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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 1954**

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

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19, Cornwall Terrace

Regent's Park

London, N.W.1

(Telephone: MUSEum 5030)

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UNITED KINGDOM DURING 1954

Page 1. For "ships and river craft" read "ships and river craft; marine structures".

The column for 1954

The figure for "ships and river craft; marine structures"
for 522 read 552

The figure for "other fires" (not in buildings)
for 4198 read 4168.

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 1954 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-two 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.

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

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 1950 - 1954. More detailed statistical information for 1954 is given in sections II, III, and IV for England and Wales, Scotland, and Northern Ireland respectively.

INDEX

Section I

Fires attended by Fire Brigades in the United Kingdom
1950 - 1954

Table		Page
1	Hazard in which fire started	1
2A	Supposed causes of fires in buildings	2
2B	Supposed causes of fires other than those in buildings	3
3A	Method of extinction of fires in buildings	4
3B	Method of extinction of fires other than those in buildings	5
4	Casualties in fires	6

Sections II, III, and IV

Fires attended by Fire Brigades during 1954 in England
and Wales, Scotland, and Northern Ireland respectively

	England and Wales	Scotland	Northern Ireland
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Table		Page	Page	Page
1	Method of calling Fire Brigades to fires	7	41	66
2	Hazard in which fire started	12	42	67
3	Hazard in which fire started classified according to Fire Brigade	16	46	71
4	Supposed cause of fires	20	47	72
5A	Supposed cause of fires in buildings in relation to hazard in which fire started	22	49	75
5B	Supposed cause of fires other than those in buildings in relation to hazard in which fire started	26	52	77
6	Material first ignited in fires	28	55	79
7A	Material first ignited in fires in buildings in relation to supposed cause	31	57	83
7B	Material first ignited in fires other than in buildings in relation to supposed cause	33	59	83
8	Method of extinction of fires	35	61	85
9	Behaviour of sprinkler systems at fires	36	62	86
10A	Attendance of special appliances at fires	37	63	86
11	Persons rescued or escaped by emergency means from fires	39	64	87
12	Nature of injuries of casualties in fires	40	65	88

SECTION I

Table 1

HAZARD IN WHICH FIRE STARTED

Reports from Fire Brigades in the United Kingdom, 1950-1954

Hazard in which fire started	No. of fires				
	1950	1951	1952	1953	1954
Fires in buildings					
Industrial premises	7,644	7,902	8,588	8,080	6,094
Gas, water, electricity and sewage undertakings	182	236	224	215	212
Transport and communications	1,648	1,748	1,720	1,635	1,722
Commercial premises	3,598	3,482	3,640	3,470	3,508
Offices, Government and other	718	552	704	505	596
Navy, Army, Air Force and Fire Service establishments	372	362	420	330	442
Professional establishments, public institutions	1,538	1,640	1,852	1,475	1,740
Places of public entertainment	638	608	720	610	532
Private residential houses and flats	21,014	20,034	22,488	21,240	22,808
Clubs, hotels, restaurants, public houses	2,840	2,822	2,804	2,765	2,516
Other buildings	3,552	3,008	3,536	3,550	5,800
TOTAL FIRES IN BUILDINGS	43,744	42,394	46,696	43,875	45,970
Fires other than those in buildings					
Crops, standing or stooked, ricks, stacks, etc.	2,076	1,942	2,932	2,425	1,808
Grassland, heathland	7,282	10,140	19,252	17,285	11,714
Woods, forests, plantations	628	548	1,024	870	432
Other hazards of agriculture and forestry	2,286	2,078	3,608	3,440	6,088
Aircraft	68	100	140	90	142
Railway rolling stock, etc.	370	394	448	505	346
Road vehicles	5,466	5,824	6,524	6,760	6,602
Ships and river craft	422	450	524	530	522
Refuse	4,384	3,204	4,416	4,755	4,600
Outdoor storage	1,958	1,878	2,120	2,155	2,078
Other fires	3,190	3,544	4,084	4,310	4,198
TOTAL FIRES OTHER THAN THOSE IN BUILDINGS	28,130	30,102	45,072	43,125	38,530
TOTAL FIRES ATTENDED	71,874	72,496	91,768	87,000	84,500

SECTION I

Table 2A

SUPPOSED CAUSES OF FIRES IN BUILDINGS

Reports from Fire Brigades in the United Kingdom, 1950-1954

Supposed cause of fire	No. of fires				
	1950	1951	1952	1953	1954
Ashes, soot	1,524	1,064	872	930	822
Brazier	108	100	76	90	100
Candle	398	344	356	340	364
Chimney, on fire, not confined to chimney	668	1,192	2,556	2,610	3,168
Chimney, sparks from (outside building)	542	370	484	530	400
Cooker, cooking range, oven, other than coal gas, electric or oil.(1)	704	416	376	420	408
Electric cooker	740	784	804	930	924
fire, heater, radiator	1,092	1,148	1,045	1,190	
iron	372	364	372	365	376
motor	264	310	324	295	256
refrigerator	1,132	1,020	1,124	1,025	916
wire and cable	2,250	2,694	2,728	2,825	2,630
wireless, television	450	548	584	560	592
other apparatus	906	948	924	970	1,298
Explosives, fireworks	256	182	232	190	280
Fire in grate igniting -					
bedding, clothing, linen, furniture and furnishings	1,192	1,096	1,044	1,035	1,178
structural timber under hearth	946	798	1,148	930	1,060
other materials	3,212	1,956	3,592	740	2,712
	4,096	3,616	3,888	4,085	2,752
Fish frying range (all fuels)	996	1,040	876	1,020	864
Flue	730	848	956	1,120	1,148
Furnace (coal or coke)	46	64	76	50	68
Gas (coal) burner, jet, ring cooker	738	658	640	575	524
fire, heater, radiator	284	268	232	160	286
other apparatus	436	480	472	395	608
Incubator, brooder (all fuels)	564	592	496	650	582
Intentional burning of grassland, gorse etc.	4	16	4	10	24
Lightning	64	76	196	145	60
Lime	24	22	12	5	16
Locomotives, sparks from	208	208	272	215	242
Malicious ignition, including suspected cases(1)(2)	222	212	184	155	228
Matches	612	646	852	760	770
Matches, children playing with	2,242	2,128	2,168	2,130	2,254
Mechanical heat or sparks	484	536	524	555	500
Metal, hot	320	264	268	185	240
Naked light(1)(3)	620	558	640	645	484
Oil blow lamp	918	920	800	890	1,058
engine (including petrol)	270	220	204	285	200
lamp, stove	804	906	880	725	1,034
tractor	80	88	100	95	102
other apparatus	170	160	180	170	236
Oxyacetylene cutting and welding apparatus	378	374	400	345	366
Rubbish burning	526	520	576	675	682
Slow combustion store igniting					
structural woodwork	516	378	496	300	376
other materials	992	942	1,164	935	996
Smoking materials	3,610	3,754	3,876	3,640	3,714
Spontaneous combustion	228	352	216	150	192
Static electricity	22	32	8	35	34
Steam roller, engine, traction engine	2	4	-	10	4
Sun's rays	68	56	60	80	22
Taper, lighted paper or sticks	242	266	332	360	330
children playing with	100	132	96	85	128
Miscellaneous or not classified (4)	638	1,036	928	790	724
Unknown source of ignition	3,698	3,618	4,708	4,385	4,182
TOTAL FIRES IN BUILDINGS		43,744	42,394	46,696	43,875
					45,970

Notes (1) Causes specified for the first time

(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 previous Annual Statistical Tables.

SECTION I

Table 2B

SUPPOSED CAUSES OF FIRES OTHER THAN THOSE IN BUILDINGS

Reports from Fire Brigades, in the United Kingdom, 1950-1954

Supposed cause of fire	No. of fires				
	1950	1951	1952	1953	1954
Aircraft, crashed	52	80	104	85	132
Ashes, soot	1,014	750	976	1,240	1,280
Brazier	132	156	152	120	148
Candle	20	8	8	10	8
Camp fire, fire in open air(1)	226
Chimney, sparks from (outside building)	66	58	64	85	76
Cooker, cooking range, oven other than coal gas, electric or oil(1)	10	20	20	25	12
Electric motor	26	28	32	65	50
wire and cable	2,462	2,722	3,140	2,885	2,966
other apparatus	374	370	384	625	532
Explosives, fireworks	266	312	492	410	506
Fish frying range (all fuels)	20	36	36	20	22
Flue	24	48	76	90	142
Furnace (coal or coke)	2	2	8	-	4
Gas (coal) apparatus	296	312	332	370	412
Incubator, brooder (all fuels)	6	6	4	20	26
Intentional burning of grassland, gorse, etc.	188	294	388	640	400
Lightning	30	36	100	35	60
Lime	40	36	44	60	28
Locomotives, sparks from	3,514	4,782	7,612	5,635	5,070
Malicious ignition including suspected cases (1)(2)	108	116	48	80	90
Matches	476	406	732	850	600
Matches, children playing with	5,040	5,312	8,512	8,440	8,088
Mechanical heat or sparks	386	448	324	400	458
Metal, hot	92	92	40	50	54
Naked Light(1)(3)	436	576	904	855	508
Oil blow lamp	42	36	76	30	66
engine (including petrol)	1,844	1,992	2,160	2,420	2,150
lamp, stove	144	134	204	230	178
tractor	246	238	416	420	278
other apparatus	102	74	136	205	150
Oxyacetylene cutting and welding apparatus	296	298	264	360	352
Rubbish burning	2,524	2,430	4,052	3,640	3,214
Slow combustion stove	134	250	404	390	322
Smoking materials	2,798	2,918	4,804	4,255	3,238
Spontaneous combustion in rubbish	186	94	104	105	146
other materials	456	632	644	335	366
Static electricity	2	-	4	-	4
Steam engine, roller, traction engine	4	4	4	5	12
Sun's rays	92	86	196	100	38
Taper, lighted paper or sticks	66	46	64	100	150
Taper, lighted paper or sticks, children playing with	32	44	56	40	18
Miscellaneous or not classified(4)	378	356	636	570	300
Unknown source of ignition	3,704	3,464	6,316	6,825	5,650
TOTAL FIRES OTHER THAN THOSE IN BUILDINGS	28,130	30,102	45,072	43,125	38,530

Note: (1) Causes specified for the first time

(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 previous Annual Statistical Tables.

SECTION I

Table 3A.

METHOD OF EXTINCTION OF FIRES IN BUILDINGS

Reports from Fire Brigades in the United Kingdom, 1950-1954

Method of extinction	Extinguished before arrival of Fire Brigade					Extinguished by Fire Brigade					Total				
	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954
1 Burned out	702	702	892	815	904	-	-	-	-	-	702	702	892	815	904
2 Removal	948	1,106	1,144	1,210	1,278	3,336	3,518	3,872	3,315	3,616	4,284	4,624	5,016	4,525	4,894
3 Automatic sprinkler system	42	36	12	25	42	-	-	-	-	-	42	36	12	25	42
4 Beating	194	180	240	170	240	58	60	52	50	54	252	240	292	220	294
5 Smothering	712	868	804	690	830	264	236	256	315	298	976	1,104	1,060	1,005	1,128
6 Sand, earth, etc.	180	152	156	175	130	32	46	48	55	38	212	198	204	230	168
7 Water from buckets	3,144	3,210	3,168	2,910	3,022	2,756	2,556	2,912	2,560	2,692	5,900	5,796	6,080	5,470	5,714
8 Water from stirrup or hand pumps	44	44	56	30	50	5,222	4,184	4,868	4,055	4,446	5,266	4,228	4,924	4,085	4,496
9 Chemicals and chemical extinguishers	1,004	1,114	1,276	1,125	1,216	1,968	2,050	2,156	2,000	1,862	2,972	3,164	3,432	3,125	3,078
10 Two or more methods 4 - 9	350	406	364	350	374	422	314	232	95	150	772	720	596	445	524
11 Water from garden hose	150	172	164	115	170	-	-	-	-	-	150	172	164	115	170
12 Hose reel jets (using water in tank only)	60	36	32	20	48	11,808	11,960	13,964	14,625	15,696	11,868	11,996	13,996	14,645	15,744
13 Hose reel jets (using more water than that in tank)	-	6	-	5	8	2,740	2,400	2,656	2,470	2,164	2,740	2,406	2,656	2,475	2,172
14 Jets from inside hose reel or inside hydrant	38	64	72	45	60	84	100	92	138	102	122	164	164	180	162
15 Hose reel jets and jets from hydrants	-	-	-	-	2	18	26	12	35	8	18	26	12	35	10
16 Jets from pumps and hydrants	108	112	88	120	104	6,462	5,858	6,140	5,490	5,528	6,570	5,970	6,228	5,610	5,632
17 Other and undefined methods	436	422	452	455	450	462	426	516	415	388	898	848	968	870	838
18 TOTAL FIRES IN BUILDINGS	8,112	8,660	8,920	8,260	8,928	35,632	33,734	37,776	35,615	37,042	43,744	42,394	46,696	43,875	45,970

Notes on methods 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 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, 1950-1954

Method of extinction	Extinguished before arrival of Fire Brigade					Extinguished by Fire Brigade					Total				
	1950	1951	1952	1953	1954	1950	1951	1952	1953*	1954	1950	1951	1952	1953*	1954
1 Burned out	750	828	1,020	1,065	1,276	-	-	-	-	-	750	828	1,020	1,065	1,276
2 Removal	304	338	364	355	394	636	644	676	720	732	940	982	1,040	1,075	1,126
3 Automatic Sprinklers	-	-	-	-	2	-	-	-	-	-	-	-	-	-	2
4 Beating	462	484	896	925	784	2,696	3,634	6,348	7,345	6,468	3,158	4,118	7,244	8,270	7,252
5 Smothering	214	364	360	400	366	56	28	92	45	60	300	392	452	445	426
6 Sand, earth, etc.	240	232	283	275	270	92	134	136	150	174	332	366	424	425	444
7 Water from buckets	662	664	848	865	750	486	478	636	345	428	1,148	1,142	1,484	1,210	1,178
8 Water from stirrup or hand pumps	-	10	1	10	10	202	224	316	255	190	202	234	316	265	200
9 Chemicals and chemical extinguishers	868	942	1,116	995	1,036	1,454	1,656	1,724	1,700	1,638	2,322	2,598	2,840	2,695	2,674
10 Two or more methods 4 - 9	252	250	272	285	236	348	312	504	485	326	600	562	776	770	562
11 Water from garden hose	74	56	92	70	58	-	-	-	-	-	74	56	92	70	58
12 Hose reel jets (using water in tank only)	36	56	96	125	150	8,722	10,270	17,132	16,700	15,444	8,758	10,326	17,228	16,825	15,594
13 Hose reel jets (using more water than that in tank)	4	4	4	5	6	1,182	1,238	1,916	1,495	1,202	1,186	1,242	1,920	1,500	1,208
14 Jets from pumps and hydrants	136	142	184	150	120	7,888	6,708	9,468	7,855	6,008	8,024	6,850	9,652	8,005	6,128
15 Other and undefined methods	212	270	344	335	258	124	136	240	170	144	336	406	584	505	402
16 TOTAL FIRES OTHER THAN THOSE IN BUILDINGS	4,244	4,640	5,884	5,860	5,716	23,886	25,462	39,188	37,265	32,814	28,130	30,102	45,072	43,125	38,530

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, 1950-1954*

Casualties	England and Wales					Scotland					Northern Ireland					United Kingdom				
	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954	1950	1951	1952	1953	1954
<u>Fatal casualties</u>																				
Fire Brigade	4	3	-	3	3	-	-	-	-	-	-	-	-	-	-	4	3	-	3	3
Other casualties	510	570	581	377	423	37	45	49	46	67	6	3	6	37	2	553	618	636	460	492
Total	514	573	581	380	426	37	45	49	46	67	6	3	6	37	2	557	621	636	463	495
<u>Non-fatal casualties</u>																				
Fire Brigade	1,093	1,146	1,250	1,126	584	133	115	152	78	40	9	21	28	33	7	1,235	1,282	1,430	1,237	631
Other casualties	3,432	3,705	3,700	3,582	3,454	192	240	267	248	110	38	46	37	58	27	3,662	3,991	4,004	3,888	3,591
Total	4,525	4,851	4,950	4,708	4,038	325	355	419	326	150	47	67	65	91	34	4,897	5,273	5,434	5,125	4,222
Total casualties	5,039	5,424	5,531	5,088	4,464	362	400	468	372	217	53	70	71	128	36	5,454	5,894	6,070	5,588	4,717

* 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.

SECTION II

STATISTICAL TABLES FOR FIRE BRIGADES IN ENGLAND AND WALES, 1954

Table 1

METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1954 -

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

Method of Calling		County Fire Brigades																														
		Anglesey	Bedfordshire	Berkshire and Reading C.B.	Breconshire and Radnorshire	Buckinghamshire	Caernarvonshire	Cambridgeshire	Cardiganshire and Carmarthenshire	Chesteshire	Cornwall	Cumberland	Denbighshire and Montgomeryshire	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, Kesteven	Lincolnshire, Lindsey
By Special Fire Service methods																																
Automatic fire alarm		-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Fire and police pillar box		-	54	36	2	12	-	-	10	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Police telephone		-	2	-	-	-	24	-	4	-	-	6	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Private fire telephone		-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Street fire alarm		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-				
Total		-	60	50	-	28	2	10	36	90	-	-	-	-	-	-	-	-	36	-	-	-	-	-	-	-	-	-				
Exchange telephone	46	442	648	104	576	176	250	234	1,182	480	226	254	-	50	4	16	54	-	144	-	36	-	16	6	96	4	240	70	28	4	12	14
Running call	-	52	32	10	34	10	22	22	104	16	38	42	58	36	32	138	6	170	26	66	24	70	16	76	12	152	262	28	14	18	16	
Late call	12	6	22	2	18	14	6	8	26	-	12	24	12	12	10	34	-	108	10	90	10	156	6	42	10	194	114	6	-	-	12	
Other and undefined methods	14	8	6	-	6	2	4	2	8	-	2	-	2	2	2	24	-	36	4	8	-	6	2	24	-	32	8	10	-	-	-	
Total fires	72	568	758	116	662	204	292	302	1,410	496	278	320	800	834	674	1,162	128	3,082	198	1,070	582	1,600	212	1,318	134	3,112	3,318	382	140	174	370	

SECTION II

Table 1 (contd.)

METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1954

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

Method of Calling	County Fire Brigades (Contd.)																										
	London	Merioneth	Middlesex	Monmouthshire	Norfolk	Northamptonshire	Nottinghamshire	Oxfordshire	Pembrokeshire	Peterborough, Soke of	Salop	Somerset	Staffordshire	Suffolk and Ipswich C.B.	Surrey	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	4	-	2	1	-	4	-	-	-	-	-	2	10	4	6	4	-	-	-	-	-	-	-				
Fire and police pillar box	-	-	-	-	-	8	28	-	-	2	2	10	4	16	10	2	4	-	-	-	-	-	10				
Police telephone	12	-	2	1	-	4	28	6	1	1	1	10	4	-	-	88	22	18	28	4	8	44	4	30	66		
Private fire telephone	94	-	50	-	-	-	4	2	2	1	1	24	-	-	2	12	-	-	-	-	-	4	-	38	8		
Street fire alarm	102	-	88	-	-	-	-	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total	212	-	142	-	-	12	34	2	10	-	12	30	-	18	130	48	106	26	18	28	4	-	8	48	4	68	84
Exchange telephone	6,162	42	2,978	268	554	272	576	780	270	120	90	368	-	552	842	704	2,250	592	510	720	46	112	484	590	222	452	1,966
Running call	482	6	174	34	34	40	44	46	38	10	10	30	-	36	134	36	68	36	28	42	10	16	34	44	6	48	188
Late call	606	2	300	14	-	14	10	46	4	4	16	38	-	6	42	16	80	10	8	52	2	2	28	24	8	22	72
Other and undefined methods	16	-	4	-	6	-	6	10	-	-	-	-	-	-	-	2	22	-	8	30	-	2	12	8	20	20	
Total fires	7,478	50	3,598	316	594	338	670	884	322	134	128	466	-	612	1,148	804	2,506	686	564	850	92	130	556	718	248	610	2,330

SECTION II

Table 1 (Contd.)

METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1954

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

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	1	-	1	2	24	18	18	14	6	1	6	8	16	6	1	2	4	1	2	2	12	2	10	1	1	1			
Fire and police pillar box	10	-	1	10	2	24	18	18	14	1	1	8	16	6	1	2	4	1	2	2	12	2	10	1	1	1			
Police telephone	10	26	6	54	140	60	34	16	6	18	100	38	84	10	2	8	16	60	14	16	70	14	22	16	22	10	14	1	
Private fire telephone	2	-	-	20	26	-	8	6	16	-	1	2	10	1	-	2	-	2	2	30	2	8	1	-	-	-	-	1	1
Street fire alarm	1	-	-	-	162	-	-	-	-	-	-	10	-	-	-	18	-	-	-	14	-	-	-	-	-	-	4	1	1
Total	22	26	6	84	332	84	60	40	36	18	106	50	104	28	14	16	82	18	18	100	34	30	28	24	20	14	4		
Exchange telephone	74	78	104	250	1,642	140	228	230	118	270	378	188	574	134	52	124	330	92	114	286	242	144	136	90	108	98	14		
Running call	8	4	4	34	162	16	16	10	26	6	10	14	44	14	-	8	22	10	12	46	20	12	12	8	4	2	4		
Late call	2	6	10	32	68	10	20	8	32	6	40	6	56	22	4	-	14	2	4	4	30	2	4	1	12	2	8		
Other and undefined methods	4	6	6	2	6	-	-	4	-	2	2	-	4	2	4	-	4	2	-	6	10	4	-	2	4	-	10		
Total fires	110	120	130	402	2,210	250	324	292	212	302	536	258	782	200	74	148	452	124	148	442	336	192	180	124	148	116	70		

SECTION II

Table 1 (Contd.)

METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from England and Wales, 1954

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

Method of Calling	County Borough Fire Brigades (Contd.)																										
	East Ham	Exeter	Gloucester	Great Yarmouth	Grimsby	Halifax	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	-	1	-	-	-	-	-	-	-	2	-	4	-	-	-	-	-	2	-	1	-	-	-	-	-	1	
Fire and police pillar box	-	-	-	4	-	6	1	12	1	-	2	-	8	-	-	1	32	2	-	46	-	8	-	-	14	-	4
Police telephone	8	24	2	10	24	14	4	8	94	100	50	14	218	226	8	44	98	26	30	8	56	30	18	22	36	-	18
Private fire telephone	2	-	2	-	-	2	-	-	1	4	4	-	18	12	-	-	4	-	2	-	12	2	-	42	28	-	2
Street fire alarm	10	2	-	-	-	-	-	-	4	-	4	-	174	72	-	12	-	-	-	-	-	-	-	-	-	-	1
Total	20	26	4	14	24	22	4	20	98	104	60	16	414	318	8	56	134	28	34	54	68	40	18	64	78	-	24
Exchange telephone	106	116	96	86	96	130	92	162	430	616	340	148	932	966	52	108	468	138	104	188	428	170	112	266	226	226	178
Running Call	10	-	10	-	2	16	12	6	28	30	10	12	76	96	10	10	40	14	8	4	28	8	10	12	24	16	2
Late call	10	-	-	-	-	6	4	8	8	36	2	-	124	130	2	22	16	20	-	-	14	4	4	30	22	2	8
Other and undefined methods	6	6	6	-	4	2	-	4	4	-	6	2	14	14	-	4	2	2	4	-	10	-	-	2	-	-	12
Total fires	152	148	116	100	126	176	112	200	568	786	418	178	1,560	1,524	72	200	660	202	150	246	548	222	144	374	350	244	224

SECTION II

Table 1 (Contd.)

METHOD OF CALLING FIRE BRIGADE TO FIRES

Reports from England and Wales, 1954

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

Method of Calling	County Borough Fire Brigades (Contd.)																				Total fires attended in England and Wales	No.	Per Cent		
	Rotherham	St. Helens	Salford	Sheffield	Smethwick and West Bromwich	Southampton	Southend	Southport	South Shields	Stockport	Stoke on Trent	Sunderland	Swansea	Tynemouth	Wakefield	Wallasey	Walsall	Warrington	West Ham	West Hartlepool	Wigan	Wolverhampton	York		
By Special Fire Service methods																									
Automatic fire alarm	-	-	-	-	-	-	-	-	4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	54	0.1
Fire and police pillar box	4	4	-	84	2	-	-	2	-	26	-	2	-	2	6	20	18	-	-	4	-	8	-	532	0.7
Police telephone	22	20	70	38	26	4	16	14	42	36	16	52	48	18	6	16	10	14	-	22	24	62	32	3,754	5.0
Private fire telephone	-	-	14	-	8	28	4	-	-	-	-	-	-	8	-	-	-	-	-	2	4	4	-	1,004	1.3
Street fire alarm	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-	-	38	-	-	-	-	828	1.1	
Total	26	24	84	122	42	32	20	16	46	62	16	54	48	28	12	36	28	14	38	26	26	74	36	6,172	8.1
Exchange telephone	106	96	166	468	170	254	180	90	134	148	308	290	236	98	64	134	116	106	370	102	124	166	134	60,738	80.2
Running call	8	12	-	18	32	22	14	2	16	22	26	20	6	16	4	2	10	26	32	18	14	6	8	4,632	6.1
Late call	14	12	38	38	20	4	14	10	-	6	14	10	8	2	4	10	20	-	18	8	-	12	2	3,542	4.7
Other and undefined methods	2	2	24	-	4	40	-	-	4	4	8	-	4	2	-	6	2	-	-	2	10	4	-	684	0.9
Total fires	156	146	312	646	268	352	228	118	196	242	368	382	298	148	86	182	180	148	458	154	166	268	184	75,768	100.0

SECTION II

Table 2

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales, 1954

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

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	1,478	1.9
Allotments, market gardening, fruit and poultry farming	370	0.5
TOTAL	1,848	2.4
<u>Mining, quarrying and treatment of non-metalliferous mine and quarry products (excluding gas works)</u>		
	128	0.2
<u>Manufacture of bricks, pottery, glass, etc.</u>		
	110	0.1
<u>Manufacture of chemicals, dyes, explosives, paints, oils</u>		
Chemicals	178	0.2
Explosives	44	0.1
Paints, varnish, oils, grease	162	0.2
Miscellaneous	56	0.1
TOTAL	440	0.6
<u>Manufacture of metals, machines, implements, conveyances</u>		
Smelting, converting, refining, rolling of iron, steel	94	0.1
Extracting, refining, smelting of other metals	48	0.1
Foundry, other secondary processes in metal working	212	0.3
Engineering (not marine or electrical)	364	0.5
Electrical installations, cables and apparatus	214	0.3
Construction and repair of vehicles	242	0.3
Shipbuilding and repairing, marine engineering	44	0.1
Cutlery and small tools	48	0.1
Other metal industries	294	0.4
TOTAL	1,560	2.1
<u>Manufacture of textiles and textile goods (not dress)</u>		
Cotton	230	0.3
Wool, worsted, shoddy	124	0.2
Silk, natural and artificial	26	-
Other or mixed fibres	56	0.1
Miscellaneous	86	0.1
Textile dyeing, printing, bleaching, finishing	60	0.1
TOTAL	582	0.8

SECTION II

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales, 1954

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

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>	64	0.1
<u>Manufacture of clothing (not knitted) including footwear</u>	272	0.4
<u>Manufacture of food, drink, tobacco</u>		
Food	406	0.5
Drink	70	0.1
Tobacco, cigars, cigarettes, snuff	6	-
TOTAL	482	0.6
<u>Woodworking: manufacture of cane and basket ware, furniture, fittings</u>		
Woodworking and basket ware	240	0.3
Furniture (not metal or basket)	234	0.3
Fittings	.18	-
TOTAL	492	0.6
<u>Paper making: manufacture of stationery and stationery requisites, printing and bookbinding</u>		
	184	0.2
<u>Building, decorating, contracting: slate and stone cutting and dressing</u>		
	834	1.1
<u>Rubber and synthetic rubber</u>		
	70	0.1
<u>Other manufacturing industries</u>		
	166	0.2
<u>Gas, water, electricity, sewage</u>		
	176	0.2
<u>Transport and communication</u>		
Railway - stations etc.	272	0.4
Road - garages, depots, etc.	1,102	1.5
Water - dock buildings other than warehouses	50	0.1
Air, aerodromes, etc.	4	-
Other communication (post, telephone, wireless)	86	0.1
TOTAL	1,514	2.0

SECTION II

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales, 1954

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

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	86	0.1
Retail shops	2,468	3.3
Wholesale dealers	412	0.5
Dock and other warehouses	72	0.1
TOTAL	3,038	4.0
<u>Offices, Government and other</u>		
Government departments	86	0.1
Local authorities	188	0.2
Other offices	244	0.3
TOTAL	518	0.7
<u>Navy, Army and Air Force establishments</u>	372	0.5
<u>Fire Service establishments</u>	30	-
<u>Professional establishments (other than offices); public institutions</u>		
Educational establishments	660	0.9
Hospitals, homes, etc. for the care of the sick and infirm	462	0.6
Places of worship	204	0.3
Other public and professional services	250	0.3
TOTAL	1,576	2.1
<u>Places of public entertainment</u>		
Cinemas and theatres	216	0.3
Other places of entertainment	248	0.3
TOTAL	464	0.6
<u>Private residential and personal service (including hotels and catering)</u>		
Private residential houses	16,420	21.7
Private residential flats	3,268	4.3
Clubs, restaurants, public houses	2,276	3.0
Private huts, unoccupied houses, personal service	1,600	2.1
TOTAL	23,564	31.1
<u>Miscellaneous</u>	1,324	1.7
<u>Undefined</u>	16	-
Total fires in buildings	39,824	52.6

SECTION II

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from England and Wales, 1954

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

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)	146	0.2
Crops, ricks and stacks	1,412	1.9
Agricultural machinery	308	0.4
Agricultural waste	192	0.3
Other agricultural hazards	374	0.5
Allotments and gardens	524	0.7
Railway embankments	3,138	4.1
Grassland, heathland	11,192	14.8
Woods, forests, plantations	408	0.5
Single trees	1,230	1.6
Felled timber	80	0.1
TOTAL	19,004	25.1
<u>Transport and communication</u>		
Aircraft	136	0.2
Railway, rolling stock etc.	294	0.4
Road vehicles - electrically driven	80	0.1
- oil, petrol or gas driven	5,914	7.8
- other	70	0.1
Water vessels - craft on inland waters	126	0.2
- ships in dock	340	0.4
- ships at sea	4	-
- marine structures	30	-
TOTAL	6,994	9.2
<u>Outdoor storage</u>		
Chemicals, explosives, ammunition, oils, grease	356	0.5
Coal and coke	106	0.1
Refuse	4,362	5.8
Timber	610	0.8
Cotton, metal, packing materials, rubber, etc.	778	1.0
TOTAL	6,212	8.2
<u>Other outdoor structures</u>		
Total fires other than those in buildings	3,734	4.9
Total fires attended	35,944	47.4
	75,768	100.0

SECTION II

Table 3

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

Reports from England and Wales 1954

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

Hazard in which fire started	C O U N T Y F I R E B R I G A D E S																											
	Anglesey	Bedfordshire	Berkshire and Reading C.B.	Breconshire and Radnorshire	Buckinghamshire	Caernarvonshire	Cambridgeshire	Cardiganshire and Carmarthenshire	Cheshire	Cornwall	Cumberland	Denbigh 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	2	30	32	8	50	10	18	10	114	14	20	18	52	16	8	60	6	166	12	94	20	26	16	88	4	126	404	22
Commercial premises and offices	-	18	28	10	20	14	6	12	22	14	18	18	26	12	10	50	8	102	12	60	10	24	8	64	2	120	118	16
Transport and public utilities	-	20	18	-	12	6	10	16	50	6	6	10	16	10	6	34	4	46	10	22	16	18	2	22	6	52	100	10
Dwellings	32	154	152	44	130	68	98	92	308	136	70	68	202	218	88	294	30	676	40	332	172	286	54	258	36	770	808	98
Other buildings	16	88	84	22	96	16	38	50	190	78	70	72	108	124	74	150	22	350	32	100	104	166	36	132	24	372	420	68
Fires not in buildings																												
Agriculture, grassland, forestry	6	126	304	18	250	56	68	78	474	176	36	58	252	318	402	364	34	1,028	38	296	158	892	46	488	38	1,008	844	108
Transport	10	50	82	10	48	22	34	28	108	42	34	36	64	86	54	78	12	322	18	74	60	116	24	126	16	282	276	26
Outdoor storage	4	40	30	2	36	10	14	6	90	20	18	20	36	38	14	62	4	220	28	46	24	40	8	84	2	222	254	12
Other outdoor hazards	2	42	28	2	20	2	6	10	54	10	6	20	44	12	18	70	8	172	8	46	18	32	18	56	6	160	94	22
TOTAL	72	568	758	116	662	204	292	302	1,410	496	278	320	800	834	674	1,162	128	3,082	198	1,070	582	1,600	212	1,318	134	3,112	3,318	382

SECTION II

Table 3 (contd.)

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

Reports from England and Wales 1954

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

Hazard in which fire started	C O U N T Y F I R E B R I G A D E S (Contd.)																													
	Lincolnshire (Holland)	Lincolnshire (Kesteven)	Lincolnshire (Lindsey)	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	Westmorland	Wiltshire	Wight, Isle of	Worcestershire and Worcester C.B.	Yorkshire (East Riding)	Yorkshire (North Riding)	Yorkshire (West Riding)
Fires in buildings																														
Industrial premises	4	6	16	704	2	220	10	24	22	40	44	14	2	18	30	-	38	94	22	100	12	22	8	22	68	10	34	172		
Commercial premises and offices	6	10	12	518	-	160	28	16	8	24	28	6	8	4	28	-	18	44	24	62	20	24	28	4	12	28	4	16	114	
Transport and public utilities	4	2	12	138	-	76	10	8	12	26	28	2	2	-	8	-	6	28	22	46	12	12	18	2	20	12	6	14	66	
Dwellings	34	22	74	2,026	16	1,058	104	154	78	176	182	96	38	32	118	-	174	198	190	536	152	152	170	22	34	150	198	60	98	518
Other buildings	20	32	74	1,052	6	310	36	102	62	78	86	44	20	18	98	-	68	150	88	236	88	72	102	14	28	126	90	50	154	270
Fires not in buildings																														
Agriculture, grassland, forestry	58	56	124	462	20	862	62	234	84	176	378	86	28	26	76	-	148	434	300	1,108	316	178	328	16	44	116	194	70	182	648
Transport	6	34	36	716	4	342	30	24	40	50	62	48	32	20	66	-	92	106	86	170	52	60	84	20	6	50	60	26	50	198
Outdoor storage	2	6	12	1,304	-	338	20	20	22	40	38	12	-	4	22	-	40	60	46	134	18	30	42	2	-	38	50	12	28	258
other outdoor hazards	6	6	10	558	2	232	16	12	10	60	38	14	4	6	20	-	28	-34	26	114	16	14	46	4	-	22	18	10	34	86
T O T A L	140	174	370	7,478	50	3,598	316	594	338	670	884	322	134	128	466	-	612	1,148	804	2,506	686	564	850	92	130	556	718	248	610	2,330

SECTION II

Table 3 (contd.)

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

Reports from England and Wales 1954

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

Hazard in which fire started	C O U N T Y B O R O U G H F I R E B R I G A D E S																																						
	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	Grimbsy	Hallifax	Hastings	Huddersfield	Kingston upon Hull	Leeds	Leicester	Lincoln
Fires in buildings																																							
Industrial premises	4	4	6	16	248	28	12	68	16	10	44	16	48	18	16	22	46	10	14	18	14	14	4	12	18	12	8	10	8	10	8	22	48	60	94	42	4		
Commercial premises and offices	4	10	2	22	124	24	22	10	12	8	42	14	52	4	4	10	56	2	8	20	20	12	12	12	10	4	8	2	12	8	8	18	42	30	40	16			
Transport and public utilities	6	8	8	6	34	10	18	12	12	8	14	2	18	6	-	4	8	4	2	12	10	6	2	-	2	6	2	8	2	10	2	2	2	18	22	12	4		
Dwellings	22	46	48	160	726	50	64	82	42	46	160	82	242	72	20	26	140	32	44	102	126	20	58	16	34	24	18	44	22	22	30	56	38	44	168	198	118	26	
Other buildings	20	16	26	18	204	36	80	24	22	20	66	24	76	20	6	20	42	12	26	44	44	32	34	22	24	8	12	18	16	20	12	14	14	16	32	78	98	46	30
Fires not in buildings																																							
Agriculture, grassland, forestry	40	14	8	48	330	56	30	36	44	148	100	44	150	52	10	38	44	12	26	142	54	56	26	18	20	32	8	40	32	22	10	24	42	30	34	68	160	66	54
Transport	4	4	14	48	174	20	36	32	22	30	24	36	62	18	8	10	40	20	10	50	16	14	16	20	20	14	-	28	10	14	14	14	14	14	6	70	84	40	24
Outdoor storage	6	12	8	36	198	14	30	18	20	14	50	32	100	6	6	12	58	24	12	32	22	30	20	18	18	8	6	18	14	14	12	30	16	2	6	40	44	34	18
Other outdoor hazards	4	6	10	48	172	12	32	10	22	18	36	8	34	4	4	6	18	8	6	22	30	8	12	12	10	4	-	10	10	4	10	-	2	2	10	24	56	20	2
T O T A L	110	120	130	402	2,210	250	324	292	212	302	536	258	782	200	74	148	452	124	148	442	336	192	180	124	148	116	70	152	148	116	100	126	176	112	200	568	786	418	178

SECTION II

Table 3 (contd.)

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

Reports from England and Wales 1954

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

Hazard in which fire started	C O U N T Y B O R O U G H F I R E B R I G A D E S (Contd.)																												Total fires in England and Wales										
	L i v e r p o o l	M a n c h e s t e r	M e r t h y r T y d f i l l	M i d d l e s b r o u g h	N e w c a s t l e o n T y n e a n d G a t e s h e a d	N e w p o r t (M o n .)	N o r t h a m p t o n	N o r w i c h	N o t t i n g h a m	O l d h a m	O x f o r d	P l y m o u t h	P o r t s m o u t h	P r e s t o n	R o c h d a l e	R o t h e r h a m	S t . H e l e n s	S a l f o r d	S h e r f i e l d	S m e t h w i c k a n d W e s t B r o m w i c h	S o u t h a m p t o n	S o u t h e a n d	S o u t h S h i f f i e l d s	S t o c k p o r t	S t o k e o n T r e n t	S u n d e r l a n d	S w a n s e a	T y n e m o u t h	W a k e f i e l d	W a r r i n g t o n	W e s t H a m	W e s t H a r t l e p o o l	W i g a n	W o l v e r h a m p t o n	Y o r k				
Fires in buildings																																							
Industrial premises	76	162	2	12	30	16	18	6	26	34	4	38	28	16	62	8	8	44	100	32	16	8	-	16	18	54	26	18	6	12	5,384								
Commercial premises and offices	96	130	2	8	40	18	8	8	24	18	6	12	24	20	10	6	6	24	40	12	20	8	10	8	8	22	30	8	4	10	14	10	18	12	12	3,556			
Transport and public utilities	26	30	-	-	14	10	4	-	8	8	8	6	8	6	4	6	8	6	24	12	12	2	2	6	20	6	6	2	-	4	-	4	2	-	8	6	1,690		
Dwellings	568	528	30	48	232	72	58	56	192	62	60	106	122	80	48	38	28	134	180	74	62	70	38	62	54	84	144	96	34	16	58	34	48	104	38	40	88	36	19,688
Other buildings	202	190	14	40	88	16	8	28	82	40	20	36	46	10	30	10	26	22	86	30	34	24	16	14	40	48	38	24	18	12	26	8	14	40	16	16	18	28	9,506
Fires not in buildings																																							
Agriculture, grass-land, forestry	168	204	10	32	90	24	20	82	100	18	24	48	36	44	34	38	38	30	74	83	86	40	16	52	48	64	74	84	40	16	44	40	30	72	30	50	50	28	19,004
Transport	150	120	8	24	72	22	12	24	52	24	14	56	46	26	6	24	14	24	70	6	50	28	22	10	26	34	28	20	22	6	18	14	18	44	8	12	22	16	6,994
Outdoor storage	176	96	2	20	70	14	12	26	42	14	6	40	18	32	28	18	12	14	36	24	64	16	4	20	32	28	28	12	16	4	14	26	10	88	28	8	36	38	6,212
Other outdoor hazards	98	64	4	16	24	10	10	16	22	4	2	32	22	10	2	8	6	14	36	10	8	22	10	12	10	14	8	8	2	-	6	12	12	30	12	6	6	8	3,734
T O T A L	1,560	1,524	72	200	660	202	150	246	548	222	144	374	350	244	224	156	146	312	646	268	352	228	118	196	242	368	382	298	148	86	182	180	148	458	154	166	268	184	75,768

SECTION II

Table 4

SUPPOSED CAUSE OF FIRES

Reports from England and Wales, 1954

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

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 are specified for the first time in this table; the miscellaneous item is therefore not comparable with those for previous years,

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	-	-	126	0.2	126	0.2
Ashes, soot	558	0.7	1,214	1.6	1,772	2.3
Brazier	80	0.1	130	0.2	210	0.3
Camp fire ⁽¹⁾ , fire in open	-	-	186	0.2	186	0.2
Candle	330	0.4	8	-	338	0.4
Chimney on fire, not confined to chimney	2,454	3.2	4	-	2,458	3.2
Chimney, sparks from (outside building)	322	0.4	70	0.1	392	0.5
Cooker, cooking range, oven other than electric, coal gas or oil ⁽¹⁾	356	0.5	10	-	366	0.5
Electric cooker	850	1.1	4	-	854	1.1
fire, heater, radiator	1,136	1.5	14	-	1,150	1.5
Electric iron	332	0.4	-	-	332	0.4
motor	220	0.3	38	-	258	0.3
refrigerator	822	1.1	6	-	828	1.1
television	186	0.2	-	-	186	0.2
wire and cable, other than lead to apparatus	2,060	2.7	2,334	3.1	4,394	5.8
Electric wire and cable, lead to apparatus	230	0.3	348	0.5	578	0.8
wireless	370	0.5	4	-	374	0.5
other apparatus	1,178	1.6	458	0.6	1,636	2.2
Explosives, fireworks	264	0.3	492	0.6	756	1.0
Fire in grate igniting bedding, clothing, linen	1,076	1.4	-	-	1,076	1.4
Fire in grate igniting furniture, furnishings	886	1.2	-	-	886	1.2
Fire in grate igniting structural timber under hearth	2,314	3.0	-	-	2,314	3.0
Fire in grate igniting other materials	2,382	3.1	-	-	2,382	3.1
Fish frying range (all fuels)	806	1.1	18	-	824	1.1
Flue	1,034	1.4	132	0.2	1,166	1.5
Furnace (coal or coke)	60	0.1	4	-	64	0.1
Gas (coal) burner, jet, ring	480	0.6	194	0.3	674	0.9
cooker	1,094	1.4	-	-	1,094	1.4
fire, heater, radiator	262	0.3	4	-	266	0.3
other apparatus	540	0.7	184	0.2	724	1.0

SECTION II

Table 4 (Contd.)

SUPPOSED CAUSE OF FIRE

Reports from England and Wales, 1954

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

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)	524	0.7	22	-	546	0.7
Intentional burning of grassland, gorse, etc.	24	-	362	0.5	386	0.5
Lightning	56	0.1	54	0.1	110	0.1
Lime	10	-	26	-	36	-
Locomotives, sparks from	202	0.3	4,804	6.3	5,006	6.6
Malicious ignition ⁽¹⁾⁽²⁾	208	0.3	84	0.1	292	0.4
Matches	644	0.8	506	0.7	1,150	1.5
Matches, children playing with	1,966	2.6	7,700	10.2	9,666	12.8
Mechanical heat or sparks	448	0.6	422	0.6	970	1.3
Metal, hot	226	0.3	50	0.1	276	0.4
Naked light. ⁽¹⁾⁽³⁾	290	0.4	442	0.6	732	1.0
Oil, blow lamp	990	1.3	64	0.1	1,054	1.4
engine (including petrol)	172	0.2	2,012	2.7	2,184	2.9
lamp, stove	944	1.2	172	0.2	1,116	1.5
tractor	80	0.1	228	0.3	308	0.4
other apparatus	212	0.3	144	0.2	356	0.5
Oxyacetylene cutting and welding apparatus	334	0.4	288	0.4	622	0.8
Rubbish burning	634	0.8	2,994	3.9	3,628	4.8
Slow combustion stove igniting structural woodwork	326	0.4	-	-	326	0.4
Slow combustion stove igniting other materials	878	1.2	288	0.4	1,166	1.5
Smoking materials	3,208	4.2	3,078	4.1	6,286	8.3
Spontaneous combustion in rubbish	2	-	146	0.2	148	0.2
Spontaneous combustion in other materials	178	0.2	356	0.5	534	0.7
Static electricity	32	-	4	-	36	-
Steam roller, engine, traction engine	4	-	12	-	16	-
Sun's rays	20	-	36	-	56	0.1
Taper, lighted paper or sticks	268	0.3	138	0.2	406	0.5
Taper, lighted paper or sticks, children playing with	78	0.1	-	-	78	0.1
Miscellaneous and undefined ⁽⁴⁾	596	0.8	248	0.3	844	1.1
Unknown source of ignition	3,588	4.7	5,282	7.0	8,870	11.7
Total number of fires	39,824	52.6	35,944	47.4	75,768	100.0

Notes: (1) Causes specified for the first time.

(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 previous years.

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

SECTION III

(97821)

11	Electric refrigerator	-	-	-	-	2	4	-	2	18	-	-	-	-	2	508	8	2	2	2	32	2	426	26	76	-	-	822	11		
12	television	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	186	12			
13	wire and cable other than lead to apparatus	-	74	2	8	16	74	22	18	22	10	6	16	4	20	176	204	26	56	8	4	64	14	846	160	132	70	8	2,060	13	
14	wire and cable lead to apparatus	8	2	-	-	-	6	4	-	4	2	-	4	-	-	32	10	-	2	-	2	8	-	106	22	12	6	-	230	14	
15	wireless	-	-	-	-	-	4	2	-	-	-	-	-	-	-	2	12	-	2	-	2	6	-	292	40	12	8	-	370	15	
16	Electric other apparatus	20	10	8	44	4	118	34	10	22	24	10	12	10	24	70	152	18	34	22	6	60	12	338	52	52	16	-	1,178	16	
17	Explosives, fireworks	14	-	-	4	-	6	2	-	2	-	6	2	2	2	18	28	2	4	-	-	6	4	70	12	32	38	-	264	17	
18	Fire in grate igniting bedding, clothing, linen	-	-	2	-	-	-	-	2	-	2	-	2	-	-	-	8	2	-	-	-	4	-	916	124	10	2	2	1,076	18	
19	Fire in grate igniting furniture and furnishings	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	-	4	-	8	2	742	116	6	4	-	886	19	
20	Fire in grate igniting structural timber under hearth	-	-	-	-	-	6	2	6	-	4	4	4	-	-	8	34	2	24	4	-	28	-	1,540	534	106	8	-	2,314	20	
21	Fire in grate igniting other materials	12	10	2	-	14	2	8	4	10	-	12	4	-	-	26	48	12	14	2	-	34	2	1,838	264	50	12	2	2,382	21	
22	Fish frying range (all fuels)	-	-	-	2	8	16	2	2	18	-	2	2	2	-	2	6	-	18	2	-	40	2	-	-	-	806	22			
23	Flue	38	10	14	2	6	64	2	12	36	14	8	54	4	12	44	44	2	18	38	-	106	24	342	36	74	28	-	1,034	23	
24	Furnace (coal or coke)	-	-	-	6	28	4	-	6	-	4	-	-	2	-	-	-	-	-	-	6	-	-	-	-	60	24	-	60	24	
25	Gas (coal) burner, jet, ring	-	-	-	20	24	2	10	10	4	4	4	4	2	8	66	6	4	-	-	44	8	166	66	18	10	-	480	25		
26	Gas (coal) cooker fire, heater, radiator	-	-	-	2	4	2	4	4	-	-	6	4	-	-	6	30	-	10	6	-	44	4	660	208	96	2	2	1,094	26	
27	other apparatus	-	-	-	-	18	2	4	2	-	4	2	-	-	4	26	6	6	2	-	26	4	98	34	20	4	-	262	27		
28	Incubator, brooder (all fuels)	4	4	4	30	82	6	8	30	-	6	2	20	6	8	44	4	6	2	-	22	10	146	34	42	20	-	540	28		
29	Intentional burning of grassland	376	-	-	-	-	-	-	-	-	-	2	-	-	6	8	-	-	2	-	10	-	22	-	6	92	-	524	29		
30	Lightning	2	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	2	44	2	-	-	-	56	31		
31	Lime	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2	-	10	32	-	32		
32	Locomotives, sparks from	24	-	2	2	2	18	6	2	8	2	4	4	2	2	90	18	-	-	-	-	4	2	6	2	2	12	10	202	33	
33	Malicious ignition(1)(2)	16	2	2	2	2	20	14	4	4	2	4	8	2	4	8	24	8	8	8	-	12	4	40	6	6	18	12	14	208	34
34	Matches	26	-	2	2	2	20	14	4	4	2	4	8	2	4	26	44	8	12	-	-	34	12	280	58	26	30	22	644	35	

SECTION II

Table 5A (Contd.)

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

Reports from England and Wales, 1954

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

(97821)

46	Rubbish burning	74	2	1	8	24	6	4	16	44	4	50	2	-	16	78	16	8	12	-	24	4	32	8	146	66	634	46			
47	Slow combustion stove																														
	igniting structural																														
	woodwork	30	4	2	4	20	4	4	6	36	4	42	2	2	16	22	2	16	4	-	46	16	48	8	16	2	326	47			
	other materials	84	4	4	8	22	132	50	56	18	72	28	90	28	10	164	310	100	60	60	156	142	884	226	254	138	110	3,208	49		
48	Smoking materials																														
49	Spontaneous combustion																														
50	in rubbish																														
		-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	50				
51	Spontaneous combustion																														
	in other materials	36	-	-	-	18	8	6	2	8	4	4	-	4	12	6	4	8	4	-	10	-	10	-	18	14	2	178	51		
52	Static electricity																														
53	Steam roller, engine,																														
	traction engine																														
54	Sun's rays	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	53				
55	Taper, lighted paper or																														
	sticks	1	-	-	-	-	-	2	-	-	4	6	4	-	4	-	8	28	8	8	2	-	14	4	124	26	4	12	6	268	55
56	Taper, lighted paper or																														
	sticks, children																														
	playing with	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	78	56			
57	Miscellaneous and																														
	undefined(4)																														
58	Unknown source of	18	10	14	28	102	16	6	54	34	2	24	8	12	22	32	12	2	8	-	26	6	82	12	18	22	26	596	57		
	ignition																														
59	Total fires in																														
	buildings	396	14	12	98	190	100	32	60	98	44	110	40	18	222	264	104	54	62	6	222	78	652	142	130	286	154	3,588	58		
		1,848	128	110	440	1,560	582	336	482	492	184	834	236	176	1,514	2,554	484	518	372	30	1,576	464	16,420	3,268	2,276	1,600	1,340	39,824	59		
	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

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

(97821)

2

SECTION II

Table 6

MATERIAL FIRST IGNITED IN FIRES

Reports from England and Wales, 1954

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

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	2	-	42	0.1	44	0.1
Hay	142	0.2	374	0.5	516	0.7
Straw	158	0.2	382	0.5	540	0.7
Stubble	-	-	46	0.1	46	0.1
Other	20	-	138	0.2	158	0.2
Loose straw or hay	636	0.8	640	0.8	1,276	1.7
Grass, heather, bracken	56	0.1	7,516	9.9	7,572	10.0
Trees, hedges, undergrowth						
brushwood, bushes (including gorse), twigs, touchwood	8	-	6,240	8.2	6,248	8.2
Other agricultural materials	28	-	174	0.2	202	0.3
TOTAL	1,050	1.4	15,552	20.5	16,602	21.9
<u>Chemicals - gases</u>						
Acetylene	88	0.1	40	0.1	128	0.2
Coal gas	1,130	1.5	482	0.6	1,612	2.1
Other gases	98	0.1	68	0.1	166	0.2
TOTAL	1,316	1.7	590	0.8	1,906	2.5
<u>Chemicals - oils</u>						
Animal and vegetable oils	140	0.2	4	-	144	0.2
Mineral oil	568	0.7	82	0.1	650	0.9
Paraffin	394	0.5	2,390	3.2	2,784	3.7
Petrol in vehicles	396	0.5	124	0.2	520	0.7
Petrol not in vehicles	172	0.2	88	0.1	260	0.3
Other mineral oils	368	0.5	356	0.5	724	1.0
TOTAL	2,038	2.7	3,044	4.0	5,082	6.7
<u>Chemicals - other</u>						
Celluloid (including films)	14	-	-	-	14	-
Paint, enamel, lacquer, varnish, stains and French polish	174	0.2	28	-	202	0.3
Pitch, tar	116	0.2	148	0.2	264	0.3
Rubber, vulcanite, ebonite	168	0.2	258	0.3	426	0.6
Other chemicals	872	1.1	300	0.4	1,172	1.5
TOTAL	1,344	1.7	734	1.0	2,078	2.7
<u>Paper, cardboard, wood (not part of a structure)</u>						
Paper, cardboard	1,770	2.3	812	1.1	2,582	3.4
Wood chippings, flour, sawdust, shavings, wool	492	0.6	206	0.3	698	0.9
Wood barrels, boxes, cases, firewood etc.	468	0.6	112	0.1	580	0.8
Timber	156	0.2	252	0.3	408	0.5
TOTAL	2,886	3.8	1,382	1.8	4,268	5.6

SECTION II

Table 6 (Contd.)

MATERIAL FIRST IGNITED IN FIRES

Reports from England and Wales, 1954

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

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	56	0.1	160	0.2	216	0.3
Clothing on person	540	0.7	44	0.1	584	0.8
Clothing not on person	1,258	1.7	86	0.1	1,344	1.8
Cotton	252	0.3	38	-	290	0.4
Jute, hessian, sacking	344	0.4	206	0.3	550	0.7
Rags (including oily rags)	252	0.3	154	0.2	506	0.5
Tarpaulin, waterproof sheeting, oilskins	114	0.1	354	0.5	468	0.6
Other textiles	236	0.3	92	0.1	328	0.4
TOTAL	3,052	4.0	1,134	1.5	4,186	5.5
<u>Furniture, furnishings, household goods</u>						
Bedding	824	1.1	48	0.1	872	1.1
Carpets, rugs	576	0.8	16	-	592	0.8
Curtains	640	0.8	6	-	646	0.8
Furniture	1,944	2.6	20	-	1,964	2.6
Linen articles (unspecified), laundry	410	0.5	6	-	416	0.5
Seating in vehicles	82	0.1	284	0.4	366	0.5
Other furnishings	722	1.0	34	-	756	1.0
TOTAL	5,198	6.9	414	0.5	5,612	7.4
<u>Building materials, structural woodwork</u>						
Building materials other than wood	578	0.8	6	-	584	0.8
Structural woodwork						
External	610	0.8	2	-	612	0.8
Internal	316	0.4	1	-	316	0.4
Door, window frame	1,380	1.8	-	-	1,380	1.8
Floor, stairs	854	1.1	-	-	854	1.1
Partitions, linings to walls	814	1.1	-	-	814	1.1
Roof	592	0.8	-	-	592	0.8
Timber in chimney, flue	2,384	3.1	-	-	2,384	3.1
Timber under hearth	834	1.1	-	-	834	1.1
Other fittings	70	0.1	-	-	70	0.1
Not known whether internal or external	2	-	872	1.2	874	1.2
Structural woodwork, other than buildings						
TOTAL	8,434	11.1	880	1.2	9,314	12.3
<u>Miscellaneous</u>						
Coal, coke	80	0.1	124	0.2	204	0.3
Electrical insulation	2,904	3.8	2,188	2.9	5,092	6.7
Fat (margarine, suet, butter, cooking fat, lard)	2,024	2.7	26	-	2,050	2.7
Food other than fat	332	0.4	20	-	352	0.5
Refuse, rubbish, debris	2,146	2.8	4,818	6.4	6,964	9.2
Soot	444	0.6	10	-	454	0.6
Other	3,602	4.8	1,328	1.8	4,930	6.5
<u>Unknown</u>						
Total number of fires	39,824	52.6	35,944	47.4	75,768	100.0

SECTION II

Table 7A (Contd.)

MATERIAL FIRST IGNITED IN BUILDINGS IN RELATION TO THE SUPPOSED CAUSE

Reports from England and Wales, 1954

(Frequencies obtained by multiplying the results of an analysis of a one in two sample of reports by two)

For explanation of notes see page 21.

SECTION II

Table 7A

MATERIAL FIRST IGNITED IN FIRES IN BUILDINGS IN RELATION TO THE SUPPOSED CAUSE

Reports from England and Wales, 1954

(Frequencies obtained by multiplying the results of an analysis of a one in two sample of reports by two)

SECTION II

Table 7B (Contd.)

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

Reports from England and Wales 1954

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

For explanation of notes see page 21

SECTION III

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

Reports from England and Wales 1951

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

SECTION II

Table 8

METHOD OF EXTINCTION OF FIRES

Reports from England and Wales, 1954

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

Row No.	Method of extinction	Fires in buildings						Fires other than those in buildings						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			
35	1 Burned out	-	-	864	1.1	864	1.1	-	-	1,198	1.6	1,198	1.6	2,062	2.7	1
	2 Removal	3,146	4.1	1,188	1.6	4,334	5.7	650	0.9	358	0.5	1,008	1.3	5,342	7.0	2
	3 Automatic sprinkler system	-	-	34	-	34	-	-	-	2	-	2	-	36	-	3
	4 Beating	44	0.1	228	0.3	272	0.4	6,148	8.1	746	1.0	6,894	9.1	7,166	9.5	4
	5 Smothering	280	0.4	794	1.0	1,074	1.4	54	0.1	350	0.5	404	0.5	1,478	1.9	5
	6 Sand, earth, etc.	38	-	126	0.2	164	0.2	164	0.2	248	0.3	412	0.5	576	0.8	6
	7 Water from buckets	2,458	3.2	2,702	3.6	5,160	6.8	400	0.5	702	0.9	1,102	1.5	6,262	8.3	7
	8 Water from stirrup or hand pumps	3,220	4.2	42	-	3,262	4.3	140	0.2	10	-	150	0.2	3,412	4.5	8
	9 Chemicals and chemical extinguishers	1,674	2.2	1,140	1.5	2,814	3.7	1,490	2.0	962	1.3	2,452	3.2	5,266	6.9	9
	10 Two or more methods 4 - 9	118	0.2	358	0.5	476	0.6	290	0.4	224	0.3	514	0.7	990	1.3	10
	11 Water from garden hose, etc.	-	-	146	0.2	146	0.2	-	-	52	0.1	52	0.1	198	0.3	11
	12 Hose reel jets (using water in tank only)	13,842	18.3	46	0.1	13,888	18.3	14,592	19.3	150	0.2	14,742	19.5	28,630	37.8	12
	13 Hose reel jets (using more water than that in tank)	1,874	2.5	8	-	1,882	2.5	1,116	1.5	6	-	1,122	1.5	3,004	4.0	13
	14 Jets from inside hose reel or inside hydrant	80	0.1	54	0.1	134	0.2	8	-	12	-	20	-	154	0.2	14
	15 Hose reel jets and jets from inside hose reel	8	-	2	-	10	-	-	-	-	-	-	-	10	-	15
	16 Jets from pumps and hydrants	4,506	5.9	94	0.1	4,600	6.1	5,408	7.1	110	0.1	5,518	7.3	10,118	13.4	16
	17 Other and undefined methods	324	0.4	386	0.5	710	0.9	130	0.2	224	0.3	354	0.5	1,064	1.4	17
TOTAL		31,612	41.7	8,212	10.8	39,824	52.6	30,590	40.4	5,354	7.0	35,944	47.4	75,768	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, 1954

(Frequencies observed in the analysis of a one-in-two 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	74	-	-	-	-	-	74
(ii) because heat did not reach the sprinkler heads	4	-	-	-	-	-	4
(iii) because the fire was extinguished before the heads could operate.	3	-	-	-	-	-	3
(iv) because the water supply to the system was turned off owing to repairs etc.	4	-	-	-	-	-	4
(v) reason not stated	1	-	-	-	-	-	1
TOTAL	86	-	-	-	-	-	86
Operated, but did not control fire							
(i) because fire was extinguished by other means	-	1	-	-	-	-	1
(ii) because fire passed over sprinklers to roof	-	2	-	1	-	-	3
(iii) because seat of fire was shielded from sprinkler heads	-	3	-	-	-	-	3
(iv) because of explosion	-	1	-	-	-	-	1
(v) because of nature of materials ignited i.e. oils, fats.	-	-	1	-	-	1	1
(vi) reason not stated	-	1	-	-	-	1	2
TOTAL	-	8	-	1	-	2	11
Controlled, but did not extinguish the fire	-	61	6	10	4	-	81
Extinguished the fire	-	15	-	1	-	1	17
Number of calls to fires where sprinkler systems were installed.	86	84	6	12	4	3	195

Note: In addition to the above incidents, sprinkler systems were installed in three ships in dock, two warships and a liner. In one of the ships a hand operated system using 20 heads extinguished the fire, in another the fire was extinguished by other means before the heads could operate and in the third ship the heads failed to operate because insufficient heat was generated by the fire.

SECTION II

Table 10A

ATTENDANCE OF SPECIAL APPLIANCES AT FIRES IN BUILDINGS

Reports from England and Wales, 1954

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

Appliances	Number of fires at which x appliances of any one type attended with or without other types of appliance										* No. of occasions	% of total number of fires in buildings	
	0	1	2	3	4	x	5	6	7	8	9		
Breakdown lorries and control units	39,716	4	104									108	0.3
Canteen vans	39,780	44										44	0.1
Emergency tenders	38,816	974	32	2								1,008	2.5
Fire boats	39,802	22										22	0.1
Foam tenders	39,558	260	6									266	0.7
Hoselaying lorries and hose carriers	39,652	162	10									172	0.4
Land rovers	39,232	566	20	4								592	1.5
Pump escapes	14,394	20,866	4,052	422	58	20	6	2	-	4		25,430	63.9
Pumps	16,946	18,340	3,918	470	82	32	16	4	8	8		22,878	57.4
Pump salvage tenders	38,152	1,666	6									1,672	4.2
Salvage tenders	38,482	1,334	8									1,342	3.4
Turntable ladders (hand operated)	39,658	166										166	0.4
Turntable ladders (mechanical)	35,660	4,136	20	8								4,164	10.5
Utility vans	36,084	3,628	108	4								3,740	9.4
Water tenders	27,600	10,514	1,458	186	42	18	6					12,224	30.7
Wireless cars	31,742	7,172	746	114	36	6	4	-	4	-		8,082	20.3

* The number of occasions on which fires were attended by one or more of the different special appliances is given.

SECTION II

Table 10b

ATTENDANCE OF SPECIAL APPLIANCES AT FIRES NOT IN BUILDINGS

Reports from England and Wales, 1954

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

Appliances	Number of fires at which x appliances of any one type attended with or without other types of appliance										* No. of occasions	% of total number of fires not in buildings	
	0	1	2	3	x	4	5	6	7	8	9		
Breakdown lorries and control units	35,922	10	12									22	0.1
Canteen vans	35,924	20										20	0.1
Emergency tenders	35,340	594	8	2								604	1.7
Fire boats	35,846	92	6									98	0.3
Foam tenders	35,740	196	8									204	0.6
Hose laying lorries and hose carriers	35,818	94	32									126	0.3
Land rovers	35,456	456	26	4	-	-	2					488	1.4
Pump escapes	21,992	11,986	1,830	120	10	2	4					13,952	38.8
Pumps	19,030	14,386	2,302	184	20	2	10	4	2	4		16,914	47.1
Pump salvage tenders	35,248	694	2									696	1.9
Salvage tenders	35,630	314										314	0.9
Turntable ladders (hand operated)	35,926	18										18	0.1
Turntable ladders (mechanical)	34,626	1,316	2									1,318	3.7
Utility vans	32,960	2,914	66	2	2							2,984	8.3
Water tenders	20,884	13,364	1,516	140	22	12	2	2	-	2		15,060	41.9
Wireless cars	31,078	4,606	232	26	2							4,866	13.5

* The number of occasions on which fires were attended by one or more of the different special appliances is given.

SECTION II

Table 11

PERSONS RESCUED OR ESCAPED BY EMERGENCY MEANS FROM FIRES

Reports from England and Wales, 1954

(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)	18
Ladder, extension	37
first floor	14
turntable (mechanical)	8
other or undefined	24
Ladder and line	-
Line	1
Other apparatus	5
Without apparatus	64
Ships	1
Vehicles	2
TOTAL	174
Rescue without F.B. assistance from	
Aircraft	4
Buildings	
Carried or assisted out	228
Jumping sheet	-
Ladder	48
Lowered from windows, roof, etc.	51
Other or undefined methods	14
Road vehicles	12
Ships	8
Caravans	-
TOTAL	365
Escape by emergency means from	
Aircraft	
Baled out	10
Through exits or from debris	4
Thrown clear	15
Method not stated	1
Buildings	
Climbing over roof	14
Fixed fire escape	1
Jumping from upstairs window, roof	177
Ladder	42
Sliding down drainpipe, sheets, rope etc.	17
Through ground floor windows	20
Other or undefined means	23
Road vehicles	10
Ships	17
Caravans	-
TOTAL	351
Total persons rescued or escaped	890

SECTION II

Table 12

NATURE OF INJURIES OF CASUALTIES IN FIRES

Reports from England and Wales, 1954

(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	1	305	306
Overcome by gas or smoke	-	31	31
Other and undefined injuries	2	87	89
TOTAL	3	423	426
Non-fatal casualties			
Burns and scalds	138	2,586	2,724
Bruises, cuts, abrasions	247	218	465
Dislocations, sprains, fractures	40	38	78
Overcome by gas or smoke	15	109	124
More than one of the above injuries	7	94	101
* Shock	7	270	277
Other undefined injuries	130	139	269
TOTAL	584	3,454	4,038
Total casualties	587	3,877	4,464

SECTION III

STATISTICAL TABLES FOR FIRE BRIGADES IN SCOTLAND, 1954

Table 1

METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from Scotland, 1954

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

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	24	-	2	-	-	1	-	-	-	-	-	6	0.1
Fire and police pillar box	12	12	8	10	1	6	-	-	-	4	-	52	0.7
Police telephone	392	68	40	116	36	206	22	8	234	318	10	1,450	19.0
Private fire telephone	10	8	4	18	8	-	-	2	-	-	-	50	0.7
Street fire alarm	248	-	-	4	-	-	-	-	-	-	-	252	3.2
TOTAL	666	88	54	148	44	212	22	8	236	322	10	1,810	23.7
Exchange telephone	954	594	466	512	440	940	318	158	388	300	220	5,290	69.2
Running call	208	24	36	38	22	82	12	4	16	28	4	474	6.2
Late call	16	-	14	2	2	-	-	-	4	2	-	40	0.5
Other and undefined methods	12	-	2	4	-	8	-5	-	2	4	2	34	0.4
TOTAL FIRES	1,856	706	572	704	508	1,242	352	170	646	656	236	7,648	100.0

SECTION III

Table 2

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1954

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

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	214	2.8
Allotments, market gardening, fruit and poultry farming	40	0.5
TOTAL	254	3.3
<u>Mining, quarrying and treatment of non-metalliferous mine and quarry products (excluding gas works)</u>		
	14	0.2
<u>Manufacture of bricks, pottery, glass, etc.</u>		
	10	0.1
<u>Manufacture of chemicals, dyes, explosives, paints, oils</u>		
Chemicals	10	0.1
Explosives	4	-
Paints, varnish, oils, grease	18	0.2
Miscellaneous	-	-
TOTAL	32	0.4
<u>Manufacture of metals, machines, implements, conveyances</u>		
Smelting, converting, refining, rolling of iron, steel	6	0.1
Extracting, refining, smelting of other metals	2	-
Foundry, other secondary processes in metal working	30	0.4
Engineering (not marine or electrical)	28	0.4
Electrical installations, cables and apparatus	10	0.1
Construction and repair of vehicles	24	0.3
Shipbuilding and repairing, marine engineering	8	0.1
Cutlery and small tools	-	-
Other metal industries	28	0.4
TOTAL	136	1.8
<u>Manufacture of textiles and textile goods (not dress)</u>		
Cotton	-	-
Wool, worsted and shoddy	4	-
Silk, natural and artificial	4	-
Other or mixed fibres	26	0.3
Miscellaneous	16	0.2
Textile dyeing, printing, bleaching, finishing	6	0.1
TOTAL	56	0.7

SECTION III

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1954

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

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>	8	0.1
<u>Manufacture of clothing (not knitted) including footwear</u>	26	0.3
<u>Manufacture of food, drink, tobacco</u>		
Food	70	0.9
Drink	6	0.1
Tobacco, cigars, cigarettes, snuff	2	-
TOTAL	78	1.0
<u>Woodworking: manufacture of cane and basket ware, furniture, fittings</u>	84	1.1
<u>Paper making: manufacture of stationery and stationery requisites, printing and bookbinding</u>	30	0.4
<u>Building, decorating, contracting; slate and stone cutting and dressing</u>	126	1.6
<u>Rubber and synthetic rubber</u>	4	-
<u>Other manufacturing industries</u>	22	0.3
<u>Gas, water, electricity, sewage</u>	36	0.5
<u>Transport and communication</u>		
Railway - stations, etc.	68	0.9
Road - garages, depots, etc.	90	1.2
Water - dock buildings other than warehouses	10	0.1
Air - aerodromes, etc.	2	-
Other communication (post, telephone, wireless)	6	0.1
TOTAL	176	2.3
<u>Commerce</u>		
Departmental stores	10	0.1
Retail shops	360	4.7
Wholesale dealers	26	0.3
Dock and other warehouses	-	-
TOTAL	396	5.1

SECTION III

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1954

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

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	6	0.1
Local authorities	12	0.2
Other offices	54	0.7
	TOTAL	72
		0.9
<u>Navy, Army and Air Force establishments</u>	30	0.4
<u>Fire Service establishments</u>	2	-
<u>Professional establishments (other than offices); public institutions</u>		
Educational establishments	46	0.6
Hospitals, homes, etc. for the care of the sick and infirm	44	0.6
Places of worship	16	0.2
Other public and professional services	34	0.4
	TOTAL	140
		1.8
<u>Places of public entertainment</u>		
Cinemas and theatres	22	0.3
Other places of entertainment	40	0.5
	TOTAL	62
		0.8
<u>Private residential and personal service (including hotels and catering)</u>		
Private residential houses	884	11.6
Private residential flats	1,870	24.4
Clubs, restaurants, public houses	220	2.9
Private huts, unoccupied houses, personal service	324	4.2
	TOTAL	3,298
		43.1
<u>Miscellaneous</u>	292	3.8
<u>Undefined</u>	2	-
Total fires in buildings	5,386	70.4

SECTION III

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Scotland, 1954

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

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)	4	-
Crops, ricks and stacks	214	2.8
Agricultural machinery	20	0.3
Agricultural waste	12	0.2
Other agricultural hazards	44	0.6
Allotments and gardens	6	0.1
Railway embankments	88	1.2
Grassland, heathland	456	6.0
Woods, forests, plantations	22	0.3
Single trees	40	0.5
Felled timber	4	-
TOTAL	910	11.9
<u>Transport and communications</u>		
Aircraft	6	0.1
Railway rolling stock, etc.	50	0.7
Road vehicles - electrically driven	50	0.7
- oil, petrol or gas driven	402	5.3
- other	2	-
Water vessels - craft on inland waters	2	-
- ships in dock	46	0.6
- ships at sea	-	-
- marine structures	-	-
TOTAL	558	7.3
<u>Outdoor storage</u>		
Chemicals, explosives, ammunition, oils, grease	28	0.4
Coal and coke	2	-
Refuse	214	2.8
Timber	110	1.4
Cotton, metal, packing materials, rubber etc.	58	0.8
TOTAL	412	5.4
<u>Other outdoor structures</u>		
Total fires other than those in buildings	382	5.0
Total fires attended	2,262	29.6
	7,648	100.0

SECTION III

STATISTICAL TABLES FOR FIRE BRIGADES IN SCOTLAND, 1954

Table 3

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

Reports from Scotland, 1954

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

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	168	62	52	74	40	74	18	12	46	60	20	626
Commercial premises and offices	174	42	30	32	18	70	14	6	18	44	20	468
Transport and public utilities	52	40	22	16	14	18	12	4	10	14	10	212
Dwellings	744	212	178	256	212	526	126	48	180	212	60	2,754
Other buildings	394	100	100	104	116	156	42	38	146	102	28	1,326
Fires not in buildings												
Agriculture, grassland and forestry	54	90	88	94	42	162	84	30	88	128	50	910
Transport	126	60	46	56	40	58	34	22	44	52	20	558
Outdoor storage	56	50	24	24	6	94	18	4	92	26	18	412
Other outdoor hazards	88	50	32	48	20	84	4	6	22	18	10	382
TOTAL	1,856	706	572	704	508	1,242	352	170	646	656	236	7,648

SECTION III

Table 4

SUPPOSED CAUSE OF FIRES

Reports from Scotland, 1954

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

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 are specified for the first time in this table, the miscellaneous item is therefore not comparable with those of previous years.

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	-	-	6	0.1	6	0.1
Ashes, soot	258	3.4	64	0.8	322	4.2
Brazier	18	0.2	16	0.2	34	0.4
Camp fire, fire in open(1)	-	-	40	0.5	40	0.5
Candle	26	0.3	-	-	26	0.3
Chimney on fire, not confined to chimney	640	8.4	2	-	642	8.4
Chimney sparks from (outside building)	58	0.8	6	0.1	64	0.8
Cooker, cooking range, oven other than electric, coal gas, oil(1)	46	0.6	2	-	48	0.6
Electric cooker	70	0.9	-	-	70	0.9
fire, heater, radiator	42	0.5	-	-	42	0.5
iron	40	0.5	-	-	40	0.5
motor	34	0.4	12	0.2	46	0.6
refrigerator	80	1.0	-	-	80	1.0
television	2	-	-	-	2	-
wire and cable, other than lead to apparatus	284	3.7	198	2.6	482	6.3
wire and cable, lead to apparatus	24	0.3	36	0.5	60	0.8
wireless	32	0.4	-	-	32	0.4
other apparatus	116	1.5	36	0.5	152	2.0
Explosives, fireworks	16	0.2	12	0.2	28	0.4
Fire in grate igniting bedding, clothing, linen	88	1.1	-	-	88	1.1
Fire in grate, igniting furniture and furnishings	164	2.1	-	-	164	2.1
Fire in grate, igniting structural timber under hearth	362	4.7	-	-	362	4.7
Fire in grate igniting other materials	296	3.9	-	-	296	3.9
Fish frying range (all fuels)	48	0.6	4	-	52	0.7
Flue	100	1.3	8	0.1	108	1.4
Furnace (coal or coke)	8	0.1	-	-	8	0.1
Gas (coal) burner, jet, ring	44	0.6	16	0.2	60	0.8
cooker	168	2.2	-	-	168	2.2
fire, heater, radiator	24	0.3	2	-	26	0.3
other apparatus	64	0.8	12	0.2	76	1.0

SECTION III

Table 4 (Contd.)

SUPPOSED CAUSE OF FIRES

Reports from Scotland, 1954

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

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)	36	0.5	4	-	40	0.5
Intentional burning of grassland, gorse etc.	-	-	34	0.4	34	0.4
Lightning	2	-	6	0.1	8	0.1
Lime	6	0.1	2	-	8	0.1
Locomotives, sparks from	40	0.5	262	3.4	302	3.9
Malicious ignition ⁽¹⁾⁽²⁾	18	0.2	4	-	22	0.3
Matches	120	1.6	90	1.2	210	2.7
Matches, children playing with	282	3.7	380	5.0	662	8.7
Mechanical heat or sparks	48	0.6	34	0.4	82	1.1
Metal, hot	14	0.2	4	-	18	0.2
Naked light ⁽¹⁾⁽³⁾	184	2.4	60	0.8	244	3.2
Oil, blowlamp	54	0.7	2	-	56	0.7
engine (including petrol)	24	0.3	122	1.6	146	1.9
lamp, stove	56	0.7	4	-	60	0.8
tractor	18	0.2	40	0.5	58	0.8
Oil, other apparatus	20	0.2	6	0.1	26	0.3
Oxacetylene cutting and welding apparatus	30	0.4	56	0.7	86	1.1
Rubbish burning	42	0.5	202	2.6	244	3.2
Slow combustion stove igniting structural woodwork	46	0.6	-	-	46	0.6
Slow combustion stove igniting other material	104	1.4	28	0.4	132	1.8
Smoking materials	466	6.1	134	1.8	600	7.8
Spontaneous combustion in rubbish	-	-	-	-	-	-
Spontaneous combustion in other materials	12	0.2	10	0.1	22	0.3
Static electricity	2	-	-	-	2	-
Steam roller, engine, traction engine	-	-	-	-	-	-
Sun's rays	2	-	2	-	4	-
Taper, lighted paper or sticks	58	0.8	8	0.1	66	0.9
Taper, lighted paper or sticks, children playing with	50	0.6	18	0.2	68	0.9
Miscellaneous and undefined ⁽⁴⁾	110	1.4	40	0.5	150	2.0
Unknown source of ignition	390	5.1	238	3.1	628	8.2
Total number of fires	5,386	70.4	2,262	29.6	7,648	100.0

Notes. (1) Causes specified first time.

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

(3) No further information given in original reports.

(4) Not comparable with previous years.

SECTION III

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

Reports from Scotland 1954.

Table 5A.

Row No.	Column No.	Supposed cause of fire	(Frequencies obtained by multiplying results of analysis of a one-in-two sample of reports by two)																										
			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
1	A smes, soot																												
2	Brazier																												
3	Candle																												
4	Chimney on fire, not confined to chimney																												
5	Chimney, sparks from (outside building)																												
6	Cooker, cooking range, oven (other than electric, coal gas or oil)(1)																												
7	Electric cooker																												
8	fire, heater, radiator																												
9	iron																												
10	motor																												
11	refrigerator																												
12	television																												
13	wire and cable other than lead to apparatus																												
14	wire and cable lead to apparatus																												
15	wireless																												

SECTION III

Table 5A (Contd.)

SUPPOSED CAUSE OF FIRES IN BUILDINGS IN RELATION TO HAZARD IN WHICH FIRE STARTED
DETROIT'S FROM SPAIN AND 100%.

Reports from Scotland, 1954

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

For explanation of notes see page 48.

SECTION III

Table 5B

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

Reports from Scotland

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

Row No.	Column No. Supposed cause of fire	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Row No. Total
		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	Chemicals, explosives, ammunition, oils, grease	Coal and coke	Refuse	Timber	Other materials	Miscellaneous outdoor structure		
1	Aircraft, crashed	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6
2	Ashes, soot	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	Brazier	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
4	Camp fire in open air(1)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3
5	Cooker, cooking range, oven (not electric, coal gas, or oil)(1)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
6	Chimney, sparks from (outside building)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6
7	Chimney, on fire, confined to chimney	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7
8	Electric fire, heater, radiator motor	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8
9	wire and cable other than lead to apparatus	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	9
10	wire and cable lead to apparatus other apparatus	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	10
11	Explosives, fireworks	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11
12	Fish frying range (all fuels)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12
13	Flue	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	13
14		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14
15		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	15
Column No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	

SECTION III

Table 5B (Contd.)

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

Reports from Scotland

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

Row No.	Supposed cause of fire	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
		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	Water	Chemicals; explosives, ammunition, oils, grease	Coal and coke	Refuse	Timber	Other materials	Miscellaneous outdoor structures	Total	Row No.
16	Gas (coal) fire, heater, radiator	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	16	
17	" burner, jet, ring	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	17	
18	" other apparatus	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	18	
19	Incubator, brooder (all fuels)	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	19	
20	Intentional burning of grassland, gorse, etc.	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	20	
21	Lightning	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	21	
22	Lime	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	22	
23	Locomotives, sparks from	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	23	
24	Malicious ignition (1) (2)	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	24	
25	Matches	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	25	
26	Matches, children playing with	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	380	26	
27	Mechanical heat or sparks	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	27	
28	Metal, hot	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	28	
29	Naked light (1) (3)	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	29	
30	Oil, blow lamp	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	30	
31	Oil, engine (including petrol)	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122	31	
32	" lamp, stove	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	32	
33	" tractor	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	33	
34	" other apparatus	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	34	
35	Oxyacetylene cutting and welding apparatus	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	35	
Column No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	

SECTION III
Table 5B (Contd.)

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

Reports from Scotland

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

Row No.	Supposed cause of fire	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	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	Chemicals, explosives, ammunition, oils, grease	Coal and coke	Refuse	Timber	Other materials	Miscellaneous outdoor structures				
36	Rubbish burning	36	-	-	4	8	-	2	30	2	-	-	-	6	-	-	-	70	30	4	10	202	36			
37	Slow combustion stove igniting structural woodwork	28	-	-	2	-	-	-	38	-	-	-	-	18	-	-	-	8	4	12	22	37	37			
38	" other materials	-	-	-	-	-	-	-	2	-	-	-	-	2	-	-	-	-	-	-	-	28	38			
39	Smoking materials	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	134	39			
40	Spontaneous combustion in rubbish	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	40			
41	" in other materials	2	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	41			
42	Static electricity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42			
43	Steam roller, engine, traction engine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43			
44	Sun's rays	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44			
45	Taper, lighted paper or sticks	46	-	-	2	14	2	2	62	22	4	6	50	402	52	48	28	2	24	10	8	6	8	45		
46	Taper, lighted paper or sticks, children playing with	-	-	-	-	-	-	-	-	-	4	4	4	24	2	1	-	-	-	-	-	-	10			
47	Miscellaneous and undefined (4)	2	-	-	2	14	6	88	456	22	40	4	6	50	402	52	48	28	2	24	10	8	10	46		
48	Unknown source of ignition	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47			
49	Total fires other than those in buildings	218	20	12	44	6	88	456	22	40	4	6	50	402	52	48	28	2	214	110	58	382	2,262	49		
	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			

For explanation of notes see page 48

SECTION III

Table 6

MATERIAL FIRST IGNITED IN FIRES

Reports from Scotland, 1954

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

Material first ignited	Fires in buildings		Fires other than those in buildings		Total
	No.	Per cent	No.	Per cent	
<u>Agriculture and Forestry</u>					
Crops, ricks, stacks					
Barley	-	-	6	0.1	6
Hay	26	0.3	30	0.4	56
Straw	22	0.3	74	1.0	96
Stubble	-	-	2	-	2
Other	4	0.1	28	0.4	32
Loose straw or hay	70	0.9	82	1.1	152
Grass, heather, bracken	10	0.3	406	5.3	416
Trees, hedges, undergrowth brushwood, bushes, (including gorse), twigs, touchwood	-	-	202	2.6	202
Other agricultural materials	-	-	20	0.3	20
Total	132	1.7	850	11.1	982
<u>Chemicals - gases</u>					
Acetylene	6	0.1	2	-	8
Coal gas	198	2.6	38	0.5	236
Other gases	18	0.2	8	0.1	26
Total	222	2.9	48	0.6	270
<u>Chemicals - oils</u>					
Animal and vegetable oils	-	-	2	-	2
Mineral oil					
Paraffin	56	0.7	12	0.1	68
Petrol in vehicles	28	0.4	154	2.0	182
Petrol not in vehicles	36	0.5	4	0.1	40
Other mineral oils	18	0.2	4	0.1	22
Oil, waste and undefined	46	0.6	34	0.4	80
Total	184	2.4	210	2.7	394
<u>Chemicals - other</u>					
Celluloid (including films)	-	-	-	-	-
Paint, enamel, lacquer, varnish, stains and French polish	18	0.2	-	-	18
Pitch, tar	8	0.1	20	0.3	28
Rubber, vulcanite, ebonite	14	0.2	20	0.3	34
Other chemicals	74	1.0	42	0.5	116
Total	114	1.5	82	1.1	196
<u>Paper, cardboard, wood (not part of a structure)</u>					
Paper, cardboard	276	3.6	68	0.9	344
Wood chippings, flour, sawdust, shavings, wool	72	0.9	24	0.3	96
Wood barrels, boxes, cases, firewood etc.	92	1.2	12	0.2	104
Timber	22	0.3	60	0.8	82
Total	462	6.0	164	2.1	626

SECTION III

Table 6 (Contd.)

MATERIAL FIRST IGNITED IN FIRES

Reports from Scotland, 1954

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

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	8	0.1	8	0.1	16	0.2
Clothing on person	2	-	-	-	2	--
Clothing not on person	162	2.1	4	0.1	166	2.2
Cotton	10	0.1	-	-	10	0.1
Jute, hessian, sacking	56	0.7	30	0.4	86	1.1
Rags (including oily rags)	28	0.4	18	0.2	46	0.6
Tarpaulin, waterproof sheeting, oilskins	14	0.2	26	0.3	40	8.5
Other textiles	28	0.4	8	0.1	36	0.5
Total	308	4.0	94	1.2	402	5.3
<u>Furniture, furnishings, household goods</u>						
Bedding	126	1.6	10	0.1	136	1.8
Carpets, rugs	54	0.7	-	-	54	0.7
Curtains	66	0.9	-	-	66	0.9
Furniture	314	4.1	-	-	314	4.1
Linen articles (unspecified), laundry	8	0.1	-	-	8	0.1
Seating in vehicles	12	0.2	12	0.2	24	0.4
Other furnishings	80	1.0	6	0.1	86	1.1
Total	660	8.6	28	0.4	688	9.0
<u>Building materials, structural woodwork</u>						
Building materials other than wood	56	0.7	-	-	56	0.7
Structural woodwork						
External	118	1.5	-	-	118	1.5
Internal						
Door, window frame	40	0.5	-	-	40	0.5
Floor, stairs	218	2.9	-	-	218	2.9
Partitions, linings to walls	132	1.7	-	-	132	1.7
Roof	178	2.3	-	-	178	2.3
Timber in chimney, flue	70	0.9	-	-	70	0.9
Timber under hearth	386	5.0	-	-	386	5.0
Other fittings	132	1.7	-	-	132	1.7
Not known whether internal or external	120	1.6	-	-	120	1.6
Structural woodwork hazards other than buildings	-	-	122	1.6	122	1.6
Total	1,450	19.0	122	1.6	1,572	20.6
<u>Miscellaneous</u>						
Coal, coke	10	0.1	10	0.1	20	0.3
Electrical insulation	254	3.3	174	2.3	428	5.6
Fat (margarine, suet, butter, cooking fat, lard)	216	2.8	2	-	218	2.9
Food other than fat	62	0.8	-	-	62	0.8
Refuse, rubbish, debris	442	5.8	210	2.7	652	8.5
Soot	34	0.4	-	-	34	0.4
Other	532	7.0	106	1.4	638	8.3
Unknown	304	4.0	162	2.1	466	6.1
Total number of fires	5,386	70.4	2,262	29.6	7,648	100.0

SECTION III

Table 7A

MATERIAL FIRST IGNITED IN FIRES IN BUILDINGS IN RELATION TO THE SUPPOSED CAUSE

Reports from Scotland 1954

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

SECTION III

Table 7A (Contd.)

MATERIAL FIRST IGNITED IN FIRES IN BUILDINGS IN RELATION TO THE SUPPOSED CAUSE

Reports from Scotland 1954

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

For explanation of notes see page 48

SECTION III

Table 7B

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

Reports from Scotland, 1954

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

SECTION III

Table 7B

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

Reports from Scotland, 1954

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

SECTION III

Table 8

METHOD OF EXTINCTION OF FIRES

Reports from Scotland, 1954

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

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.				
61	Burned out	-	-	36	0.5	36	0.5	-	-	62	0.8	62	0.8	98	1.3	1	
	Removal	404	5.2	86	1.1	490	6.4	76	1.0	32	0.4	108	1.4	598	7.8	2	
	Automatic sprinkler system	-	-	8	0.1	8	0.1	-	-	-	-	-	-	8	0.1	3	
	Beating	10	0.1	8	0.1	18	0.2	290	3.8	36	0.5	326	4.3	344	4.5	4	
	Smothering	18	0.2	36	0.5	54	0.7	4	-	10	0.1	14	0.2	68	0.9	5	
	Sand, earth, etc.	-	-	4	-	4	-	8	0.1	18	0.2	26	0.3	30	0.4	6	
	Water from buckets	210	2.7	264	3.4	474	6.2	24	0.3	32	0.4	56	0.7	530	6.9	7	
	Water from stirrup or hand pumps	1,170	15.3	8	0.1	1,178	15.4	46	0.6	-	-	46	0.6	1,224	16.0	8	
	Chemicals and chemical extinguishers	176	2.3	64	0.8	240	3.1	138	1.8	66	0.9	204	2.7	444	5.8	9	
	Two or more methods 4-9	30	0.4	12	0.2	42	0.5	30	0.4	10	0.1	40	0.5	82	1.1	10	
	Water from garden hose, etc.	-	-	22	0.3	22	0.3	-	-	6	0.1	6	0.1	28	0.4	11	
	Hose reel jets (using water in tank only)	1,608	21.0	2	-	1,610	21.0	734	9.6	-	-	734	9.6	2,344	30.6	12	
	Hose reel jets (using more water than that in tank)	246	3.2	-	-	246	3.2	78	1.0	-	-	78	1.0	324	4.2	13	
	Jets from inside hose reel or inside hydrant	20	0.3	4	-	24	0.3	-	-	-	-	-	-	24	0.3	14	
	Hose reel jets and jets from inside hose reel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	
	Jets from pumps and hydrants	812	10.6	8	0.1	820	10.7	534	7.0	6	0.1	540	7.1	1,360	17.8	16	
	Other and undefined methods	60	0.8	60	0.8	120	1.6	4	-	18	0.2	22	0.3	142	1.9	17	
	TOTAL	4,764	62.3	622	8.1	5,386	70.4	1,966	25.7	296	3.9	2,262	29.6	7,648	100.0	18	

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, 1954

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

Note: These figures are not on a comparable basis with those in tables 1-8 or tables 10-2

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	8	-	-	-	-	-	8
(ii) because the heat did not reach the heads	1	-	-	-	-	-	1
(iii) because the system was closed down during alterations to premises	1	-	-	-	-	-	1
TOTAL	10	--	-	-	-	-	10
Operated but did not control fire because system was empty and acted as an automatic fire alarm only.	-	1	-	-	-	-	1
TOTAL	-	1	-	-	-	-	1
Controlled but did not extinguish the fire.	-	5	1	-	-	1	7
Extinguished the fire	-	3	-	-	-	1	4
Number of calls to fires where sprinkler systems were installed.	10	9	1	-	-	2	22

SECTION III

Table 10A

ATTENDANCE OF SPECIAL APPLIANCES AT FIRES IN BUILDINGS

Reports from Scotland, 1954

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

Type of appliance	Number of fires at which x appliances* of any one type attended with or without other types of appliance.							Total No. of fires attended.	% of total number of fires		
	x										
	0	1	2	3	4	5	6				
Breakdown lorries & control units	5,384	-	2	-	-	-	-	2	-		
Canteen vans	5,386	-	-	-	-	-	-	-	-		
Emergency tenders	5,312	72	2	-	-	-	-	74	1.4		
Fire boats	5,368	18	-	-	-	-	-	18	0.3		
Foam tenders	5,346	40	-	-	-	-	-	40	0.7		
Hose laying lorries & hose carriers	5,368	10	8	-	-	-	-	18	0.3		
Land Rovers	5,370	16	-	-	-	-	-	16	0.3		
Pump escapes	2,474	2,744	168	-	-	-	-	2,912	54.1		
Pumps	1,224	3,330	720	90	20	-	-	4,162	77.3		
Pump salvage tenders	5,206	180	-	-	-	-	-	180	3.3		
Salvage tenders	5,110	274	2	-	-	-	-	276	5.1		
Turntable ladders (hand operated) (mechanical)	5,184	202	-	-	-	-	-	202	3.8		
Utility Vans	4,042	1,330	12	2	-	-	-	1,344	25.0		
Water tenders	5,188	192	6	-	-	-	-	198	3.7		
Wireless cars	4,702	644	38	2	-	-	-	684	12.7		
	5,366	20	-	-	-	-	-	20	0.4		

* The number of occasions on which fires were attended by one or more of the different special appliances is given.

Table 10B

ATTENDANCE OF SPECIAL APPLIANCES AT FIRES NOT IN BUILDINGS

Reports from Scotland, 1954

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

Type of appliance	Number of fires at which x appliances* of any one type attended with or without other types of appliance.							Total No. of fires attended.	% of total number of fires		
	x										
	0	1	2	3	4	5	6				
Breakdown lorries & control units	2,262	-	-	-	-	-	-	-	-		
Canteen vans	2,260	2	-	-	-	-	-	2	0.1		
Emergency tenders	2,194	68	-	-	-	-	-	68	3.0		
Fire boats	2,234	28	-	-	-	-	-	28	1.2		
Foam tenders	2,240	22	-	-	-	-	-	22	1.0		
Hose laying lorries & hose carriers	2,246	8	8	-	-	-	-	16	0.7		
Land Rovers	2,260	2	-	-	-	-	-	2	0.1		
Pump escapes	1,544	690	28	-	-	-	-	718	31.7		
Pumps	742	1,206	256	50	8	-	-	1,520	67.2		
Pump salvage tenders	2,216	46	-	-	-	-	-	46	2.0		
Salvage tenders	2,242	20	-	-	-	-	-	20	0.9		
Turntable ladders (hand operated) (mechanical)	2,246	16	-	-	-	-	-	16	0.7		
Utility vans	2,152	110	-	-	-	-	-	110	4.9		
Water tenders	2,184	76	2	-	-	-	-	78	3.4		
Wireless cars	1,676	560	26	-	-	-	-	586	26.0		
	2,256	6	-	-	-	-	-	6	0.3		

* The number of occasions on which fires were attended by one or more of the different special appliances is given.

SECTION III

Table 11

PERSONS RESCUED OR ESCAPED BY EMERGENCY MEANS FROM FIRES

Reports from Scotland, 1954

(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	7
first floor	1
other and undefined	6
Other apparatus	-
Without apparatus	11
Total	25
Rescue without Fire Brigade assistance from Aircraft	1
Buildings	
Carried or assisted out	30
Jumping sheet	-
Ladder	1
Lowered from windows, roof, etc.	11
Other or undefined methods	2
Road vehicles	-
Total	45
Escaped by emergency means from Aircraft	
Buildings	
Jumping from upstairs window, roof	18
Ladder	1
Sliding down drainpipe, sheets, rope etc.	2
Through ground floor windows	2
Other and undefined methods	2
Road vehicles	-
Ships	-
Total	47
Total persons rescued or escaped.	117

SECTION III

Table 12

NATURE OF INJURIES OF CASUALTIES IN FIRES

Reports from Scotland, 1954

(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	-	58	58
Overcome by gas or smoke	-	5	5
Other and undefined injuries	-	4	4
Total	-	67	67
Non-fatal casualties			
Burns and scalds	7	130	137
Bruises, cuts, abrasions	14	19	33
Dislocations, sprains, fractures	2	4	6
Overcome by gas or smoke	2	20	22
More than one of above injuries	4	6	10
*Shock	-	25	25
Other and undefined injuries	11	6	17
Total	40	210	250
Total casualties	40	277	317

SECTION IV

STATISTICAL TABLES FOR FIRE BRIGADES IN NORTHERN IRELAND, 1954

Table 1

METHOD OF CALLING FIRE BRIGADES TO FIRES

Reports from Northern Ireland, 1954

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

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	-	-	-	12	12	1.1
Private fire telephone	-	-	2	18	20	1.8
Street fire alarm	-	-	-	20	20	1.8
Total	-	-	2	50	52	4.8
Exchange Telephone	166	342	200	264	972	89.7
Running call	2	4	16	28	50	4.6
Late call	2	-	-	-	2	0.2
Other and undefined methods	2	4	-	2	8	0.7
Total fires	172	350	218	344	1,084	100.0

SECTION IV

Table 2

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1954

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

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	90	8.3
Allotments, market gardening, fruit and poultry farming	4	0.4
Total	94	8.7
<u>Mining quarrying and treatment of non-metalliferous mine and quarry products (excluding gas works)</u>	-	-
<u>Manufacture of bricks, pottery, glass, etc.</u>	-	-
<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)	2	0.2
Electrical installations, cables and apparatus	2	0.2
Construction and repair of vehicles	2	0.2
Shipbuilding, and repairing, marine engineering	-	-
Cutlery and small tools	-	-
Other metal industries	-	-
Total	6	0.6
<u>Manufacture of textiles and textile goods (not dress)</u>		
Cotton	-	-
Wool, worsted and shoddy	-	-
Silk, natural and artificial	-	-
Other or mixed fibres	22	2.0
Miscellaneous	2	0.2
Textile dyeing, printing, bleaching, finishing	-	-
Total	24	2.2

SECTION IV

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1954

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

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)	-	-
Manufacture of clothing (not knitted) including footwear	2	0.2
Manufacture of food, drink, tobacco		
Food	16	1.5
Drink	2	0.2
Tobacco, cigars, cigarettes, snuff	-	-
Total	18	1.7
Woodworking: manufacture of cane and basket ware, furniture, fittings		
Woodworking and basket ware	4	0.4
Furniture (not metal or basket)	4	0.4
Fittings	2	0.2
Total	10	0.9
Paper making: manufacture of stationery and stationery requisites, printing and bookbinding	2	0.2
Building, decorating, contracting: slate and stone cutting and dressing	22	2.0
Rubber and synthetic rubber	-	-
Other manufacturing industries	-	-
Gas, water, electricity, sewage	-	-
Transport and communication		
Railway - stations, etc.	4	0.4
Road - garages, depots, etc.	28	2.6
Water - dock buildings other than warehouses	-	-
Air - aerodromes etc.	-	-
Other communication (post, telephone, wireless)	-	-
Total	32	3.0
Commerce		
Departmental stores	-	-
Retail shops	66	6.1
Wholesale dealers	8	0.7
Dock and other warehouses	-	-
Total	74	6.8

SECTION IV

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1954

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

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	-	-
Local authorities	2	0.2
Other offices	4	0.4
Total	6	0.6
<u>Navy, Army and Air Force establishments</u>	8	0.7
<u>Fire Service establishments</u>	-	-
<u>Professional establishments (other than offices); public institutions</u>		
Educational establishments	10	0.9
Hospitals, homes etc. for care of the sick and infirm	8	0.7
Places of worship	4	0.4
Other public and professional services	2	0.2
Total	24	2.2
<u>Places of public entertainment</u>		
Cinemas and theatres	2	0.2
Other places of entertainment	4	0.4
Total	6	0.6
<u>Private residential and personal service (including hotels and catering)</u>		
Private residential houses	352	32.5
Private residential flats	14	1.3
Clubs, restaurants, public houses	20	1.8
Private huts, unoccupied houses, personal service	30	2.8
Total	416	38.4
<u>Miscellaneous</u>	14	1.3
<u>Undefined</u>	2	0.2
Total fires in buildings	760	70.1

SECTION IV

Table 2 (Contd.)

FIRES CLASSIFIED ACCORDING TO HAZARD IN WHICH FIRE STARTED

Reports from Northern Ireland, 1954

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

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	32	3.0
Agricultural machinery	8	0.7
Agricultural waste	-	-
Other agricultural hazards	8	0.7
Allotments and gardens	2	0.2
Railway embankments	-	-
Grassland, heathland	66	6.1
Woods, forests, plantations	2	0.2
Single trees	10	0.9
Felled timber	-	-
Total	128	11.8
<u>Transport and communication</u>		
Aircraft	-	-
Railway rolling stock, etc.	2	0.2
Road vehicles - electrically driven	6	0.6
- oil, petrol, or gas driven	78	7.2
Road vehicles - other	-	-
Water vessels - craft on inland waters	2	0.2
- ships in dock	2	0.2
- ships at sea	-	-
- marine structures	-	-
Total	90	8.3
<u>Outdoor storage</u>		
Chemicals, explosives, ammunition, oils, grease	8	0.7
Coal and coke	2	0.2
Refuse	24	2.2
Timber	6	0.6
Cotton, metal, packing materials, rubber etc.	14	1.3
Total	54	5.0
<u>Other outdoor structures</u>		
Total fires other than those in buildings	324	29.9
Total fires attended	1,084	100.0

SECTION IV

Table 3

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

Reports from Northern Ireland, 1954

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

Hazard in which fire started	Fire Brigade				Total
	North	South	West	Belfast	
Fires in buildings					
Industrial premises	12	18	12	42	84
Commercial premises and offices	10	16	20	34	80
Transport and public utilities	12	8	4	8	32
Dwellings	64	92	88	122	366
Other buildings	40	84	42	32	198
Fires not in buildings					
Agriculture, grassland, forestry	24	54	38	12	128
Transport	8	40	6	36	90
Outdoor storage	-	18	6	30	54
Other outdoor hazards	2	20	2	28	52
Total	172	350	218	344	1,084

SECTION IV

Table 4

SUPPOSED CAUSE OF FIRES

Reports from Northern Ireland, 1954

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

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 are specified for the first time in this table, the miscellaneous item is therefore not comparable with those in previous years.

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	6	0.6	2	0.2	8	0.7
Brazier	2	0.2	2	0.2	4	0.4
Candle	8	0.7	-	-	8	0.7
Camp fire; fire in open air (1).	-	-	6	0.6	6	0.6
Chimney on fire, not confined to chimney	74	6.8	-	-	74	6.8
Chimney, sparks from (outside building)	20	1.8	-	-	20	1.8
Cooker, cooking range over (1) other than electric coal gas, oil	6	0.6	-	-	6	0.6
Electric cooker	4	0.4	-	-	4	0.4
fire, heater, radiator	12	1.1	-	-	12	1.1
iron	4	0.4	-	-	4	0.4
Electric motor	2	0.2	-	-	2	0.2
refrigerator	14	1.3	-	-	14	1.3
television	-	-	-	-	-	-
wire and cable, other than lead to apparatus	32	3.0	44	4.1	76	7.0
wire and cable, lead to apparatus	-	-	6	0.6	6	0.6
wireless	2	0.2	-	-	2	0.2
other apparatus	4	0.4	10	0.9	14	1.3
Explosives, fireworks	-	-	2	0.2	2	0.2
Fire in grate, igniting bedding, clothing, linen	14	1.3	-	-	14	1.3
Fire in grate igniting furniture and furnishings	10	0.9	-	-	10	0.9
Fire in grate igniting structural timber under hearth	36	3.3	-	-	36	3.3
Fire in grate igniting other materials	74	6.8	-	-	74	6.8
Fish frying range (all fuels)	10	0.9	-	-	10	0.9
Flue	14	1.3	2	0.2	16	1.5
Furnace (coal or coke)	-	-	-	-	-	-
Gas (coal) burner, jet, ring cooker	-	-	-	-	-	-
fire, heater, radiator	4	0.4	-	-	4	0.4
other apparatus	4	0.4	-	-	41	0.4
Incubator, brooder (all fuels)	22	2.0	-	-	22	2.0

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-two sample of reports by two)

Supposed cause of fire	Fires in buildings		Fire other than those in buildings		Total	
	No.	Per cent	No.	Per cent	No.	Per cent
Intentional burning of grassland, gorse, etc.	-	-	4	0.4	4	0.4
Lightning	2	0.2	-	-	2	0.2
Lime	-	-	-	-	-	-
Locomotives, sparks from	-	-	4	0.4	4	0.4
Malicious ignition (1)(2)	2	0.2	2	0.2	4	0.4
Matches	6	0.6	4	0.4	10	0.9
Matches, children playing with	6	0.6	8	0.7	14	1.3
Mechanical heat or sparks	4	0.4	2	0.2	6	0.6
Metal, hot	-	-	-	-	-	-
Naked light (1)(3)	10	0.9	6	0.6	16	1.5
Oil blow lamp	14	1.3	-	-	14	1.3
engine (including petrol)	4	0.4	16	1.5	20	1.8
lamp, stove	34	3.1	2	0.2	36	3.3
tractor	4	0.4	10	0.9	14	1.3
other apparatus	4	0.4	-	-	4	0.4
Oxacetylene cutting and welding apparatus	2	0.2	8	0.7	10	0.9
Rubbish burning	6	0.6	18	1.7	24	2.2
Slow combustion stove igniting structural woodwork	4	0.4	-	-	4	0.4
Slow combustion stove igniting other materials	14	1.3	6	0.6	20	1.8
Smoking materials	40	3.7	26	2.4	66	6.1
Spontaneous combustion in rubbish	-	-	-	-	-	-
Spontaneous combustion in other materials	-	-	-	-	-	-
Static electricity	-	-	-	-	-	-
Steam roller, engine, traction engine	-	-	-	-	-	-
Sun's rays	-	-	-	-	-	-
Taper, lighted paper or sticks	4	0.4	4	0.4	8	0.7
Taper, lighted paper or sticks, children playing with	-	-	-	-	-	-
Miscellaneous and undefined (4)	18	1.7	-	-	18	1.7
Unknown source of ignition	204	18.8	130	12.0	334	30.8
Total number of fires	760	70.1	324	29.9	1,084	100.0

Note. (1) Causes specified for the first time.

(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 previous years.

SECTION IV

Table 5A

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

Reports from Northern Ireland, 1954

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

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																											
Row No.	Hazard in which fire started																																																					
Supposed cause of fire																																																						
(1) Ashes, soot Brazier Candle Chimney on fire, not confined to chimney Chimney, sparks from (outside building)																																																						
(2) Cocker, cooking range, oven, other than coal gas, electric or oil (1) Electric, cooker fire, heater, radiator iron motor refrigerator wire and cable, other than lead to apparatus lead to apparatus wireless other apparatus																																																						
(3) Explosives, fire works Fire in grate igniting bedding, clothing, linen Fire in grate igniting furniture and furnishings Fire in grate igniting structural timber under hearth Fire in grate igniting other materials																																																						
(4) Fish frying range (all fuels) Flue Furnace (coal or coke) Gas (coal) burner, jet, ring cooker fire, heater, radiator other apparatus																																																						
(5) Incubator, brooder (all fuels) Lightning Lime Locomotives, sparks from Malicious ignition (1)(2) Matches Matches, children playing with Mechanical heat or sparks																																																						
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 IV

Table 5A (Contd.)

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

Reports from Northern Ireland, 1954

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

Row No.	Supposed cause of fire	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	Total Row No.
			Hazard in which fire started																											
36	Metal, hot	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	
37	Naked light(1)(3)	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	
38	Oil, blow lamp		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	
39	engine (including petrol)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	
40	lamp, stove		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	
41	tractor		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	
42	other apparatus		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	
43	Oxyacetylene cutting and welding apparatus		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	
44	Rubbish burning		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	
45	Slow combustion stove igniting structural woodwork		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	
46	Smoking materials	42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	
47	Spontaneous combustion in rubbish	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47	
48	in other materials		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	
49	Static electricity		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49	
50	Steam roller, engine, traction engine		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	
51	Sun's rays		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51	
52	Taper, lighted paper or sticks		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52	
53	Taper, lighted paper or sticks, children playing with		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	
54	Miscellaneous and undefined(4)		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54	
55	Unknown source of ignition		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	
56	Total fires in buildings		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	
	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 73

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, 1954

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

Row No.	Column No.	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	21	22	
Supposed cause of fire		Crops	Agricultural machinery	Agricultural waste	Agricultural, other 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	Chemicals, explosives, ammunition, oils, grease	Coal and coke	Refuse	Timber	Other materials	Miscellaneous outdoor structures	Total		
1	Aircraft, crashed																							1
2	Ashes, soot																							4
3	Brazier																							5
4	Camp fire, fire in open air (1)																							6
5	Chimney, sparks from (outside building)																							10
6	Electric fire, heater, radiator																							7
7	" wire and cable (other than lead to apparatus)																							8
8	" wire and cable (lead to apparatus)																							9
9	" other apparatus																							10
10	Explosives, fireworks																							11
11	Flue																							12
12	Furnace (coal or coke)																							13
13	Gas (coal) burner, jet, ring																							14
14	" other apparatus																							15
15	Incubator, brooder (all fuels)																							16
16	Intentional burning of grassland, gorse, etc.																							17
17	Lightning																							18
18	Locomotives, sparks from																							19
19	Malicious ignition (1) (2)																							20
20	Matches																							21
21	Matches, children playing with																							22
22	Mechanical heat or sparks																							23
23	Naked light (1) (3)																							
Column No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	

For explanation of notes see page 73.

SECTION IV
Table 5B (Contd.)

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

Reports from Northern Ireland, 1954

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

Row No.	Supposed cause of fire	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total Row No.
		Crops	Agricultural machinery	Agricultural waste	Agricultural, 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	Chemicals, explosives, ammunition, oils, grease	Coal and coke	Refuse	Timber	Other materials	Miscellaneous outdoor structures	Total		
		Hazard in which fire started																							
24	Oil, blow lamp	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	
25	" engine (including petrol)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	
26	" lamp, stove	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	
27	" tractor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	
28	" other apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	
29	Oxyacetylene cutting and welding apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	
30	Rubbish burning	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	
31	Slow combustion stove igniting structural woodwork	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30	
32	Slow combustion stove igniting other materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	
33	Smoking materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	
34	Spontaneous combustion in rubbish	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	
35	" in other materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	
36	Static electricity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	
37	Steam roller, engine, traction engine	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	
38	Sun's rays	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	
39	Taper, lighted paper or sticks	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	
40	Taper, lighted paper or sticks, children playing with	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	
41	Miscellaneous and undefined	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	
42	Unknown source of ignition	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41	
43	Total fires other than those in buildings	32	8	-	8	2	-	66	2	10	1	2	78	6	4	8	2	24	6	14	52	324	43		
	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		

SECTION IV

Table 6

MATERIAL FIRST IGNITED IN FIRES

Reports from Northern Ireland, 1954

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

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	8	0.7	2	0.2	10	0.9
Straw	4	0.4	8	0.7	12	1.1
Stubble	-	-	-	-	-	-
Other	-	-	-	-	-	-
Loose straw or hay	16	1.5	6	0.6	22	2.0
Grass, heather, bracken	-	-	18	1.7	18	1.7
Trees, hedges, undergrowth, brushwood, bushes (including gorse), twigs, touchwood	-	-	22	2.1	22	2.1
Other agricultural materials	-	-	2	0.2	2	0.2
Total	28	2.6	58	5.3	86	7.9
<u>Chemicals - gases</u>						
Acetylene	-	-	2	0.2	2	0.2
Coal gas	14	1.3	2	0.2	16	1.5
Other gases	-	-	-	-	-	-
Total	14	1.3	4	0.4	18	1.7
<u>Chemicals - oils</u>						
Animal and vegetable oils	-	-	-	-	-	-
Mineral oil						
Paraffin	14	1.3	-	-	14	1.3
Petrol in vehicles	4	0.4	26	2.4	30	2.8
Petrol not in vehicles	12	1.1	2	0.2	14	1.3
Other mineral oils	-	-	-	-	-	-
Oil waste and undefined	-	-	2	0.2	2	0.2
Total	30	2.8	30	2.8	60	5.5
<u>Chemicals - other</u>						
Celluloid (including films)	-	-	-	-	-	-
Paint, enamel, lacquer, varnish, stains and French polish	4	0.4	-	-	4	0.4
Pitch, tar	-	-	8	0.7	8	0.7
Rubber, vulcanite, ebonite	-	-	2	0.2	2	0.2
Other chemicals	2	0.2	-	-	2	0.2
Total	6	0.6	10	0.9	16	1.5
<u>Paper, cardboard, wood (not part of a structure)</u>						
Paper, cardboard	36	3.3	6	0.6	42	3.9
Wood chippings, flour, sawdust shavings, wool	8	0.7	-	-	8	0.7
Wood barrels, boxes, cases, firewood etc.	20	1.8	-	-	20	1.8
Timber	4	0.4	2	0.2	6	0.6
Total	68	6.3	8	0.7	76	7.0

SECTION IV

Table 6 (Contd.)

MATERIAL FIRST IGNITED IN FIRES

Reports from Northern Ireland, 1954

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

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	16	1.5	-	-	16	1.5
Cotton	-	-	-	-	-	-
Jute, hessian, sacking	6	0.6	4	0.4	10	0.9
Rags, (including oily rags)	2	0.2	-	-	2	0.2
Tarpaulin, waterproof sheeting, oilskins	-	-	-	-	-	-
Other textiles	2	0.2	-	-	2	0.2
Total	26	2.4	4	0.4	30	2.8
<u>Furniture, furnishings, household goods</u>						
Bedding	14	1.3	-	-	14	1.3
Carpets, rugs	2	0.2	-	-	2	0.2
Curtains	6	0.6	-	-	6	0.6
Furniture	24	2.2	-	-	24	2.2
Linen articles (unspecified), laundry	2	0.2	-	-	2	0.2
Seating in vehicles	-	-	2	0.2	2	0.2
Other furnishings	10	0.9	-	-	10	0.9
Total	58	5.4	2	0.2	60	5.5
<u>Building materials, structural woodwork</u>						
Building materials other than wood	64	5.9	-	-	64	5.9
Structural woodwork						
External	6	0.6	-	-	6	0.6
Internal						
Door, window frame	10	0.9	-	-	10	0.9
Floor, stairs	38	3.5	-	-	38	3.5
Partitions, linings to walls	20	1.8	-	-	20	1.8
Roof	20	1.8	-	-	20	1.8
Timber in chimney, flue	22	2.0	-	-	22	2.0
Timber under hearth	36	3.3	-	-	36	3.3
Other fittings	16	1.5	-	-	16	1.5
Structural Woodwork hazards other than buildings	-	-	14	1.3	14	1.3
Total	232	21.4	14	1.3	246	22.7
<u>Miscellaneous</u>						
Coal, coke	2	0.2	-	-	2	0.2
Electrical insulation	22	2.0	52	4.8	74	6.8
Fat (margarine, suet, butter, cooking fat and lard)	16	1.5	-	-	16	1.5
Food other than fat	2	0.2	-	-	2	0.2
Refuse, rubbish, debris	6	0.6	16	1.5	22	2.0
Soot	8	0.7	-	-	8	0.7
Other	44	3.9	6	0.6	50	4.6
Unknown	198	18.3	120	11.1	318	29.3
Total number of Fires	760	70.1	324	29.9	1084	100.0

SECTION IV

Table 7A

MATERIAL FIRST IGNITED IN FIRES IN BUILDINGS IN RELATION TO THE SUPPOSED CAUSE

Reports from Northern Ireland, 1954

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

NOTES

1. **תְּמִימָה / (תְּמִימָה)**

*
Reports from Northern Ireland, 1954

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

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SECTION IV

Table 7B

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

Reports from Northern Ireland, 1954

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

Column No.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Row No.
Row No.		Agriculture and Forestry	Chemicals-gases	Chemicals-oils	Chemicals-other	Paper, Cardboard wood not structure	Textiles	Furniture furnishings	Building materials structural woodwork	Miscellaneous Materials	Unknown Material	Total										Row No.
Supposed cause of fire																						
1	Ashes, soot																					
2	Brazier																					
3	Camp fire, fire in open air (1)																					
4	Electric wire and cable other than lead to apparatus																					
5	" " " " " lead to apparatus																					
6	" other apparatus																					
7	Explosives, fireworks																					
8	Fine																					
9	Intentional burning of grassland, gorse etc.																					
10	Locomotives, sparks from (1) (3)																					
11	Malicious Ignition																					
12	Matches																					
13	Matches, children playing with																					
14	Mechanical beat or sparks																					
15	Naked light (1) (3)																					
16	Oil engine including petrol																					
17	" lamp, stove																					
18	" tractor																					
19	Oxyacetylene cutting and welding apparatus																					
20	Rubbish burning																					
21	Slow combustion stove, igniting materials other than structural woodwork																					
22	Smoking materials																					
23	Taper, lighted paper or sticks																					
24	Unknown source of ignition																					
25	Total fires other than those in buildings	10	6	42	2	2	26	2	2	8	2	6	2	4	2	14	52	16	6	120	324	25
Row No.	Column No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Row No.

For explanation of notes see page 73.

SECTION IV

Table 8

METHOD OF EXTINCTION OF FIRES

Reports from Northern Ireland, 1954

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

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	0.4	4	0.4	-	-	16	1.5	16	1.5	20	1.8		
2	Removal	66	6.1	4	0.4	70	6.5	6	0.6	4	0.4	10	0.9	80	7.4		
3	Beating	-	-	4	0.4	4	0.4	30	22.8	2	0.2	32	3.0	36	3.3		
4	Smothering	-	-	-	-	-	-	2	0.2	6	0.6	8	0.7	8	0.7		
5	Sand, earth etc.	-	-	-	-	-	-	2	0.2	4	0.4	6	0.6	6	0.6		
6	Water from buckets	24	2.3	56	5.2	80	7.4	4	0.4	16	1.5	20	1.8	100	9.2		
7	Water from stirrup or hand pumps	56	5.2	-	-	56	5.2	4	0.4	-	-	4	0.4	60	5.5		
8	Chemicals and chemical extinguishers	12	1.1	12	1.1	24	2.2	10	0.9	8	0.7	18	1.7	42	3.9		
9	Two or more methods 3-8	2	0.2	4	0.4	6	0.6	6	0.6	2	0.2	8	0.7	14	1.3		
10	Water from garden hose	-	-	2	0.2	2	0.2	-	-	-	-	-	-	2	0.2		
11	Hose reel jets (using water in tank only)	246	22.7	-	-	246	22.7	118	10.9	-	-	118	10.9	364	33.6		
12	Hose reel jets (using more water than that in tank)	44	4.1	-	-	44	4.1	8	0.7	-	-	8	0.7	52	4.8		
13	Jets from inside hose reel or inside hydrant	2	0.2	2	0.2	4	0.4	-	-	-	-	-	-	4	0.4		
14	Jets from pumps and hydrants	210	19.4	2	0.2	212	19.6	66	6.1	4	0.4	70	6.5	282	26.0		
15	Other and undefined methods	4	0.4	4	0.4	8	0.7	2	0.2	4	0.4	6	0.6	14	1.3		
Total		666	61.4	94	8.7	760	70.1	258	23.8	66	6.1	324	29.9	1084	100.0		

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 method 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 9

BEHAVIOUR OF SPRINKLER SYSTEMS AT FIRES

Reports from Northern Ireland, 1954

In the one-in-two sample of reports there was only one incident in which sprinklers were reported as being installed. The sprinklers failed to operate because there was insufficient heat to melt the heads.

SECTION IV

Table 10A

ATTENDANCE OF SPECIAL APPLIANCES AT FIRES IN BUILDINGS

Reports from Northern Ireland, 1954

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

Type of appliance	Number of fires at which x appliances* of any one type attended with or without other types of appliance						Total number of fires attended	% of total no. of fires		
	x									
	0	1	2	3	4	5				
Emergency tenders	690	70	-	-	-	-	70	9.2		
Pump escapes	402	358	-	-	-	-	358	47.1		
Pumps	124	560	72	2	-	2	636	83.7		
Turntable ladders (mechanical)	718	42	-	-	-	-	42	5.5		
Utility vans	486	272	2	-	-	-	274	36.1		

Table 10B

ATTENDANCE OF SPECIAL APPLIANCES AT FIRES NOT IN BUILDINGS

Reports from Northern Ireland, 1954

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

Type of appliance	Number of fires at which x appliances* of any one type attended with or without other types of appliance						Total number of fires attended	% of total no. of fires		
	x									
	0	1	2	3	4	5				
Emergency tenders	312	12	-	-	-	-	12	3.7		
Pump escapes	236	88	-	-	-	-	88	27.2		
Pumps	54	264	6	-	-	-	270	83.3		
Turntable ladders (mechanical)	318	6	-	-	-	-	6	1.9		
Utility vans	216	108	-	-	-	-	108	33.3		

*The number of occasions in which fires were attended by one or more of the different special appliances is given.

SECTION IV

Table 11

PERSONS RESCUED OR ESCAPED BY EMERGENCY MEANS FROM FIRES

Reports from Northern Ireland, 1954

(Frequencies obtained from results of analysis of all reports)

Appliance or method used	No. of persons
Rescue with Fire Brigade assistance from	
Aircraft	
Buildings	
Turntable mechanical	2
Other and undefined apparatus	2
Total	4
Rescue without Fire Brigade assistance from	
Buildings	
Carried or assisted out	4
Lowered from windows, roof, etc.	2
Total	6
Escape by emergency means from	
Aircraft	
Through exits or from debris	2
Buildings	
Jumping from upstairs window, roof	4
Through ground floor windows	3
Total	7
Total persons rescued or escaped	19

SECTION IV

Table 12

NATURE OF INJURIES OF CASUALTIES IN FIRES

Reports from Northern Ireland, 1954

(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	-	2	2
Other and undefined injuries	-	-	-
Total	-	2	2
Non-fatal casualties			
Burns and scalds	2	19	21
Bruises, cuts, abrasions	4	3	7
Discocations, sprains, fractures	-	-	1
Overcome by gas or smoke	1	2	3
More than one of the above injuries	-	-	-
Shock	1	2	2
Other and undefined injuries	-	1	1
Total	7	27	34
Total casualties	7	29	36

APPENDIX I

(A) DISCUSSION OF SAMPLE ANALYSIS IN SECTION I

The random sampling procedure adopted for each of the years 1950-1953 was similar to that used in 1954 which is described in part B below. The sampling fraction f varied on occasion and this affects the quantity $2\sqrt{\frac{1-f}{f}}$ 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

(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 two 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, 3, 5, 7, 9, 11 etc. one of the figures 0, 1, taken at random (tables of random numbers were used). A series of approximately 8,000 numbers, the first ten of which were 1, 4, 6, 8, 10, 12, 13, 15, 18, 20 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 1954, 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 $\frac{1}{2}$ 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 $\frac{1}{2}$.

The figures in the tables have been obtained by multiplying the results of analysis of the sample by two, and therefore $N = N'/2$ 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 $\pm 2s = E$

$$E = \pm 2 \quad \sqrt{\frac{p(100-p)}{N'}}$$

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

Example 1

6.6% of the 75,768 fires in England and Wales were attributed to sparks from locomotives (Section II, Table 4).

$$E = \pm 2 \quad \sqrt{\frac{6.6 \times 93.4}{75,768}} = \pm 0.2\%$$

There is therefore a 19 to 1 chance that the interval 6.4% - 7.0% will include the true percentage.

Example 2

0.4% of the 7,648 fires in Scotland were extinguished with sand, earth, etc. (Section III, Table 8).

$$E = \pm 2 \quad \sqrt{\frac{0.4 \times 99.6}{7,648}} = \pm 0.1\%$$

There is a 19 to 1 chance that the interval 0.3% - 0.5% will include the true percentage.

Accuracy of estimates of yearly totals of fires

An estimate of the returns of 1954 which would have been obtained had all reports been analysed, has been made by multiplying the results of analysis of the sample by two. The 'standard error', s' , of this estimate is given by the equation

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

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 $\pm 2s' = E'$

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

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

Example 1. (Large value of n')

5,006 fires in England and Wales were attributed to sparks from locomotives, (Section II, Table 4). The total number of fires in the country was 75,768,

$$E' = \pm 2 \quad \sqrt{\frac{5,006}{75,768} (75,768 - 5,006)} = \pm 137$$

There is therefore a 19 to 1 chance that the interval 4,869 - 5143 will include the actual yearly total.

Example 2 (Small value of n')

30 of the 7,648 fires in Scotland were extinguished with sand, earth etc. (Section III, Table 8).

$$E' = \pm 2 \quad \sqrt{\frac{30}{7,648} (7,648 - 30)} = \pm 11$$

The proportionate sampling error here is large: there is a 19 to 1 chance that the interval 19-41 will include the actual yearly total.