, lighted paper or sticks	-	-	-	-	8	-	4	-	4	8	4	-	8	28	-	8	4	-	12	-	156	32	16	20	-	312	57	
58	Taper, lighted paper or sticks, children play- ing with	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	4	-	-	4	44	58		
59	Miscellaneous (4)	-	-	-	-	120	28	4	76	56	8	40	36	4	8	20	16	4	8	4	32	16	152	16	12	64	12	856	59
60	Unknown source of ignition	40	16	32	32	120	28	4	76	56	8	40	36	4	8	20	16	4	8	4	32	16	152	16	12	64	12	856	59
61	Total fires in buildings	464	24	24	84	268	96	60	52	140	28	184	64	12	280	348	132	84	48	-	216	84	716	208	212	364	252	4,444	60
	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	

For explanation of notes see page 21.

## SECTION II

Table 5B

SUPPOSED CAUSE OF FIRES OTHER THAN THOSE IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

## Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)



## SECTION II

Table 6

## MATERIAL FIRST IGNITED IN FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of  
a one-in-four sample of reports by four)

Material first ignited	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
<u>Agriculture and Forestry</u>						
Crops, ricks, stacks						
Barley	-	-	272	0.3	272	0.3
Hay	368	0.3	592	0.6	960	0.9
Straw	208	0.2	488	0.5	696	0.7
Stubble	-	-	660	0.6	660	0.6
Other	20	-	260	0.2	280	0.3
Loose straw or hay	672	0.6	1,184	1.1	1,856	1.7
Grass, heather, bracken	120	0.1	18,380	17.2	18,500	17.3
Trees, hedges, undergrowth brushwood, bushes (including gorse), twigs, touchwood	4	-	12,460	11.6	12,464	11.6
Other agricultural materials	48	0.1	332	0.3	380	0.4
TOTAL	1,440	1.3	34,628	32.3	36,068	33.7
<u>Chemicals - gases</u>						
Acetylene	72	0.1	16	-	88	0.1
Coal gas	996	0.9	624	0.6	1,620	1.5
Other gases	68	0.1	68	0.1	136	0.1
TOTAL	1,136	1.1	708	0.7	1,844	1.7
<u>Chemicals - oils</u>						
Animal and vegetable oils	164	0.2	-	-	164	0.2
Mineral oil						
Paraffin	660	0.6	216	0.2	876	0.8
Petrol in vehicles	404	0.4	2,960	2.8	3,364	3.1
Petrol not in vehicles	432	0.4	140	0.1	572	0.5
Other mineral oils	228	0.2	152	0.1	380	0.4
Oil, waste and undefined	344	0.3	452	0.4	796	0.7
TOTAL	2,232	2.1	3,920	3.6	6,152	5.7
<u>Chemicals - other</u>						
Celluloid (including films)	40	-	4	-	44	-
Paint, enamel, lacquer, varnish, stains and French polish	156	0.1	24	-	180	0.2
Pitch, tar	92	0.1	128	0.1	220	0.2
Rubber, vulcanite, ebonite	180	0.2	356	0.3	536	0.5
Other chemicals	992	0.9	328	0.3	1,320	1.2
TOTAL	1,460	1.3	840	0.8	2,300	2.1
<u>Paper, cardboard, wood (not part of a structure)</u>						
Paper, cardboard	2,000	1.9	1,376	1.3	3,376	3.2
Wood chippings, flour, sawdust, shavings, wool	512	0.5	388	0.3	900	0.8
Wood barrels, boxes, cases, firewood etc.	588	0.5	156	0.1	744	0.7
Timber	224	0.2	500	0.5	724	0.7
TOTAL	3,324	3.1	2,420	2.3	5,744	5.4

## SECTION II

Table 6 (Contd.)

## MATERIAL FIRST IGNITED IN FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Material first ignited	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
<u>Textiles</u>						
Canvas and canvas goods	44	-	236	0.2	280	0.3
Clothing on person	572	0.5	44	-	616	0.6
Clothing not on person	1,172	1.1	92	0.1	1,264	1.2
Cotton	338	0.3	40	-	368	0.3
Jute, hessian, sacking	448	0.4	284	0.3	732	0.7
Rags (including oily rags)	320	0.3	204	0.2	524	0.5
Tarpaulin, waterproof sheeting, oilskins	124	0.1	448	0.4	572	0.5
Other textiles	280	0.3	124	0.1	404	0.4
TOTAL	3,288	3.1	1,472	1.4	4,760	4.4
<u>Furniture, furnishings, household goods</u>						
Bedding	1,160	1.1	28	-	1,188	1.1
Carpets, rugs	608	0.6	44	-	652	0.6
Curtains	744	0.7	16	-	760	0.7
Furniture	2,032	1.9	36	-	2,068	1.9
Linen articles (unspecified), laundry	464	0.4	24	-	488	0.5
Seating in vehicles	52	-	272	0.3	324	0.3
Other furnishings	876	0.8	36	-	912	0.8
TOTAL	5,936	5.5	456	0.4	6,392	5.9
<u>Building materials, structural woodwork</u>						
Building materials other than wood	620	0.6	12	-	632	0.6
Structural woodwork						
External	824	0.8	-	-	824	0.8
Internal						
Door, window frame	440	0.4	-	-	440	0.4
Floor, stairs	1,520	1.4	-	-	1,520	1.4
Partitions, linings to walls	720	0.7	-	-	720	0.7
Roof	820	0.8	-	-	820	0.8
Timber in chimney, flue	540	0.5	-	-	540	0.5
Timber under hearth	2,088	2.0	-	-	2,088	2.0
Other fittings	876	0.8	-	-	876	0.8
Not known whether internal or external	48	-	-	-	48	-
Structural woodwork, other than buildings	-	-	1,272	1.2	1,272	1.2
TOTAL	8,496	7.9	1,284	1.2	9,780	9.1
<u>Miscellaneous</u>						
Coal, coke	120	0.1	100	0.1	220	0.2
Electrical insulation	3,120	2.9	2,324	2.2	5,444	5.1
Fat (margarine, suet, butter, cooking fat, lard)	2,140	2.0	24	-	2,164	2.0
Food other than fat	384	0.4	12	-	396	0.4
Refuse, rubbish, debris	2,756	2.6	7,336	6.8	10,092	9.4
Soot	440	0.4	20	-	460	0.4
Other	3,680	3.4	2,492	2.3	6,172	5.7
<u>Unknown</u>	3,208	3.0	5,888	5.5	9,096	8.5
Total number of fires	43,160	40.3	63,924	59.7	107,084	100.0









## SECTION II

Table 8

## METHOD OF EXTINCTION OF FIRES

Reports from England and Wales, 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Row No.	Method of extinction	Fires in buildings						Fires other than those in buildings						Total No. of fires	Row No.		
		Extinguished by Fire Brigade		Extinguished before arrival of Fire Brigade		Total		Extinguished by Fire Brigade		Extinguished before arrival of Fire Brigade		Total					
		No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent				
1	Burned out	-	-	812	0.8	812	0.8	-	-	1,460	1.4	1,460	1.4	2,272	2.1	1	
2	Removal	2,604	2.4	1,036	1.0	3,640	3.4	652	0.6	472	0.4	1,124	1.0	4,764	4.4	2	
3	Automatic sprinkler system	-	-	56	0.1	56	0.1	-	-	-	-	-	-	56	0.1	3	
4	Beating	64	0.1	288	0.3	352	0.3	10,512	9.8	1,316	1.2	11,828	11.0	12,180	11.4	4	
5	Smothering	356	0.3	924	0.9	1,280	1.2	52	-	408	0.4	460	0.4	1,740	1.6	5	
6	Sand, earth, etc.	44	-	172	0.2	218	0.2	176	0.2	276	0.3	452	0.4	668	0.6	6	
7	Water from buckets	2,400	2.2	3,072	2.9	5,472	5.1	540	0.5	1,084	1.0	1,624	1.5	7,096	6.6	7	
8	Water from stirrup or hand pumps	3,004	2.8	44	-	3,048	2.8	256	0.2	8	-	264	0.2	3,312	3.1	8	
9	Chemicals and chemical extinguishers	1,744	1.6	1,072	1.0	2,816	2.6	1,904	1.8	1,180	1.1	3,084	2.9	5,900	5.5	9	
10	Two or more methods 4 - 9	208	0.2	396	0.4	604	0.6	712	0.7	276	0.3	988	0.9	1,592	1.5	10	
11	Water from garden hose etc.	-	-	208	0.2	208	0.2	-	-	116	0.1	116	0.1	324	0.3	11	
12	Hose reel jets (using water in tank only)	16,000	14.9	36	-	16,036	15.0	28,704	26.8	200	0.2	28,904	27.0	44,940	42.0	12	
13	Hose reel jets (using more water than that in tank)	2,168	2.0	-	-	2,168	2.0	2,492	2.3	8	-	2,500	2.3	4,668	4.4	13	
14	Jets from inside hose reel or inside hydrant	92	0.1	52	-	144	0.1	20	-	4	-	24	-	168	0.2	14	
15	Hose reel jets and jets from inside hose reel	24	-	-	-	24	-	-	-	-	-	-	-	24	-	15	
16	Jets from pumps and hydrants	5,264	4.9	92	0.1	5,356	5.0	10,440	9.7	216	0.2	10,656	10.0	16,012	15.0	16	
17	Other and undefined methods	396	0.4	532	0.5	928	0.9	136	0.1	304	0.3	440	0.4	1,368	1.3	17	
18	TOTAL	34,368	32.0	8,792	8.2	43,160	40.3	56,596	52.9	7,328	6.8	63,924	59.7	107,084	100.0	18	

Notes on method of extinction -

- "Removal" includes occurrences where (a) burning material was removed from the building, (b) gas supply was turned off. If the burning material was tackled with methods 3-11 before removing it from the building, then such occurrences were classified under whichever of these methods applied.
- Methods 11-15 and method 16 include those occurrences in which methods 3-10 and 3-15 respectively may also have been used.
- "Fires extinguished by Fire Brigade" include those fires which were tackled but not extinguished before the arrival of the Fire Brigade.

## SECTION II

Table 9

## BEHAVIOUR OF SPRINKLER SYSTEMS AT FIRES

Reports from England and Wales, 1955

(Frequencies observed in the analysis of a one-in-four sample of reports)

Note: These figures are not on a comparable basis with those in tables 1-8 or tables 10-12

Behaviour of sprinklers	Incidents in which the following number of heads were actuated						Total number of incidents
	Nil	1-5	6-10	11-20	More than 20	Number not reported	
Installed but did not operate:-							
(i) because insufficient heat was generated by the fire	57	-	-	-	-	-	57
(ii) because the seat of the fire was out of range of the sprinklers	2	-	-	-	-	-	2
(iii) because the fire was on the outside of the building equipped with sprinklers	1	-	-	-	-	-	1
(iv) because the fire was tackled and extinguished by other means	5	-	-	-	-	-	5
(v) because the system was closed down for repairs etc.	4	-	-	-	-	-	4
(vi) hand operated drencher: no person to work the system	1	-	-	-	-	-	1
TOTAL	70	-	-	-	-	-	70
Operated, but did not control fire because:-							
(i) other means were used to extinguish the fire	-	1	-	-	-	-	1
(ii) severity of fire and fire spread over and above the sprinkler heads	-	-	-	-	1	-	1
(iii) no reason stated	-	2	-	-	-	-	2
TOTAL	-	3	-	-	1	-	4
Controlled, but did not extinguish the fire	-	34	9	3	1	1	48
Extinguished the fire	-	12	1	-	1	-	14
Number of calls to fires where sprinkler systems were installed.	70	49	10	3	3	1	136

## SECTION II

Table 10

## PERSONS RESCUED OR ESCAPED BY EMERGENCY MEANS FROM FIRES

Reports from England and Wales, 1955

(Frequencies obtained from results of analysis of all reports)

Appliance or method used	Number of persons
Rescue with Fire Brigade assistance from	
Buildings	
Escape (hand operated)	7
Ladder, extension	47
first floor	4
turntable (mechanical)	6
other or undefined	83
Ladder and line	1
Line	-
Other apparatus	-
Without apparatus	122
Ships	2
Vehicles	-
TOTAL	272
Rescue without F.B. assistance from	
Aircraft	1
Buildings	
Carried or assisted out	280
Jumping sheet	1
Ladder	73
Lowered from windows, roof, etc.	49
Other or undefined methods	50
Road vehicles	22
Ships	2
Caravans	-
TOTAL	478
Escape by emergency means from	
Aircraft	
Baled out	18
Through exits or from debris	2
Thrown clear	-
Method not stated	3
Buildings	
Climbing over roof	19
Fixed fire escape	4
Jumping from upstairs window, roof	121
Ladder	25
Sliding down drainpipe, sheets, rope etc.	28
Through ground floor windows	48
Other or undefined means	32
Road vehicles	8
Ships	5
Caravans	-
TOTAL	313
Total persons rescued or escaped	1,063

## SECTION II

Table 11

## NATURE OF INJURIES OF CASUALTIES IN FIRES

Reports from England and Wales, 1955

(Frequencies obtained from results of analysis of all reports)

\* Casualties who suffered shock in addition to another injury have been classified according to the nature of the other injury.

Nature of injury	Fire Brigade	Other Casualties	Total
Fatal casualties			
Burns and scalds	-	390	390
Overcome by gas or smoke	1	71	72
Other and undefined injuries	1	113	114
TOTAL	2	574	576
Non-fatal casualties			
Burns and scalds	71	2,321	2,392
Bruises, cuts, abrasions	135	200	335
Dislocations, sprains, fractures	28	36	64
Overcome by gas or smoke	19	97	116
More than one of the above injuries	5	71	76
* Shock	1	229	230
Other and undefined injuries	88	111	199
TOTAL	347 **	3,065	3,412
Total casualties	349 **	3,639	3,988

\*\* Change in reporting procedure excludes casualties requiring first-aid treatment only in 1954 and subsequent years.

## SECTION III

## STATISTICAL TABLES FOR FIRE BRIGADES IN SCOTLAND, 1955

Table 1

## METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Method of calling	Fire Brigade											Total	
	Glasgow	Lanark	Central	Western	South Western	South Eastern	Fife	Perth and Kinross	Angus	North Eastern	Northern	No.	Per cent
By Special Fire Service methods													
Automatic fire alarm	12	-	4	-	-	-	-	-	-	4	-	20	0.2
Fire and police pillar box	32	16	28	8	-	-	-	-	-	-	-	84	0.6
Police telephone	552	148	88	328	60	360	36	16	244	340	72	2,244	17.0
Private fire telephone	20	-	12	32	12	12	-	-	-	-	-	88	0.7
Street fire alarm	260	-	-	-	-	-	-	-	-	-	-	260	2.0
TOTAL	876	164	132	368	72	372	36	16	244	344	72	2,696	20.5
Exchange telephone	1,680	1,136	756	812	688	1,568	588	340	808	788	408	9,572	72.5
Running call	304	108	52	60	40	104	32	8	52	52	8	820	6.2
Late call	20	4	4	-	-	-	4	-	-	-	-	32	0.2
Other and undefined methods	36	8	12	-	-	16	-	-	-	8	-	80	0.6
TOTAL FIRES	2,916	1,420	956	1,240	800	2,060	660	364	1,104	1,192	488	13,200	100.0

## SECTION III

Table 2

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on		
<u>Agriculture</u>		
Farming (not fruit or poultry) and horse and stock rearing	264	2.0
Allotments, market gardening, fruit and poultry farming	48	0.4
TOTAL	312	2.4
<u>Mining, quarrying and treatment of non-metalliferous mine and quarry products (excluding gas works)</u>		
	36	0.3
<u>Manufacture of bricks, pottery, glass, etc.</u>		
	4	-
<u>Manufacture of chemicals, dyes, explosives, paint, oils</u>		
Chemicals	4	-
Explosives	8	0.1
Paints, varnish, oils, grease	4	-
Miscellaneous	-	-
TOTAL	16	0.1
<u>Manufacture of metals, machines, implements, conveyances</u>		
Smelting, converting, refining, rolling of iron, steel	12	0.1
Extracting, refining, smelting of other metals	4	-
Founding, other secondary processes in metal working	24	0.2
Engineering (not marine or electrical)	16	0.1
Electrical installations, cables and apparatus	12	0.1
Construction and repair of vehicles	16	0.1
Shipbuilding and repairing, marine engineering	12	0.1
Cutlery and small tools	-	-
Other metal industries	20	0.2
TOTAL	116	0.9
<u>Manufacture of textiles and textile goods (not dress)</u>		
Cotton	8	0.1
Wool, worsted and shoddy	-	-
Silk, natural and artificial	-	-
Other or mixed fibres	44	0.3
Miscellaneous	24	0.2
Textile dyeing, printing, bleaching, finishing	8	0.1
TOTAL	84	0.6

## SECTION III.

Table 2 (Contd.)

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on (contd.)		
Preparation of skins and leather and manufacture of goods of leather and leather substitute (not clothing or footwear)	16	0.1
Manufacture of clothing (not knitted) including footwear	28	0.2
Manufacture of food, drink, tobacco		
Food	68	0.5
Drink	12	0.1
Tobacco, cigars, cigarettes, snuff	-	-
	TOTAL	80
		0.6
Woodworking: manufacture of cane and basket ware, furniture, fittings.		
Woodworking and basket ware	72	0.5
Furniture (not metal or basket)	36	0.3
Fittings	-	-
	TOTAL	108
		0.8
Paper making: manufacture of stationery and stationery requisites, printing and bookbinding	16	0.1
Building, decorating, contracting; slate and stone cutting and dressing	188	1.4
Rubber and synthetic rubber	4	-
Other manufacturing industries	28	0.2
Gas, water, electricity, sewage	24	0.2
Transport and communication		
Railway - stations, etc.	120	0.9
Road - garages, depots, etc.	148	1.1
Water - dock buildings other than warehouses	12	0.1
Air - aerodromes, etc.	-	-
Other communication (post, telephone, wireless)	12	0.1
	TOTAL	292
		2.2
Commerce		
Departmental stores	12	0.1
Retail shops	552	4.2
Wholesale dealers	44	0.3
Dock and other warehouses	16	0.1
	TOTAL	624
		4.7

## SECTION III

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on (contd.)		
<u>Offices, Government and other</u>		
Government departments	8	0.1
Local authorities	20	0.1
Other Offices	44	0.3
	TOTAL	
	72	0.5
<u>Navy, Army and Air Force establishments</u>	28	0.2
<u>Fire Service establishments</u>	-	-
<u>Professional establishments (other than offices): public institutions</u>		
Educational establishments	64	0.5
Hospitals, homes, etc. for the care of the sick and infirm	48	0.4
Places of worship	20	0.2
Other public and professional services	48	0.4
	TOTAL	
	180	1.4
<u>Places of public entertainment</u>		
Cinemas and theatres	12	0.1
Other places of entertainment	84	0.6
	TOTAL	
	96	0.7
<u>Private residential and personal service (including hotels and catering)</u>		
Private residential houses	964	7.3
Private residential flats	1,996	15.1
Clubs, restaurants, public houses	224	1.7
Private huts, unoccupied houses, personal service	544	4.1
	TOTAL	
	3,728	28.2
<u>Miscellaneous</u>	392	3.0
<u>Undefined</u>	4	-
Total fires in buildings	6,476	49.1

## SECTION III

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires other than those in buildings		
<u>Agriculture and forestry</u>		
Crops, standing or stooked (including hay fields)	80	0.6
Crops, ricks and stacks	284	2.2
Agricultural machinery	60	0.4
Agricultural waste	24	0.2
Other agricultural hazards	44	0.3
Allotments and gardens	80	0.6
Railway embankments	976	7.4
Grassland, heathland	2,412	18.3
Woods, forests, plantations	168	1.3
Single trees	92	0.7
Felled timber	24	0.2
TOTAL	4,244	32.2
<u>Transport and communications</u>		
Aircraft	24	0.2
Railway rolling stock, etc.	156	1.2
Road vehicles - electrically driven	36	0.3
- oil, petrol or gas driven	580	4.4
- other	4	-
Water vessels - craft on inland waters	4	-
- ships in dock	68	0.5
- ships at sea	4	-
- marine structures	4	-
TOTAL	880	6.7
<u>Outdoor storage</u>		
Chemicals, explosives, ammunition, oils, grease	52	0.4
Coal and coke	-	-
Refuse	396	3.0
Timber	276	2.1
Cotton, metal, packing materials, rubber etc.	152	1.2
TOTAL	876	6.6
<u>Other outdoor structures</u>		
Total fires other than those in buildings	724	5.5
Total fires attended	6,724	50.9
	13,200	100.0

## SECTION III

Table 3

FIRES CLASSIFIED ACCORDING TO HAZARDS IN WHICH FIRE STARTED FOR EACH BRIGADE

Reports from Scotland, 1955

(Frequencies obtained by multiplying the results of analysis of a one-in-four sample of reports by four).

Hazard in which fire started	Fire Brigades											Total
	Glasgow	Lanark	Central	Western	South Western	South Eastern	Fife	Perth and Kinross	Angus	North Eastern	Northern	
Fires in Buildings												
Industrial premises	228	64	44	72	40	96	40	4	76	48	12	724
Commercial premises and offices	264	68	28	40	44	112	24	8	44	48	16	696
Transport and public utilities	72	40	24	40	32	48	8	12	16	16	8	316
Dwellings	920	260	180	228	192	488	116	72	224	204	76	2,960
Other buildings	604	104	120	136	132	212	36	52	184	168	32	1,780
Fires not in buildings												
Agriculture, grassland and forestry	300	512	384	472	216	700	332	156	352	540	280	4,244
Transport	196	116	60	120	72	116	48	20	44	60	28	880
Outdoor storage	176	92	60	64	32	204	32	16	128	56	16	876
Other outdoor hazards	156	164	56	68	40	84	24	24	36	52	20	724
TOTAL	2,916	1,420	956	1,240	800	2,060	660	364	1,104	1,192	488	13,200

## SECTION III

Table 4

## SUPPOSED CAUSE OF FIRES

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Each item in the list of supposed causes of fire given in this table represents a group of causes which have a common source of ignition. In some cases the groups have been divided into sub-groups according to the nature of the material first ignited and in others according to the act with the source of ignition which led to the outbreak of fire. Certain causes were specified for the first time in 1954, the miscellaneous item is therefore not comparable with those for years previous to 1954.

Supposed cause of fire	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Aircraft, crashed	-	-	16	0.1	16	0.1
Ashes, soot	400	3.0	168	1.3	568	4.3
Brazier	12	0.1	8	0.1	20	0.2
Camp fire, fire in open air <sup>(1)</sup>	4	-	160	1.2	164	1.2
Candle	32	0.2	-	-	32	0.2
Chimney on fire, not confined to chimney	660	5.0	-	-	660	5.0
Chimney sparks from (outside building)	64	0.5	24	0.2	88	0.7
Cooker, cooking range, oven other than electric, coal gas, oil <sup>(1)</sup>	36	0.3	-	-	36	0.3
Electric cooker	72	0.5	-	-	72	0.5
fire, heater, radiator	116	0.9	-	-	116	0.9
iron	48	0.4	-	-	48	0.4
motor	24	0.2	-	-	24	0.2
refrigerator	100	0.8	-	-	100	0.8
television	8	0.1	-	-	8	0.1
wire and cable, other than lead to apparatus	252	1.9	176	1.3	428	3.2
Wire and cable, lead to apparatus	24	0.2	36	0.3	60	0.5
wireless	16	0.1	-	-	16	0.1
other apparatus	144	1.1	92	0.7	236	1.8
Explosives, fireworks	28	0.2	40	0.3	68	0.5
Fire in grate igniting bedding, clothing, linen	32	0.2	-	-	32	0.2
Fire in grate, igniting furniture and furnishings	212	1.6	-	-	212	1.6
structural						
timber under hearth	408	3.1	-	-	408	3.1
other materials	312	2.4	-	-	312	2.4
Fish frying range (all fuels)	44	0.3	-	-	44	0.3
Flue	72	0.5	-	-	72	0.5
Furnace (coal or coke)	12	0.1	-	-	12	0.1
Gas (coal) burner, jet, ring	24	0.2	4	-	28	0.2
cooker	200	1.5	-	-	200	1.5
fire, heater, radiator	32	0.2	-	-	32	0.2
other apparatus	60	0.4	20	0.2	80	0.6

## SECTION III

Table 4 (Contd.)

## SUPPOSED CAUSE OF FIRES

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Supposed cause of fire	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Incubator brooder (all fuels)	28	0.2	-	-	28	0.2
Intentional burning of grassland, gorse etc.	-	-	56	0.4	56	0.4
Lightning	4	-	-	-	4	-
Lime	-	-	-	-	-	-
Locomotives, sparks from	116	0.9	1,912	14.5	2,028	15.4
Malicious ignition <sup>(1)(2)</sup>	16	0.1	-	-	16	0.1
Matches	156	1.2	248	1.9	404	3.1
Matches, children playing with	396	3.0	1,116	8.5	1,512	11.5
Mechanical heat or sparks	52	0.4	60	0.5	112	0.8
Metal, hot	8	0.1	8	0.1	16	0.1
Naked light <sup>(1)(3)</sup>	208	1.6	204	1.5	412	3.1
Oil, blowlamp	112	0.8	12	0.1	124	0.9
engine (including petrol)	28	0.2	176	1.3	204	1.5
lamp	48	0.4	8	0.1	56	0.4
stove	68	0.5	16	0.1	84	0.6
tractor	16	0.1	60	0.5	76	0.6
Other apparatus	40	0.3	8	0.1	48	0.4
Oxyacetylene cutting and welding apparatus	32	0.2	72	0.5	104	0.8
Rubbish burning	68	0.5	344	2.6	412	3.1
Slow combustion stove igniting						
structural woodwork	24	0.2	4	-	28	0.2
other material	144	1.1	52	0.4	196	1.5
Smoking materials	628	4.8	668	5.1	1,296	9.8
Spontaneous combustion in rubbish	-	-	-	-	-	-
Spontaneous combustion in other materials	8	0.1	32	0.2	40	0.3
Static electricity	-	-	-	-	-	-
Steam roller, engine, traction engine	-	-	4	-	4	-
Sun's rays	-	-	68	0.5	68	0.5
Taper, lighted paper or sticks	64	0.5	12	0.1	76	0.6
Taper, lighted paper or sticks, children playing with	112	0.8	52	0.4	164	1.2
Miscellaneous <sup>(4)</sup>	144	1.1	4	-	148	1.1
Unknown source of ignition	508	3.9	784	5.9	1,292	9.8
Total number of fires	6,476	49.1	6,724	50.9	13,200	100.0

- Notes. (1) Causes specified first time in the Annual Statistical Tables for 1954.  
 (2) Malicious ignition is a general heading for suspected or proven arson or incendiarism.  
 (3) No further information given in original reports.  
 (4) Not comparable with the years prior to 1954.

SECTION II

SUPPOSED CAUSE OF FIRES IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland 1955

## SUPPOSED CAUSE OF FIRES IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1955

SECTION III  
Table 5A (Contd.)

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of report by four)

Row No.	Supposed cause of fire	Hazard in which fire started																				Total Row No.						
		Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
16	Electric, wireless other apparatus																											
17	Explosives, fireworks																											
18	Fire in grate igniting bedding clothing, linen, furniture furnishings.																											
19																												
20																												
21	structural timber under hearth																											
22	other materials																											
23	Fish frying range (all fuels)																											
24	Furnace (coal or coke)																											
25																												
26	Gas (coal) burner, jet, ring cooker, heater, radiator																											
27	Other apparatus																											
28	Incubator, brooder (all fuels)																											
	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27



## SECTION III

Table 5B

SUPPOSED CAUSE OF FIRES OTHER THAN THOSE IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland 1955

(Frequencies obtained by multiplying results of analysis of a one in four sample of reports by four)

Row No.	Supposed cause of fire	Hazard in which fire started																					Row No.
		Crops	Agricultural machinery	Agricultural waste	Agriculture, other	Gardens and allotments	Railway embankments	Grassland, heathland	Woods, forests, plantations	Single trees	Felled timber	Air	Rail	Road - oil, petrol or gas driven vehicles	Road - other vehicles	Water	Coal and coke	Refuse	Timber	Other materials	Miscellaneous outdoor structure	Total	
Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	Aircraft crashed	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	16	1
2	Ashes, soot	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	168	2
3	Brazier	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	8	3
4	Camp fire, fire in open air (1)	-	-	-	-	-	-	-	-	-	-	112	-	-	-	-	-	-	-	-	-	160	4
5	Candle	-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	-	5
6	Chimney on fire, not confined to chimney	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	-	6
7	Chimney, sparks from (outside building)	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	7
8	Cooker, cooking range, oven, other than electric, coal gas or oil (1)	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	-	8
9	Electric cooker	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	9
10	fire, heater, radiator	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	10
11	motor	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	11
12	refrigerator	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	12
13	wire and cable other than lead to apparatus	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	13
14	wire and cable lead to apparatus	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	14
15	wireless	-	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	15

Column No.



## SECTION III

Table 6

## MATERIAL FIRST IGNITED IN FIRES

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of one-in-four sample of reports by four).

Material first ignited	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
<u>Agriculture and Forestry</u>						
Crops, ricks, stacks						
Barley	-	-	4	-	4	-
Hay	16	0.1	60	0.4	76	0.5
Straw	24	0.2	84	0.6	108	0.8
Stubble	-	-	36	0.3	36	0.3
Other	-	-	28	0.2	28	0.2
Loose straw or hay	112	0.8	116	0.9	228	1.7
Grass, heather, bracken	56	0.4	2,472	18.7	2,528	19.1
Trees, hedges, undergrowth, brushwood, bushes, (including gorse), twigs, touchwood	4	-	996	7.5	1,000	7.5
Other agricultural materials	4	-	28	0.2	32	0.2
Total	216	1.6	3,824	29.0	4,040	30.6
<u>Chemicals - gases</u>						
Acetylene	8	0.1	4	-	12	0.1
Coal gas	184	1.4	32	0.2	216	1.6
Other gases	8	0.1	-	-	8	0.1
Total	200	1.5	36	0.3	236	1.8
<u>Chemicals - oils</u>						
Animal and vegetable oils	-	-	-	-	-	-
Mineral oil						
Paraffin	40	0.3	24	0.2	64	0.5
Petrol in vehicles	36	0.3	208	1.6	244	1.8
Petrol not in vehicles	36	0.3	16	0.1	52	0.4
Other mineral oils	48	0.4	32	0.2	80	0.6
Oil, waste and undefined	52	0.4	52	0.4	104	0.8
Total	212	1.6	332	2.5	544	4.1
<u>Chemicals - other</u>						
Celluloid (including films)	-	-	-	-	-	-
Paint, enamel, lacquer, varnish, stains and						
French polish	24	0.2	12	0.1	36	0.3
Pitch, tar	4	-	12	0.1	16	0.1
Rubber, vulcanite, ebonite	20	0.2	48	0.4	68	0.5
Other chemicals	44	0.3	28	0.2	72	0.5
Total	92	0.7	100	0.8	192	1.5
<u>Paper, cardboard, wood (not part of a structure)</u>						
Paper, cardboard	352	2.7	164	1.2	516	3.9
Wood chippings, flour, sawdust, shavings, wool	112	0.8	44	0.3	156	1.2
Wood barrels, boxes, cases, firewood, etc.	84	0.6	20	0.2	104	0.8
Timber	56	0.4	156	1.2	212	1.6
Total	604	4.5	384	2.9	988	7.5

## SECTION III

Table 6 (Contd.)

## MATERIAL FIRST IGNITED IN FIRES

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis  
of one-in-four sample of reports by four).

Material first ignited	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
<u>Textiles</u>						
Canvas and canvas goods	12	0.1	20	0.2	32	0.2
Clothing on person	4	-	-	-	4	-
Clothing not on person	128	1.0	4	-	132	1.0
Cotton	12	0.1	-	-	12	0.1
Jute, hessian, sacking	92	0.7	36	0.3	128	1.0
Rags (including oily rags)	24	0.2	8	0.1	32	0.2
Tarpaulin, waterproof sheeting, oilskins	12	0.1	36	0.3	48	0.4
Other textiles	36	0.3	16	0.1	52	0.4
Total	320	2.4	120	0.9	440	3.3
<u>Furniture, furnishings, household goods</u>						
Bedding	128	1.0	8	0.1	136	1.0
Carpets, rugs	84	0.6	-	-	84	0.6
Curtains	36	0.3	-	-	36	0.3
Furniture	300	2.3	-	-	300	2.3
Linen articles (unspecified), laundry	4	-	-	-	4	-
Seating in vehicles	4	-	32	0.2	36	0.3
Other furnishings	120	0.9	12	0.1	132	1.0
Total	676	5.1	52	0.4	728	5.5
<u>Building materials, structural woodwork</u>						
Building materials other than wood	88	0.7	8	0.1	96	0.7
Structural woodwork						
External	180	1.4	-	-	180	1.4
Internal						
Door, window frame	48	0.4	-	-	48	0.4
Floor, stairs	276	2.1	-	-	276	2.1
Partitions, linings to walls	128	1.0	-	-	128	1.0
Roof	244	1.8	-	-	244	1.8
Timber in chimney, flue	20	0.2	-	-	20	0.2
Timber under hearth	424	3.2	-	-	424	3.2
Other fittings	244	1.8	-	-	244	1.8
Not known whether internal or external	20	0.2	-	-	20	0.2
Structural woodwork hazards other than buildings	-	-	404	3.1	404	3.1
Total	1,672	12.7	412	3.1	2,084	15.8
<u>Miscellaneous</u>						
Coal, coke	-	-	4	-	4	-
Electrical insulation	296	2.2	176	1.3	472	3.6
Fat (margarine, suet, butter, cooking fat, lard)	220	1.7	-	-	220	1.7
Food other than fat	100	0.7	8	0.1	108	0.8
Refuse, rubbish, debris	700	5.3	476	3.6	1,176	8.9
Soot	56	0.4	-	-	56	0.4
Other	728	5.5	280	2.1	1,008	7.6
Unknown	384	2.9	520	3.9	904	6.9
Total number of fires	6,476	49.1	6,724	50.9	13,200	100.0









## SECTION III

Table 8

## METHOD OF EXTINCTION OF FIRES

Reports from Scotland, 1955

(Frequencies obtained by multiplying results of analysis of one-in-four sample of reports by four)

Row No.	Method of extinction	Fires in buildings						Fires other than those in buildings						Total No. of fires	Row No.		
		Extinguished by Fire Brigade		Extinguished before arrival of Fire Brigade		Total		Extinguished by Fire Brigade		Extinguished before arrival of Fire Brigade		Total					
		No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent				
1	Burned out	-	-	28	0.2	28	0.2	-	-	88	0.7	88	0.7	116	0.8		
2	Removal	352	2.7	64	0.5	416	3.1	64	0.5	28	0.2	92	0.7	508	3.9		
3	Automatic sprinkler system	-	-	4	-	4	-	-	-	-	-	-	-	4	-		
4	Beating	-	-	28	0.2	28	0.2	928	7.0	100	0.8	1,028	7.8	1,056	8.0		
5	Smothering	28	0.2	20	0.2	48	0.4	-	-	16	0.1	16	0.1	64	0.5		
6	Sand, earth, etc.	-	-	12	0.1	12	0.1	12	0.1	24	0.2	36	0.3	48	0.4		
7	Water from buckets	216	1.6	232	1.8	448	3.4	68	0.5	60	0.5	128	1.0	576	4.4		
8	Water from stirrup or hand pumps	1,344	10.2	4	-	1,348	10.2	80	0.6	4	-	84	0.6	1,432	10.9		
9	Chemicals and chemical extinguishers	148	1.1	72	0.5	220	1.7	188	1.4	76	0.6	264	2.0	484	3.7		
10	Two or more methods 4-9	32	0.2	36	0.3	68	0.5	156	1.2	24	0.2	180	1.4	248	1.9		
11	Water from garden hose, etc.	-	-	8	0.1	8	0.1	-	-	-	-	-	-	8	0.1		
12	Hose reel jets (using water in tank only)	2,220	16.8	4	-	2,224	16.9	2,668	20.2	-	-	2,668	20.2	4,892	37.0		
13	Hose reel jets (using more water than that in tank)	356	2.7	-	-	356	2.7	392	3.0	-	-	392	3.0	748	5.7		
14	Jets from inside hose reel or inside hydrant	8	0.1	8	0.1	16	0.2	-	-	-	-	-	-	16	0.2		
15	Hose reel jets and jets from inside hose reel	4	-	-	-	4	-	-	-	-	-	-	-	4	-		
16	Jets from pumps and hydrants	1,056	8.0	4	-	1,060	8.0	1,656	12.6	12	0.1	1,668	12.6	2,728	20.7		
17	Other and undefined methods	108	0.8	80	0.6	188	1.4	36	0.3	44	0.3	80	0.6	268	2.0		
18	TOTAL	5,872	44.5	604	4.6	6,476	49.1	6,248	47.4	476	3.6	6,724	51.0	13,200	100.0		

## Notes on methods of extinction

1. "Removal" includes occurrences where (a) burning material was removed from the building, (b) gas supply was turned off. If the burning material was tackled with methods 3-11 before removing it from the building, then such occurrences were classified under whichever of these methods applied.
2. Methods 11-15 and method 16 include those occurrences in which methods 3-10 and 3-15 respectively may also have been used.
3. "Fires extinguished by Fire Brigade" include those fires which were tackled but not extinguished before the arrival of the Fire Brigade.

## SECTION III

Table 9

## BEHAVIOUR OF SPRINKLER SYSTEMS AT FIRES

Reports from Scotland, 1955

(Frequencies observed in the analysis of a one-in-four sample of reports)

Note: These figures are not on a comparable basis with those in tables 1-8 or tables 10-12

Behaviour of sprinklers	Incidents in which the following numbers of heads were actuated						Total Number of incidents
	Nil	1-5	6-10	11-20	More than 20	Number not reported	
Installed but did not operate							
(i) because insufficient heat was generated by the fire	3	-	-	-	-	-	3
(ii) because the fire was above the level of the sprinkler heads	1	-	-	-	-	-	1
TOTAL	4	-	-	-	-	-	4
Operated but did not control the fire because:							
(i) of the severity of the fire	-	-	-	-	-	1	1
(ii) the fire was out of range of the sprinkler heads	-	1	-	-	-	-	1
TOTAL	-	1	-	-	-	1	2
Controlled but did not extinguish the fire	-	4	1	-	-	-	5
Extinguished the fire	-	1	-	-	-	-	1
Number of calls to fires where sprinkler systems were installed	4	6	1	-	-	1	12

## SECTION III

Table 10

## PERSONS RESCUED OR ESCAPED BY EMERGENCY MEANS FROM FIRES

Reports from Scotland, 1955

(Frequencies obtained from results of analysis of all reports)

Appliance or method used	Number of persons
Rescue with Fire Brigade assistance from Buildings	
Escape (hand operated)	-
Ladder, extension	1
turntable (hand)	3
turntable (mechanical)	13
other or undefined	8
Other apparatus	4
Without apparatus	31
Total	60
Rescue without Fire Brigade assistance from Aircraft	
Buildings	
Carried or assisted out	76
Jumping sheet	-
Ladder	11
Lowered from windows, roof, etc.	4
Other or undefined methods	12
Road vehicles	-
Total	103
Escaped by emergency means from Aircraft	
Baled out	-
Through exits or from debris	-
Thrown clear	-
Buildings	
Climbing over roof	2
Jumping from upstairs window, roof	16
Ladder	-
Sliding down drainpipe, sheets, rope etc.	3
Through ground floor windows	4
Other and undefined methods	1
Road vehicles	-
Ships	-
Total	26
Total persons rescued or escaped.	189

## SECTION III

Table 11

## NATURE OF INJURIES OF CASUALTIES IN FIRES

Reports from Scotland, 1955

(Frequencies obtained from results of analysis of all reports)

\*Casualties who suffered shock in addition to another injury have been classified according to the nature of the other injury.

Nature of injury	Fire Brigade	Other Casualties	Total
Fatal casualties			
Burns and scalds	-	35	35
Overcome by gas or smoke	-	4	4
Other and undefined injuries	-	11	11
Total	-	50	50
Non-fatal casualties			
Burns and scalds	4	114	118
Bruises, cuts, abrasions	33	19	52
Dislocations, sprains, fractures	4	4	8
Overcome by gas or smoke	2	22	24
More than one of above injuries	1	11	12
*Shock	-	37	37
Other and undefined injuries	16	11	27
Total	60 **	218	278
Total casualties	60 **	268	328

\*\* Change in reporting procedure excludes casualties requiring first-aid treatment only in 1954 and subsequent years.

## SECTION IV

## STATISTICAL TABLES FOR FIRE BRIGADES IN NORTHERN IRELAND, 1955

Table 1

## METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of all reports by four)

Method of calling	Fire Brigade				Total	
	North	South	West	Belfast	No.	Per cent
By Special Fire Service methods						
Automatic fire alarm	-	-	-	-	-	-
Fire and police pillar box	-	-	-	-	-	-
Police telephone	-	-	-	60	60	4.0
Private fire telephone	-	-	-	12	12	0.8
Street fire alarm	-	-	-	20	20	1.3
Total	-	-	-	92	92	8.1
Exchange Telephone	244	524	272	272	1,312	88.2
Running call	8	8	-	52	68	4.6
Late call	-	4	-	-	4	0.3
Other and undefined methods	4	8	-	-	12	0.8
Total fires	256	544	272	416	1,488	100.0

## SECTION IV

Table 2

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying the results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on		
<u>Agriculture</u>		
Farming (not fruit or poultry) and horse and stock rearing	72	4.8
Allotments, market gardening, fruit and poultry farming	12	0.8
Total	84	5.6
<u>Mining quarrying and treatment of non-metalliferous mine and quarry products (excluding gas works)</u>		
	4	0.3
<u>Manufacture of bricks, pottery, glass, etc.</u>		
	8	0.5
<u>Manufacture of chemicals, dyes, explosives, paints, oils</u>		
Chemicals	-	-
Explosives	-	-
Paints, varnish, oil, grease	-	-
Miscellaneous	-	-
Total	-	-
<u>Manufacture of metals, machines, implements, conveyances</u>		
Smelting, converting, refining, rolling of iron, steel	-	-
Extracting, refining, smelting of other metals	-	-
Foundry, other secondary processes in metal working	-	-
Engineering (not marine or electrical)	-	-
Electrical installations, cables and apparatus	-	-
Construction and repair of vehicles	4	0.3
Shipbuilding, and repairing, marine engineering	-	-
Cutlery and small tools	-	-
Other metal industries	-	-
Total	4	0.3
<u>Manufacture of textiles and textile goods (not dress)</u>		
Cotton	-	-
Wool, worsted and shoddy	-	-
Silk, natural and artificial	-	-
Other or mixed fibres	16	1.1
Miscellaneous	-	-
Textile dyeing, printing, bleaching, finishing	-	-
Total	16	1.1

## SECTION IV

Table 2 (Contd.)

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying the results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent.
Fires in buildings classified according to trade or business carried on (contd.)	-	-
<u>Preparation of skins and leather and manufacture of goods of leather and leather substitute (not clothing or footwear)</u>	-	-
<u>Manufacture of clothing (not knitted) including footwear</u>	4	0.3
<u>Manufacture of food, drink, tobacco</u>	-	-
Food	-	-
Drink	-	-
Tobacco, cigars, cigarettes, snuff	-	-
Total	-	-
<u>Woodworking: manufacture of cane and basket ware, furniture, fittings</u>	-	-
Woodworking and basket ware	8	0.5
Furniture (not metal or basket)	8	0.5
Fittings	-	-
Total	16	1.1
<u>Paper making: manufacture of stationery and stationery requisites, printing and bookbinding</u>	-	-
<u>Building, decorating, contracting: slate and stone cutting and dressing</u>	8	0.5
<u>Rubber and synthetic rubber</u>	-	-
<u>Other manufacturing industries</u>	-	-
<u>Gas, water, electricity, sewage</u>	4	0.3
<u>Transport and communication</u>	-	-
Railway - stations, etc.	12	0.8
Road - garages, depots, etc.	32	2.2
Water - dock buildings other than warehouses	8	0.5
Air - aerodromes etc.	-	-
Other communication (post, telephone, wireless)	8	0.5
Total	60	4.0
<u>Commerce</u>	-	-
Departmental stores	-	-
Retail shops	52	3.5
Wholesale dealers	12	0.8
Dock and other warehouses	-	-
Total	64	4.3

## SECTION IV

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying the results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires in buildings classified according to trade or business carried on (contd.)		
<u>Offices, Government and other</u>		
Government departments	4	0.3
Local authorities	-	-
Other offices	4	0.3
Total	8	0.5
<u>Navy, Army and Air Force establishments</u>	-	-
<u>Fire Service establishments</u>	-	-
<u>Professional establishments (other than offices); public institutions</u>		
Educational establishments	16	1.1
Hospitals, homes etc. for care of the sick and infirm	12	0.8
Places of worship	-	-
Other public and professional services	-	-
Total	28	1.9
<u>Places of public entertainment</u>		
Cinemas and theatres	-	-
Other places of entertainment	8	0.5
Total	8	0.5
<u>Private residential and personal service (including hotels and catering)</u>		
Private residential houses	424	28.5
Private residential flats	12	0.8
Clubs, restaurants, public houses	52	3.5
Private huts, unoccupied houses, personal service	44	3.0
Total	532	35.8
<u>Miscellaneous</u>	8	0.5
<u>Undefined</u>	-	-
Total fires in buildings	856	57.5

## SECTION IV

Table 2 (Contd.)

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying the results of analysis  
of a one-in-four sample of reports by four)

Hazard in which fire started	Total	
	No.	Per cent
Fires other than those in buildings		
<u>Agriculture and forestry</u>		
Crops, standing or stooked (including hay fields)	-	-
Crops, ricks and stacks	40	2.7
Agricultural machinery	40	2.7
Agricultural waste	4	0.3
Other agricultural hazards	8	0.5
Allotments and gardens	8	0.5
Railway embankments	28	1.9
Grassland, heathland	212	14.2
Woods, forests, plantations	8	0.5
Single trees	20	1.3
Felled timber	-	-
	Total	
	368	24.7
<u>Transport and communication</u>		
Aircraft	-	-
Railway rolling stock, etc.	-	-
Road vehicles - electrically driven	4	0.3
- oil, petrol, or gas driven	92	6.2
Road vehicles - other	-	-
Water vessels - craft on inland waters	-	-
- ships in dock	8	0.5
- ships at sea	-	-
- marine structures	-	-
	Total	
	104	7.0
<u>Outdoor storage</u>		
Chemicals, explosives, ammunition, oils, grease	4	0.3
Coal and coke	-	-
Refuse	40	2.7
Timber	24	1.6
Cotton, metal, packing materials, rubber etc.	16	1.1
	Total	
	84	5.6
<u>Other outdoor structures</u>		
Total fires other than those in buildings	76	5.1
Total fires attended	632	42.4
Total fires attended	1,488	100.0

## SECTION IV

Table 3

## FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED FOR EACH BRIGADE

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Hazard in which fire started	Fire Brigades				Total
	North	South	West	Belfast	
Fires in buildings					
Industrial premises	4	24	8	24	60
Commercial premises and offices	8	20	4	40	72
Transport and public utilities	8	20	8	28	64
Dwellings	64	160	92	120	436
Other buildings	44	92	44	44	224
Fires not in buildings					
Agriculture, grassland, forestry	100	164	84	20	368
Transport	12	44	16	32	104
Outdoor storage	8	8	8	60	84
Other outdoor hazards	8	12	8	48	76
Total	256	544	272	416	1,488

## SECTION IV

Table 4

## SUPPOSED CAUSE OF FIRES

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four).

Each item in the list of supposed causes of fire given in the table represents a group of causes which have a common source of ignition. In some cases the groups have been divided into sub-groups according to the nature of the material first ignited, and in others according to the act with the source of ignition which led to the outbreak of fire. Certain causes were specified for the first time in 1954, the miscellaneous item is therefore not comparable with those for years previous to 1954.

Supposed cause of fire	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Aircraft, crashed	-	-	-	-	-	-
Ashes, soot	32	2.2	-	-	32	2.2
Brazier	-	-	4	0.3	4	0.3
Candle	-	-	-	-	-	-
Camp fire, fire in open air <sup>(1)</sup>	-	-	4	0.3	4	0.3
Chimney on fire, not confined to chimney	84	5.6	-	-	84	5.6
Chimney, sparks from (outside building)	44	3.0	-	-	44	3.0
Cooker, cooking range oven other than electric, coal gas, oil <sup>(1)</sup>	8	0.5	-	-	8	0.5
Electric cooker	4	0.3	-	-	4	0.3
fire, heater, radiator	20	1.3	-	-	20	1.3
iron	4	0.3	-	-	4	0.3
motor	4	0.3	-	-	4	0.3
refrigerator	12	0.8	-	-	12	0.8
television	-	-	-	-	-	-
wire and cable, other than lead to apparatus	36	2.4	44	3.0	80	5.4
wire and cable, lead to apparatus	-	-	4	0.3	4	0.3
wireless	4	0.3	-	-	4	0.3
other apparatus	8	0.5	8	0.5	16	1.1
Explosives, fireworks	4	0.3	-	-	4	0.3
Fire in grate, igniting bedding, clothing, linen	-	-	-	-	-	-
furniture and furnishings	20	1.3	-	-	20	1.3
structural timber under hearth	36	2.4	-	-	36	2.4
other materials	96	6.5	-	-	96	6.5
Fish frying range (all fuels)	32	2.2	-	-	32	2.2
Flue	16	1.1	4	0.3	20	1.3
Furnace (coal or coke)	-	-	-	-	-	-
Gas (coal) burner, jet, ring cooker	4	0.3	-	-	4	0.3
fire, heater, radiator	-	-	-	-	-	-
other apparatus	8	0.5	-	-	8	0.5
incubator, brooder (all fuels)	16	1.1	-	-	16	1.1

## SECTION IV

Table 4 (Contd.)

## SUPPOSED CAUSE OF FIRES

Reports from Northern Ireland, 1954

(Frequencies obtained by multiplying results of analysis of  
a one-in-four sample of reports by four)

Supposed cause of fire	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Intentional burning of grassland, gorse, etc.	-	-	8	0.5	8	0.5
Lightning	-	-	-	-	-	-
Lime	-	-	-	-	-	-
Locomotives, sparks from	4	0.3	20	1.3	24	1.6
Malicious ignition (1)(2)	8	0.5	4	0.3	12	0.8
Matches	12	0.8	12	0.8	24	1.6
Matches, children playing with	16	1.1	20	1.3	36	2.4
Mechanical heat or sparks	-	-	8	0.5	8	0.5
Metal, hot	-	-	-	-	-	-
Naked light (1)(3)	12	0.8	4	0.3	16	1.1
Oil blow lamp	4	0.3	-	-	4	0.3
engine (including petrol)	-	-	40	2.7	40	2.7
lamp	12	0.8	4	0.3	16	1.1
stove	20	1.3	-	-	20	1.3
tractor	8	0.5	24	1.6	32	2.1
other apparatus	12	0.8	-	-	12	0.8
Oxacetylene cutting and welding apparatus	4	0.3	-	-	4	0.3
Rubbish burning	4	0.3	36	2.4	40	2.7
Slow combustion stove igniting structural woodwork	12	0.8	-	-	12	0.8
other materials	16	1.1	16	1.1	32	2.2
Smoking materials	8	0.5	40	2.7	48	3.2
Spontaneous combustion in rubbish	-	-	-	-	-	-
Spontaneous combustion in other materials	-	-	-	-	-	-
Static electricity	-	-	4	0.3	4	0.3
Steam roller, engine, traction engine	-	-	-	-	-	-
Sun's rays	-	-	-	-	-	-
Taper, lighted paper or sticks	4	0.3	-	-	4	0.3
Taper, lighted paper or sticks, children playing with	-	-	-	-	-	-
Miscellaneous (4)	12	0.8	-	-	12	0.8
Unknown source of ignition	196	13.2	324	21.8	520	34.9
Total number of fires	856	57.5	632	42.5	1,488	100.0

Note. (1) Causes specified for the first time in the Annual Statistical Tables for 1954.

(2) Malicious ignition is a general term for suspected or proven arson or incendiarism.

(3) No further information given in original reports.

(4) Not comparable with the years prior to 1954.

## SECTION IV

Table 5A

## SUPPOSED CAUSE OF FIRES IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis of a four sample of reports by four)

Row No.	Column No.	Supposed cause of fire	Hazard in which fire started																				Row No.	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
1	1	Ashes, soot, etc.																						
2	2	Chimney on fire, not confined to chimney																						
3	3	Chimney, sparks from (outside building)																						
4	4	Cooker, cooking range, oven, other than electric, coal, gas or oil(1)																						
5	5	Electric cooker																						
6	6	fire, heater radiator																						
7	7	iron																						
8	8	motor																						
9	9	refrigerator																						
10	10	wire and cable other than lead to apparatus																						
11	11	wireless																						
12	12	other apparatus																						
13	13	Explosives, fireworks																						
		Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	

## SECTION IV

Table 5A (Contd.)

SUPPOSED CAUSE OF FIRES IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis of a one in four sample of reports by four)

Row No.	Column No.	Supposed cause of fire	Hazard in which fire started																				Row No.
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
14	Fire in grate, igniting furniture	Agriculture																					
15	structural timber under hearth	Mining, quarrying and treatment of non-metalliferous mine and quarry products (excluding gas works)																					
16	Other materials	Manufacture of bricks, pottery, glass, etc.																					
17	Fish frying range (all fuels)	Manufacture of metals, machines, implements, conveyances																					
18	Flue	Manufacture of textiles and textile goods (not dress)																					
19	Gas (coal) burner, jet, ring	Manufacture of clothing (not knitted) including footwear, and goods of leather and leather substitute; preparation of skins and leather																					
20	other apparatus	Woodworking; manufacture of cane and basket ware, furniture, fittings																					
21	Incubator, brooder (all fuels)	Building, decorating, contracting; slate and stone cutting and dressing																					
22	Locomotives, sparks from	Gas, water, electricity, sewage																					
23	Malicious ignition(1)(2)	Transport and communication																					
24	Gas (coal) burner, jet, ring	Commerce; retail shops, including departmental stores																					
25	Incubator, brooder (all fuels)	Commerce; wholesale dealers and warehouses																					
26	Locomotives, sparks from	Offices; Government and other																					
27	Malicious ignition(1)(2)	Professional establishments (other than offices), public institutions																					
28	Matches	Places of public entertainment																					
29	Matches, children playing with	Private residential houses																					
30	Naked light(1)(3)	Private residential flats																					
31		Clubs, hotels, restaurants, public houses																					
32		Private huts, unoccupied houses, personal service																					
33		Miscellaneous and undefined																					
		Total																					
		Row No.																					

For explanation of notes see page 21

27	Oil, blow lamp	-																				4	12	27
28	lamp	4	-																			28	28	
29	stove	4	-																			20	29	
30	tractor	4	-																			8	30	
31	other apparatus	-	4	-																		12	31	
32	Oxyacetylene cutting and welding apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	4	32	
33	Rubbish burning	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	4	4	33
34	Slow combustion stove igniting structural woodwork	-	-	-	-	-	-	-	-	-	4	-	-	-	4	4	-	-	-	-	-	12	34	
35	other materials	-	-	-	-	-	-	-	-	-	4	-	8	-	-	-	-	-	-	-	4	16	35	
36	Smoking materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	4	-	-	8	8	36	
37	Taper, lighted paper or sticks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	4	37	
38	Miscellaneous(4)	-	-	-	-	4	-	4	8	4	20	12	4	4	4	-	-	-	-	-	-	12	38	
39	Unknown source of ignition	48	-	4	-	-	16	4	16	8	4	60	52	12	8	28	-	48	-	8	24	8	196	
40	Total fires in buildings	84	4	8	4	16	-	4	16	8	4	60	52	12	8	28	8	424	12	52	44	8	856	
	-Column No:-		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	

For explanation of notes see page 21

## SECTION IV

Table 5B

SUPPOSED CAUSE OF FIRES OTHER THAN THOSE IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Row No.	Supposed cause of fire	Hazard in which fire started																		Row No.
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
		Crops	Agricultural machinery	Agricultural waste	Agriculture, other	Gardens and allotments	Railway embankments	Grassland, heathland	Woods, forests, plantations	Single trees	Road - oil petrol or gas driven vehicles	Road - other vehicles	Water	Chemicals, explosives, ammunition, oils, grease	Refuse	Timber	Other materials	Miscellaneous outdoor structures	Total	
1	Brazier	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	1	
2	Camp fire, fire in open air (1)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	
3	Electric wire and cable other than lead to apparatus	-	-	12	-	-	-	-	-	-	4	4	-	-	-	-	-	44	3	
4	Wire and cable lead to apparatus	-	-	-	-	-	-	-	-	-	-	-	20	4	-	-	-	4	4	
5	Other apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	5	
6	Flue	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	6	
7	Intentional burning of grassland, gorse, etc.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	7	
8	Locomotives, sparks (from (1) (2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	8	
9	Malicious ignition (1) (2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	9	
10	Matches	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	10	
11	Matches children playing with	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	4	11	
12	Mechanical heat or sparks (1) (3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	12	
13	Naked light (1) (3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	13	
14	Oil engine (including petrol)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	14	
15	Lamp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	15	
16	tractor	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	16	
17	Rubbish burning	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	6	17	
18	Slow combustion stove igniting materials other than structural woodwork	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	16	18	
19	Smoking materials	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	40	19	
20	Static electricity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	20	
21	Unknown source of ignition	24	4	-	4	4	12	160	8	20	24	4	8	4	8	16	8	24	324	21
22	Total fires other than those in buildings	40	40	4	8	8	28	212	8	20	92	4	8	4	40	24	16	76	632	22
	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	

For explanation of notes see page 21

## SECTION IV

Table 6

## MATERIAL FIRST IGNITED IN FIRES

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Material first ignited	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
<u>Agriculture and Forestry</u>						
Crops, ricks, stacks						
Barley	-	-	-	-	-	-
Hay	4	0.3	4	0.3	8	0.5
Straw	-	-	-	-	-	-
Stubble	-	-	-	-	-	-
Other	4	0.3	4	0.3	8	0.5
Loose straw or hay	16	1.1	8	0.5	24	1.6
Grass, heather, bracken	-	-	52	3.5	52	3.5
Trees, hedges, undergrowth, brushwood, bushes (including gorse), twigs, touchwood	-	-	28	1.9	28	1.9
Other agricultural materials	-	-	8	0.5	8	0.5
Total	24	1.6	104	7.0	128	8.6
<u>Chemicals - gases</u>						
Acetylene	-	-	-	-	-	-
Coal gas	12	0.8	4	0.3	16	1.1
Other gases	4	0.3	-	-	4	0.3
Total	16	1.1	4	0.3	20	1.3
<u>Chemicals - oils</u>						
Animal and vegetable oils	-	-	-	-	-	-
Mineral oil						
Paraffin	24	1.6	4	0.3	28	1.9
Petrol in vehicles	12	0.8	48	3.2	60	4.0
Petrol not in vehicles	12	0.8	8	0.5	20	1.3
Other mineral oils	-	-	4	0.3	4	0.3
Oil waste and undefined	8	0.5	4	0.3	12	0.8
Total	56	3.8	68	4.6	124	8.3
<u>Chemicals - other</u>						
Celluloid (including films)	-	-	-	-	-	-
Paint, enamel, lacquer, varnish, stains and French polish	-	-	-	-	-	-
Pitch, tar	-	-	16	1.1	16	1.1
Rubber, vulcanite, ebonite	-	-	4	0.3	4	0.3
Other chemicals	12	0.8	-	-	12	0.8
Total	12	0.8	20	1.3	32	2.1
<u>Paper, cardboard, wood (not part of a structure)</u>						
Paper, cardboard	28	1.9	20	1.4	48	3.2
Wood chippings, flour, sawdust shavings, wool	-	-	12	0.8	12	0.8
Wood barrels, boxes, cases, firewood etc.	32	2.1	-	-	32	2.1
Timber	-	-	-	-	-	-
Total	60	4.0	32	2.2	92	6.2

## SECTION IV

Table 6 (Contd.)

## MATERIAL FIRST IGNITED IN FIRES

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis  
of a one-in-four sample of reports by four)

Material first ignited	Fires in buildings		Fires other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
<u>Textiles</u>						
Canvas and canvas goods	-	-	-	-	-	-
Clothing on person	-	-	-	-	-	-
Clothing not on person	12	0.8	-	-	12	0.8
Cotton	-	-	-	-	-	-
Jute, hessian, sacking	-	-	4	0.3	4	0.3
Rags, (including oily rags)	4	0.3	4	0.3	8	0.5
Tarpaulin, waterproof sheeting, oilskins	-	-	-	-	-	-
Other textiles	12	0.8	4	0.3	16	1.1
Total	28	1.9	12	0.9	40	2.7
<u>Furniture, furnishings, household goods</u>						
Bedding	4	0.3	-	-	4	0.3
Carpets, rugs	-	-	-	-	-	-
Curtains	-	-	-	-	-	-
Furniture	36	2.4	-	-	36	2.4
Linen articles (unspecified), laundry	-	-	-	-	-	-
Seating in vehicles	-	-	4	0.3	4	0.3
Other furnishings	4	0.3	-	-	4	0.3
Total	44	3.0	4	0.3	48	3.2
<u>Building materials, structural woodwork</u>						
Building materials other than wood	76	5.1	-	-	76	5.1
Structural woodwork						
External	20	1.3	-	-	20	1.3
Internal						
Door, window frame	-	-	-	-	-	-
Floor, stairs	52	3.5	-	-	52	3.5
Partitions, linings to walls	20	1.3	-	-	20	1.3
Roof	40	2.7	-	-	40	2.7
Timber in chimney, flue	16	1.1	-	-	16	1.1
Timber under hearth	40	2.7	-	-	40	2.7
Other fittings	32	2.2	-	-	32	2.2
Structural Woodwork hazards other than buildings	-	-	8	0.5	8	0.5
Total	296	19.9	8	0.5	304	20.4
<u>Miscellaneous</u>						
Coal, coke	-	-	-	-	-	-
Electrical insulation	32	2.2	48	3.2	80	5.4
Fat (margarine, suet, butter, cooking fat and lard)	28	1.9	-	-	28	1.9
Food other than fat	-	-	-	-	-	-
Refuse, rubbish, debris	16	1.1	40	2.7	56	3.8
Soot	-	-	-	-	-	-
Other	52	3.5	20	1.3	72	4.8
Unknown	192	12.9	272	18.3	464	31.2
Total number of Fires	856	57.5	632	42.5	1488	100.0



## SECTION IV

Table 7B

MATERIAL FIRST IGNITED IN FIRES IN HAZARDS OTHER THAN BUILDINGS IN RELATION TO SUPPOSED CAUSE

Reports from Northern Ireland 1955.

(Frequencies obtained by multiplying the results of analysis of one-in-four sample of reports by four)

Row No.	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Row No.			
		Material first ignited																										
		Supposed cause of fire			Agriculture and forestry		Chemicals - gases		Chemicals - oils			Chemicals other		Paper, cardboard, wood not structural		Textiles		Furniture, furnishings, household goods	Building materials, structural woodwork	Miscellaneous material		Unknown material						
		Crops, ricks and stacks	Loose straw or hay	Other agricultural materials	Coal gas		Paraffin	Petrol	Petrol in vehicles	Petrol not in vehicles	Other mineral oils	Oil, waste and undefined	Pitch, tar	Rubber, vulcanite, ebbonite	Paper, cardboard		Wooden packing materials		Jute, hessian, sacking	Rags including oily rags	Other textiles including canvas and canvas goods	Seating in vehicles	Structural woodwork other than in buildings	Electrical insulation	Refuse, rubbish, debris	Other materials	Total	
1	Brazier				4				4																4	4		
2	Camp fire, fire in open air (1)																									2	3	
3	Electric wire and cable other than lead to apparatus				4																					44	44	
4	Wire and cable lead to apparatus																									4	5	
5	Other apparatus																									8	9	
6	Flue																									6	7	
7	Intentional burning of grassland, gorse etc.																									8	9	
8	Locomotives, sparks from																									20	20	
9	Malicious ignition (1) (2)																									12	10	
10	Matches																									4	5	
11	Matches, children playing with																									20	20	
12	Mechanical heat and sparks																									11	12	
13	Naked light (1) (3)																									8	9	
14	Oil engine including petrol																									40	40	
15	Lamp																									4	5	
16	Tractor																									24	24	
17	Rubbish burning																									36	36	
18	Slow combustion stove igniting materials other than structural woodwork																									16	17	
19	Smoking materials																									18	18	
20	Static electricity																									4	4	
21	Unknown source of ignition																									40	40	
22	Total fires other than those in buildings	8	8	88	4	4	48	8	4	4	16	4	20	12	4	4	4	4	8	48	40	20	272	632	22			

For explanation of notes see page 21.

## SECTION IV

Table 9

## BEHAVIOUR OF SPRINKLER SYSTEMS AT FIRES

Reports from Northern Ireland, 1955

In the one-in-four sample of reports there were only two incidents reported at premises where sprinklers were installed. In one incident the fire was brought under control with 4 heads operating and in the other, the fire was extinguished by other means before the sprinkler system could operate.

## SECTION IV

Table 10

## PERSONS RESCUED OR ESCAPED BY EMERGENCY MEANS FROM FIRES

Reports from Northern Ireland, 1955

(Frequencies obtained from results of analysis of all reports)

Appliance or method used	No. of persons
Rescue with Fire Brigade assistance from	
Aircraft	-
Buildings	5
Ladder extension	4
other or undefined	-
Turntable mechanical	-
Other and undefined apparatus	-
Total	9
Rescue without Fire Brigade assistance from	
Buildings	
Carried or assisted out	12
Lowered from windows, roof, etc.	-
Ladder	2
Road vehicles	3
Ships	4
Total	21
Escape by emergency means from	
Aircraft	
Through exits or from debris	-
Buildings	
Jumping from upstairs window, roof	5
Through ground floor windows	2
Other or undefined methods	3
Total	10
Total persons rescued or escaped	40

## SECTION IV

Table 8

## METHOD OF EXTINCTION OF FIRES

Reports from Northern Ireland, 1955

(Frequencies obtained by multiplying results of analysis of a one-in-four sample of reports by four)

Row No.	Method of extinction	Fires in buildings						Fires other than those in buildings						Total No. of fires	Row No.		
		Extinguished by Fire Brigade		Extinguished before arrival of Fire Brigade		Total		Extinguished by Fire Brigade		Extinguished before arrival of Fire Brigade		Total					
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.				
1	Burned out	-	-	4	0.3	4	0.3	-	-	24	1.6	24	1.6	28	1.9	1	
2	Removal	52	3.5	-	-	52	3.5	12	0.8	8	0.5	20	1.3	72	4.9	2	
3	Beating	-	-	-	-	-	-	100	6.7	16	1.1	116	7.8	116	7.8	3	
4	Smothering	4	0.3	8	0.5	12	0.8	4	0.3	4	0.3	8	0.5	20	1.3	4	
5	Sand; earth etc.	-	-	4	0.3	4	0.3	-	-	12	0.8	12	0.8	16	1.1	5	
6	Water from buckets	20	1.3	64	4.3	84	5.6	12	0.8	16	1.1	28	1.9	112	7.5	6	
7	Water from stirrup or hand pumps	60	4.0	-	-	60	4.0	4	0.3	-	-	4	0.3	64	4.3	7	
8	Chemicals and chemical extinguishers	24	1.6	4	0.3	28	1.9	16	1.1	20	1.3	36	2.4	64	4.3	8	
9	Two or more methods 3-8	8	0.5	4	0.3	12	0.8	12	0.8	16	1.1	28	1.9	40	2.7	9	
10	Water from garden hose	-	-	-	-	-	-	-	-	4	0.3	4	0.3	4	0.3	10	
11	Hose reel jets (using water in tank only)	348	23.4	-	-	348	23.4	180	12.1	-	-	180	12.1	.528	35.5	11	
12	Hose reel jets (using more water than that in tank)	28	1.9	-	-	28	1.9	12	0.8	-	-	12	0.8	40	2.7	12	
13	Jets from inside hose reel or inside hydrant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	
14	Jets from pumps and hydrants	216	14.5	-	-	216	14.5	148	9.9	4	0.3	152	10.2	368	24.5	14	
15	Other and undefined methods	4	0.3	4	0.3	8	0.5	4	0.3	4	0.3	8	0.5	16	1.1	15	
	Total	764	51.3	92	6.3	856	57.6	504	33.9	128	8.6	632	42.5	1,488	100.0	16	

## Notes on method of extinction

- "Removal" includes occurrences where (a) burning material was removed from the building, (b) gas supply was turned off. If the burning material was tackled with methods 3-8 before removing it from the building, then such occurrences were classified under whichever of these methods applied.
- Methods 11 & 12 and method 14 include those occurrences in which methods 3-9 and 3-12 respectively may also have been used.
- "Fires extinguished by Fire Brigade" include those fires which were tackled but not extinguished before the arrival of the Fire Brigade.

## SECTION IV

Table 11

## NATURE OF INJURIES OF CASUALTIES IN FIRES

Reports from Northern Ireland, 1955

(Frequencies obtained from results of analysis of all reports)

\* Casualties who suffered shock in addition to another injury have been classified according to the nature of the other injury

Nature of Injury	Fire Brigades	Other Casualties	Total
Fatal casualties			
Burns and scalds	-	5	5
Other and undefined injuries	-	2	2
Total	-	7	7
Non-fatal casualties			
Burns and scalds	5	22	27
Bruises, cuts, abrasions	4	9	13
Dislocations, sprains, fractures	-	-	
Overcome by gas or smoke	-	5	5
More than one of the above injuries	-	5	5
Shock*	-	1	1
Other and undefined injuries	1	2	3
Total	10**	44	54
Total casualties	10**	51	61

\*\* Change in reporting procedure excludes casualties requiring first aid treatment only in 1954 and subsequent years.

## APPENDIX I

## (A) DISCUSSION OF SAMPLE ANALYSIS IN SECTION I

The random sampling procedure adopted for each of the years 1950-1954 was similar to that used in 1955 which is described in part B below. The sampling fraction  $f$  varied on occasion and this affects the quantity  $\sqrt{\frac{(1-f)}{f}}$  used to multiply  $\sqrt{\frac{p(100-p)}{N'}}$  or  $\sqrt{\frac{n'(N'-n')}{N'}}$  (see part B below). The values of the sampling fraction and the multiplier are shown in the following table:

Year	Sampling fraction $f$	Multiplier $2\sqrt{\frac{(1-f)}{f}}$
1950	1/2	2
1951	1/2	2
1952	1/4	3.46
1953	1/5	4
1954	1/2	2
1955	1/4	3.46

## (B) DISCUSSION OF SAMPLE ANALYSIS FOR PREPARATION OF TABLES 1, 2, 3, 4, 5A, 5B, 6, 7A, 7B, 8, 9, 10, in SECTIONS II, III and IV.

Method of selecting sample

The procedure adopted for selecting the one in four sample of reports for the preparation of tables 1, 2, 3, 4, 5A, 5B, 6, 7A, 7B, 8, 9 and 10 was first to add to each of the figures 1, 5, 9, 13, etc. one of the figures 0, 1, 2, 3, taken at random (tables of random numbers were used). A series of approximately 8,000 numbers, the first ten of which were 1, 8, 9, 16, 17, 24, 28, 32, 35, 40, was obtained. These numbers were used for extracting from the reports of each brigade separately the sample to be coded.

Accuracy of estimated percentages of different types of fires

Of the total number of reports in 1955, a sample,  $N$ , has been analysed: of this sample a percentage,  $p$ , has been observed to fall into a certain group e.g. fires caused by sparks from locomotives. This percentage is an estimate of the corresponding percentage which would have been obtained had the total number of reports been analysed. The accuracy of the estimate,  $p$ , can be defined by means of its 'standard error',  $s$ , which is given very nearly by the equation.

$$s = \sqrt{\frac{p(1-p)(1-f)}{N}}$$

where  $f$  = sampling fraction which is  $\frac{1}{4}$  in the present instance

This formula can be used for estimating  $s$  even if  $N$  does not denote the total number of reports in the sample, but the number in a sub-category of the sample e.g. fires in buildings and the percentage,  $p$ , is based on this number. The sampling fraction is then not exactly known to be, but is assumed to be  $\frac{1}{4}$ .

The figures in the tables have been obtained by multiplying the results of analysis of the sample by four, and therefore  $N = N'/4$  where  $N'$  is the estimated total of a particular category of fire on which  $p$  is based.

It is unlikely (only a 19 to 1 chance) that the actual percentage will differ from the sample estimate by more than  $\pm 2s = E$

$$E = \pm 3.46 \sqrt{\frac{p(100-p)}{N}}$$

The following examples show the method of calculating the value of  $E$ .

Example 1

10.9% of the 107,084 fires in England and Wales were attributed to sparks from locomotives (Section II, Table 4).

$$E = \pm 3.46 \sqrt{\frac{10.9 \times 89.1}{107,084}} = \pm 0.3\%$$

There is therefore a 19 to 1 chance that the interval 10.6% - 11.2% will include the true percentage.

Example 2

0.4% of the 13,200 fires in Scotland were extinguished with sand, earth, etc. (Section III, Table 8).

$$E = \pm 3.46 \sqrt{\frac{0.4 \times 99.6}{13,000}} = \pm 0.2\%$$

There is a 19 to 1 chance that the interval 0.2% - 0.6% will include the true percentage.

Accuracy of estimates of yearly totals of fires

An estimate of the returns of 1955 which would have been obtained had all reports been analysed, has been made by multiplying the results of analysis of the sample by four. The 'standard error',  $s'$ , of this estimate is given by the equation.

$$s' = \sqrt{\frac{n'(N'-n')}{N'^2} (1-f)}$$

where  $n'$  = figure in table.

$N'$  = estimated total of a particular category of fire e.g. incidents in England and Wales.

It is unlikely (a 19 to 1 chance) that the actual yearly total for a particular group of fires will differ from the estimated figure,  $n'$ , by more than  $\pm 2s' = E'$ .

$$E' = \pm 3.46 \sqrt{\frac{n'(N'-n')}{N'^2}}$$

The two examples considered above show the method of calculating the value of  $E'$ .

Example 1. (Large value of  $n'$ )

11,624 fires in England and Wales were attributed to sparks from locomotives. (Section II, Table 4). The total number of fires in the country was 107,084.

$$E' = \pm 3.46 \sqrt{\frac{11,624 (107,084 - 11,624)}{107,084}} = \pm 352$$

There is therefore a 19 to 1 chance that the interval 11,272 - 11,976 will include the actual yearly total.

Example 2. (Small value of  $n'$ )

48 of the 13,200 fires in Scotland were extinguished with sand, earth etc. (Section III, Table 8).

$$E' = \pm 3.46 \sqrt{\frac{48 (13,200 - 48)}{13,200}} = \pm 24$$

The proportionate sampling error here is large: there is a 19 to 1 chance that the interval 24-72 will include the actual yearly total.