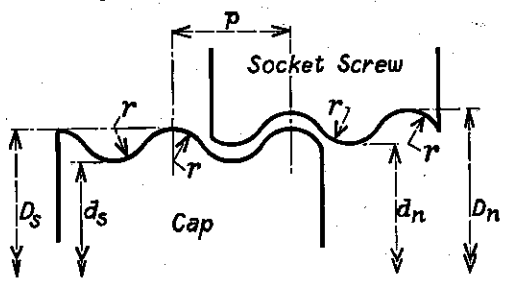

Fig. 7. Edison Thread for Electric Lamps

Edison Screw Threads for Lamps

The use of a screw for effecting an electrical and mechanical connection between an electric lamp and its socket was amongst the earliest methods adopted when the employment of electricity for lighting became general, especially in the United States. In this country its use is mainly confined to miniature lamps and for lamps of 150 watts and upwards. Five sizes of Edison screw are specified in this country, by B.S. 98: 1962. The corresponding dimensions of these are given in Tables B15 and B16, the form being depicted in Fig. 7.

Bottle Closure Threads (Glass Container Finishes)

A form of thread for glass bottle necks and for metal and plastic caps is shown in Fig. 8. The dimensions for the thread form as specified in B.S. 1918: 1953 are given in Tables B17 and B18. There are four standard

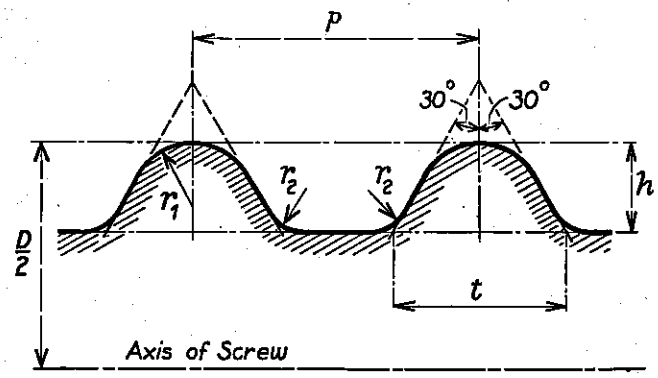

Fig. 8. Bottle Closure Thread (Glass Container Finishes)

pitches corresponding to 5, 6, 8 and 12 threads per inch. The thread forms for these pitches are not geometrically similar.

Thread for Sparking Plugs (B.S. 45: 1952)

The basic form of thread is Metric (S.I.) i.e. the thread angle is 60 deg. and the shortening at crest and root is equal to one-eighth of the triangular height. The thread is of 14 mm. nominal diameter and 1·25 mm. pitch with the recommended dimensions of plug and hole as follows:

Plug

Major Diameter: 13·975 mm. (maximum); 13·790 mm. (minimum)
Effective Diameter: 13·163 mm. (maximum); 13·038 mm. (minimum)

Hole

Effective Diameter: 13·338 mm. (maximum); 13·213 mm. (minimum)
Minor Diameter: 12·586 mm. (maximum); 12·461 mm. (minimum)

British Standard Metric Thread

In 1943, the British Standards Institution issued B.S. 1095: 1943, a War Emergency Standard Specification with the title "Metric Screw Threads—Système Internationale." The form of this thread for maximum metal conditions may be represented as in Fig. 9, and has theoretical proportions as follows:

Thread Angle (2θ) = 60 deg.; Flank Angle (θ) = 30 deg.; Triangular height (H) = 0·8660254 p; Shortening at crest (S_1) = 0·1082532 p; Shortening at root (S_2) = 0·1894431 p; Depth of thread (h) = 0·5683292 p; Major diameter (D) = Nominal diameter; Effective diameter = D – 0·6495191 p; Minor diameter (d) = D – 1·1366584 p. The crests are flat, and the roots may be flat at the dimension of S_2, or, due to tool wear, the roots may have a maximum radius of 0·126 p, producing a concavity below the basic flat at S_2 by an amount of 0·063 p.

Thread profile dimensions are given in Tables B19 and B20, and the maximum-metal dimensions in B21 and B22. The B.S. tolerances are to be found in Tables B23 and B24.

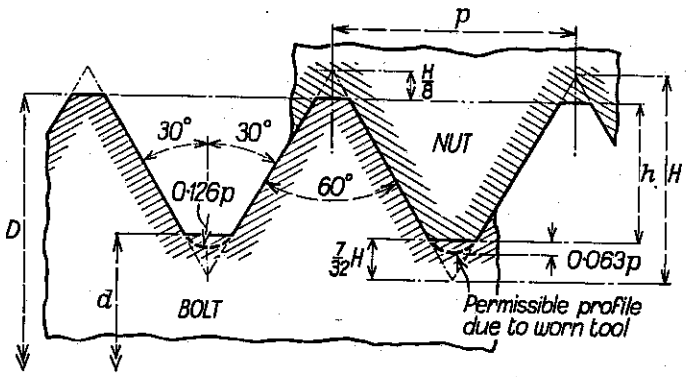

Fig. 9. British Standard Metric Thread (S.I.)

Table B17. BOTTLE CLOSURE THREADS
Basic Form Dimensions in Inches

Threads per inch	h	r_1	r_2 (max.)	
12	0·030	0·022	0·012	0·060
8	0·042	0·031	0·016	0·084
6	0·047	0·034	0·025	0·094
5	0·060	0·044	0·030	0·120

Table B18. BOTTLE CLOSURE THREADS
Dimensions in Inches

(R-3/2 Finish)				(R-4 Finish)			
Size No.	Threads per inch	Major Diam. (D)	Major Diam. Tolerance	Size No.	Threads per inch	Major Diam. (D)	Major Diam. Tolerance
18	8	0·694	+0·010 −0·010	13	12	0·506	+0·008 −0·007
20	8	0·773	,,	14	12	0·535	,,
22	8	0·852	,,	15	12	0·573	,,
24	8	0·930	,,	18	8	0·694	+0·010 −0·010
28	6	1·075	+0·013 −0·012	20	8	0·773	,,
30	6	1·114	,,	22	8	0·852	,,
33	6	1·252	,,	24	8	0·930	,,
38	6	1·456	+0·018 −0·017	28	6	1·075	+0·013 −0·012
40	6	1·560	,,	31	6	1·193	,,
43	6	1·634	,,				
48	6	1·850	,,				
51	6	1·948	,,				
53	6	2·047	,,				
58	6	2·204	,,				
60	6	2·322	,,				
63	6	2·441	,,				
66	6	2·559	,,				
70	6	2·716	,,				
77	5	3·015	+0·020 −0·020				
83	5	3·248	,,				
89	5	3·491	,,				
100	5	3·917	,,				
120	5	4·704	,,				

Table B19. BRITISH STANDARD METRIC THREAD (S.I.)
Thread Profile Dimensions in mm.

Pitch	Triangular Height H	Shortening at Crest S_1	Shortening at Root S_2	Maximum Radius at Root	Depth of Thread for Flat Roots
1·0	0·8660	0·1083	0·1894	0·1263	0·5683
1·25	1·0825	0·1353	0·2368	0·1579	0·7104
1·5	1·2990	0·1624	0·2842	0·1895	0·8525
1·75	1·5155	0·1894	0·3315	0·2210	0·9946
2·0	1·7320	0·2165	0·3789	0·2526	1·1367
2·5	2·1651	0·2706	0·4736	0·3158	1·4208
3·0	2·5981	0·3248	0·5683	0·3789	1·7050
3·5	3·0311	0·3789	0·6631	0·4421	1·9892
4·0	3·4641	0·4330	0·7578	0·5052	2·2733
4·5	3·8971	0·4871	0·8525	0·5684	2·5575
5·0	4·3301	0·5413	0·9472	0·6315	2·8416
5·5	4·7631	0·5954	1·0419	0·6947	3·1258
6·0	5·1962	0·6495	1·1367	0·7578	3·4100

Table B20. BRITISH STANDARD METRIC THREAD (S.I.)
Thread Profile Dimensions in Inches

Pitch (mm.)	Triangular Height H	Shortening at Crest S_1	Shortening at Root S_2	Maximum Radius at Root	Depth of Thread for Flat Roots
1·0	0·03410	0·00426	0·00746	0·00497	0·02238
1·25	0·04262	0·00533	0·00932	0·00622	0·02797
1·5	0·05114	0·00639	0·01119	0·00746	0·03356
1·75	0·05967	0·00746	0·01305	0·00870	0·03916
2·0	0·06819	0·00852	0·01492	0·00994	0·04475
2·5	0·08524	0·01065	0·01865	0·01243	0·05594
3·0	0·10229	0·01279	0·02238	0·01492	0·06713
3·5	0·11933	0·01492	0·02610	0·01740	0·07831
4·0	0·13639	0·01705	0·02983	0·01989	0·08950
4·5	0·15343	0·01918	0·03356	0·02238	0·10069
5·0	0·17048	0·02131	0·03729	0·02486	0·11188
5·5	0·18753	0·02344	0·04102	0·02734	0·12306
6·0	0·20457	0·02557	0·04475	0·02983	0·13425