

Market Report
on
Electric Clocks

REPORT TO MR. McLOUGHLIN

on the

MARKET FOR ELECTRIC CLOCKS.

December, 1939.

SUMMARY

In this Report, an attempt has been made to throw up those considerations which would deter or encourage us in the marketing of an electric clock range. It shows that upwards of 900 electric clock patterns were available to the British purchaser up to the war period and estimates the pre-war market at approximately 300,000 clocks per annum with a value in excess of £500,000. Saturation point is still remote (p.2.).

Pages 3 to 11 embody a brief review of the 20 firms at present serving the home market -- all prices mentioned being those ruling immediately before the war. Particular attention is drawn to the predominating position occupied by Smith's English Clocks, Ltd. They are estimated to hold 50% of the market (p.3) and to virtually monopolise the advertising of electric clocks with an annual expenditure of less than £14,000 (p.11). A table giving annual expenditures by all electric clock manufacturers over the last four years is contained in p.12 and the graph in page 13 shows the relationship of the Smith expenditure to the whole -- plotted on a monthly basis to show the seasonal trend of the electric clock trade.

The possibilities of immediate sales are dealt with in page 14 in the light of the prohibition of imports and the reduced capacity of Smith's English Clocks. A study of 400 electric clocks, which is partially summarised by two tables in the Appendix, shows that only 3% of all models available are priced below 20/- whilst 60% of all patterns are offered at between 36/1 to 80/- -- the various price groups being summarised in page 15. Page 16 et seq gives decisive indications on design trends in materials and style.

(Please see the supplement to this Report, bound separately, for illustrations and listed particulars of all clocks on the British market.)

The production of electric clocks is already an important section of the electrical industry and upwards of twenty manufacturers and importers are at present engaged in meeting the requirements of the market in the United Kingdom. A brief review of these firms is contained in this Report. The number of models offered by these firms is probably in excess of 900 and an illustrated summary has been compiled as a supplement to this Report.

The Market.

It is not possible accurately to estimate the present market for electric clocks since opinions differ widely as to the demand for such clocks during the war period. (An important recommendation on this point is made later). In 1935, however, -- the latest date for which we have a Census of Production figure -- the number of electric clocks produced in the United Kingdom was 92,700 having a factory value of £176,000. Allowing for exports, which were 11,700 at £19,000, and retained imports of 18,700 at £9,000, and including the corresponding figures for electric clock movements, the market in 1935 absorbed 106,500 clocks having a net value of £167,000 and a selling value of at least £250,000. From 1935, the market is estimated to have been increasing by over 50% per annum. The immediate pre-war market was possibly in the order of 300,000 clocks per annum with a selling value well in excess of £500,000.

Saturation point is a long way off because after one clock has been sold to a householder, the possibilities of being able to sell a second clock -- for, say, kitchen, hall or bedroom use -- is not decreased, but increased. We have also to appreciate that the clock is "international" in interest and character and the export market is worth developing. Indeed, with our overseas connections, we should be able to sell half as many clocks abroad as we should sell at home and this work will be easier now in view of the blocking of Germany's exports. There is, finally, a profitable outlet for electric clock movements in automatic switching devices -- such as cooker, refrigerator and time switches -- to which we could turn our attention with every chance of success.

On the other hand, we must not underestimate the hold which one firm, in particular, had on the electric clock market up to the war period. Smith's English Clocks, Ltd., dominate the clock field to a much greater extent than we do the accessories field. They are reputed to do most of the domestic turnover but, at a conservative estimate, they take at least 50% of the available business. Smith's have been able to secure very wide distribution, not because they give an extensive choice of patterns (this can, in fact, be a drawback to good distribution), but because their clocks are demanded by the consumer as a result of advertising predominance. Before dealing with this important point, it will be of help to review, briefly, the companies at present supplying the market.

COMPANIES SERVING THE HOME MARKET

BULLE: Bulle Products, Ltd., 187A, Tottenham Court Road, LONDON. W.1.

This old-established company, which pioneered the battery-operated clock, has a distinctly "Continental" background. (The original Bulle clocks were made in France; the present managing director of the company is a Swiss). Although a speciality is made of battery clocks, all Bulle clocks -- and there are about 40 models in the present range -- are available with synchronous movements for mains operation, mains models being priced at 5s. less than battery clocks. On the other hand, Bulle propaganda can be viewed as anti-mains. "If," says a recent Bulle leaflet "you have mains installation, and are happy to have a clock permanently in one position, and don't mind the trailing wires and the need for a socket as the home of the plug, then you probably prefer the mains type of clock. But the battery type of clock has superabundant advantages. Move it where you will, when you will; no ugly fitting, no need to monopolise a power point -- no need for electricity in the house at all! Bulle clocks with a mains movement are naturally cheaper than the battery type, but the cost of the current consumption evens the cost in the course of a year or two." Such propaganda is not calculated to win the support of the electrical trade as a whole. Possibly, for this reason, we find distribution is more or less confined to jewellers. The design of Bulle clocks is, however of a very high order and, with their higher-priced models, they secure a clientele among whom may be numbered some members of the Royal family. A lot of business is done direct.

COMET: Mauthe Clocks, Ltd., 2-3, Charterhouse Square, Aldersgate Street,
LONDON. E.C.1.

It is claimed by Mauthe Clocks, Ltd., that their factory, which was founded in 1844, employs 2,000 workpeople and produces well over 2,000,000 clocks each year. This figure, which refers to the German factory, is greatly in excess of the entire production of electric clocks for all British manufacturers. The range consists of wall, table and alarm patterns at fairly low prices, ranging from 22/- to 40/-. The design of the mantel range is somewhat straightforward and unspectacular. The wall clocks, however, can be provided with a movement which is not only self-starting but has an eight-hour spring reserve in the case of current failure. In view of the war emergency the "Comet" clock will not be available after existing stocks held in London have been exhausted. These stocks appear to comprise no more than five patterns.

COSSOR: A. C. Cossor, Ltd., Cossor House, Highbury Grove, LONDON. N.5.

Three clocks are marketed, by Cossor, selling at 25/-, 42/6 and 55/-. All are wooden-cased mantel clocks of rectangular design, two incorporating chromium ornaments and are claimed to have silent movements. Each Cossor clock is tested by a twelve-days' run before delivery, and is subjected to a 2,000 V breakdown test.

FERRANTI: Ferranti, Ltd., Hollinwood, Lancashire.

Ferranti clocks enjoy a very good reputation in the electrical trade and, in the writer's opinion, would have enjoyed a much larger sale if Ferranti's had concentrated upon advertising and selling to an extent comparable with Smith's English Clocks. The present range is somewhat extensive and comprises 90 models varying in type from small to larger mantel clocks, striking and chiming clocks, fancy clocks and chromium type flush fitting and inset clocks, indoor wall-mounting models and a range of striking and chiming grand-daughter clocks. Prices range from the cheapest model at 23/6d. to grand-daughter models at nearly 200/-. Ferranti also offer a number of clock movements for replacing clockwork units in existing clocks. Among the outdoor clocks is a rectangular type embodying illuminated panels above and below to take lettering at a price of £38. 4s.

Certain of Ferranti's models are mediocre in design, but the more recent introductions are extremely stylish and compare very favourably with the best contemporary patterns.

This firm give a lot of attention to the correct connection of clocks and market; a fused plug which is given extensive publicity in their literature.

FROSTOFF: A. J. Balcombe, Ltd., 52-58, Tabernacle Street, LONDON. E.C.2.

The "Frostoff" clock is designed for use in conjunction with an electric refrigerator to carry out defrosting automatically at the appropriate time and so eliminate the need to empty the refrigerator for defrosting in the usual way. While it can also be used as an ordinary clock, of course, the Frostoff is claimed to save about 20 per cent of the current consumption of the refrigerator and so add to its life. Two models are available, a wall model in a moulded case which sells at 50/- and a mantel model selling at 67/6.

G.S.S. General Signal and Time Systems, Ltd., 23/31, Great Peter Street,
LONDON. S.W.1.

These people specialise in the rental, sale, high purchase and maintenance of staff locating tableaux, call systems, watchman's and fire control systems, master and signal master clocks for controlling slave and signalling systems, combined electric clock and staff locating systems and a small range of slave clocks, synchronous clocks and AC/DC self-winding clocks. The company appears to operate on a contract basis and is not interested in the general mass market. It has not been found possible to obtain price particulars.

GARRARD: Garrard Clocks, Ltd., 117-123, Green Lane, LONDON. E.C.1.

This firm has offered spring-actuated clocks for many years and has an established reputation. It also manufactures a range of 76 electric bordoir, mantel, wall and exterior clocks in wood, glass, chromium and onyx. Garrard clocks do not appear to serve the mass market; their design is, on the whole, somewhat staid and prices are above the average to high -- ranging from the cheapest mantel clock at 37/6 to 15 guineas and upwards for special designs to

order. In addition, Garrard serve the market for publicity clocks and are willing to design a clock to harmonise with the building to which it is to be fitted. At the same time, they offer their standard exterior clocks with any name above and below the dial at a price, excluding fitting, of £25 each.

GENALEX: General Electric Co., Ltd., Magnet House, Kingsway, LONDON. W.C.2.

42 small clocks, ranging in price from 25/- to approximately £10, are included in the range at present marketed by the General Electric Company. In addition to these standard models, the company is prepared to supply special designs and master-controlled systems for public and similar buildings. A movement for substitution in spring-operated clocks is priced at 29/6. A grandfather clock available as a striking or chiming model is priced at from £8. 17s. 6d. to £16. 17s. 6d. in oak or walnut, and a grand-daughter clock is listed at from £4. 12s. 6d. to £8. 12s. 6d. in oak, and is available as a time-piece striking or chiming model.

For a firm so large and with such a world-wide reputation, the General Electric designs are surprisingly mediocre. Most of them, in fact, seem to be inspired by the Smith and Temco ranges, the M205 clock being a typical "Smith" design.

GRAHAM FARISH: Graham Farish, Ltd., Bromley, Kent.

Only three synchronous clocks are marketed by Graham Farish, two mantel models and the other a movement, with hands, designed for building into tiled surrounds and walls. Prices are 39/6, 42/6 and 30/- respectively. All models embody centre seconds hands. This firm also manufactures electric fires, fans, floodlights and self-contained electric fountains, and clocks appear to be one of a number of side-lines.

GOBLIN: British Vacuum Cleaner & Engineering Co., Ltd., Ermyn Way, Leatherhead, Surrey.

This company markets a range of 42 electric clocks at prices ranging from 27/6 up to 110/-d. Although the designs are in the main simple and straightforward,

they are essentially "English" in character. This firm offers two models of unusual design in the Rose and Electra which are actually combined table lamps and clocks, the lamp portion being fitted with a switch holder. The range also includes a hall fitting embodying clock, barometer and thermometer mounted attractively on hardwood. There appears to be nothing out of the ordinary in the movement fitted in Goblin clocks.

As you will know, this firm also offers electric vacuum cleaners and electric washers and has extensive works at Leatherhead, Surrey.

HAMMOND: Electrical Commodities, Ltd., Sparton Works, Beresford Avenue,
Wembley, Middx. (See notes)

Nearly 40 models -- mantel and wall types -- comprise the Hammond range of synchronous clocks manufactured in the U.S.A. and marketed in this country by Electrical Commodities, Ltd. Prices range from 21/- upwards, the cheapest model being the Paris Alarm Clock, which embodies a moulded ivory-finished case. The Parkway, a circular wall clock for kitchen or bathroom, is priced at 27/6 in an enamelled metal case available in several colours, while the Stewardess, priced at 42/- is designed for wall or mantel use in kitchen or office. A cast metal case is fitted, available in several finishes. An outstanding feature of certain Hammond clocks is a built-in indicator showing the day of the week and month. Clocks embodying this feature are also fitted with alarm movements. Prices of these clocks range from 44/- to £7. 7s. and glass, wood-cased, metal and imitation onyx mantel models are available. The whole of Electrical Commodities stocks have now been purchased by the British Tungsram Radio Works Ltd., who are selling off at "bargain" rates.

INGRAHAM: Britannia Distributors, Ltd., 92-4, Paul Street, LONDON. E.C.2.

17 Synchronous clocks are marketed by this company on the basis of low price. The cheapest model sells at 10/11d. and the most expensive at 63/-. An alarm model retails at 12/11d. With the advent of the war, the company cancelled all its listed prices and all orders are now priced on merit. How such low prices are achieved is, at the moment, a mystery because the firm itself has

been in business since 1831! Distribution is mainly in bulk through departmental stores.

NATIONAL: National Time Recorder Company, Ltd., Aquinas Street, Stamford Street, LONDON. S.E.1.

This company specialises in the manufacture of time recorders and offers only a limited range of electric clocks for industrial wall-mounting. Since they offer no clocks which, from our point of view, can be regarded as domestic in interest, we have refrained from including any patterns in our review.

SECTRIC: Smith's English Clocks, Ltd., Cricklewood Works, LONDON. N.W.2.

What is probably the largest range of synchronous clocks on the British market is manufactured by Smith's. The Sectric range contains some three hundred models, covering all conceivable domestic types and a number of commercial applications.

Prices of Sectric clocks range from £1 upwards, the cheapest and most popular model being the Sovereign, which is housed in a moulded bakelite case. This clock is available alternatively in ivory and gilt finish at 22/6. A low-priced wall-clock is the Durban, which is housed in a moulded case available in several finishes and costs 27/6. Sectric wall-clocks are claimed to be unaffected by temperature or atmosphere and so are suitable for use in bathrooms.

Auto-alarm clocks are fitted with a 24-hour alarm movement which is self-setting. Once the alarm is set the buzzer will sound at the pre-determined time each day. Prices of these models range from 25/- to 58/-. One of the Autolarm clocks, a line which has only recently been announced, is the Alarmalite which embodies an independently-controlled light and sells at 55/-.

Smith's recently introduced the "Velocraft" and "Damascraft" clock ranges, in which the usual wooden, glass or metal background is replaced respectively with velvet and damask. "Damascraft" clocks are available in three designs selling at from 50/- to 60/-.

SIEMENS: Siemens-Schuckert (Great Britain) Ltd., 30-34, New Bridge Street,
LONDON.E.C.4.

The clocks offered by this Company are of German manufacture and, unless it can arrange for production here during the war period, its sales must cease when existing stocks have been cleared.

The Siemens range consists of 14 models including alarms, table and wall patterns and varying in price from 22/6d. to 125/-. Two types of mechanism are available (1) with non-self-starting motor and (2) with Spring Reserve Movement. Clocks of the latter type are fitted with a spring clockwork with regulator. The spring is kept fully wound by a small electric motor. A miniature clutch prevents overwinding. The escapement is synchronised with the frequency of the alternating current. In the event of a current failure, the clock continues to work as an ordinary spring clock for a period not exceeding six hours. As soon as the current is switched on again, the electric winding motor and the synchronising device immediately comes into operation once more.

The whole range of Siemens clocks is beautifully designed in a restrained manner.

STERLING: The Sterling Engineering Co., Ltd., 104-5, Newgate Street,
LONDON. E.C.1.

It was decided at the beginning of 1939 to limit the Sterling clock range to about 25 models, and to make up this number, several new designs were added. Included in these was an oak-cased mantel clock priced at 20/- and a range of four mantel models in walnut cases, two of them burnished and two inlaid with ebony. Each of these four clocks is priced at 45/-.

Among the wall clocks in the range, which the firm now list as "hall clocks," is an oak-cased circular model priced at 35/- and a square model in which chromium hands and figures are set directly on a walnut background. The price of the latter model is 70/-.

SYNCKLOCKS: Messrs. Everett Edgcumbe & Co., Ltd., Colindale Works, LONDON. N.W.9.

Synclocks, Ltd., is a subsidiary of Messrs. Everett Edgcumbe & Co., Ltd., and

specialises in the manufacture of outdoor publicity clocks. (A recent introduction is the World Synclock which, in addition to Greenwich mean time, indicates the time at various places throughout the world). However, they also offer a range of clocks suitable for domestic use. This range comprises up to 40 patterns at prices rather above the average, varying from 32/6d. to 105/- for mantel models. Chiming and striking patterns are also available both in mantel models and in Grand-daughter clocks. The claims made for the Synclock movement include an oil bath contained in a sealed housing (silent operation) and steel spring characteristics. If the supply is interrupted, the clock re-starts as soon as supply is resumed and has a warning tell-tale to indicate that a stoppage has occurred.

TANGENT: Gent & Co., Ltd., Faraday Works, Leicester.

The main interest of this company lies in commercial and industrial clock systems. On the other hand, they offer a somewhat extensive range of domestic models which include eighteen wall-mounting clocks of various types and an interesting range of insertion type panel clocks for "letting into" wall panelling. Prices are somewhat higher than usual, three of the cheapest models selling at 54/-. The cheapest model is priced at 45/-d. and consists of a walnut case and a 5" square dial.

TEMCO: T. M. C. Harwell (Sales) Ltd., 233, Shaftesbury Avenue, LONDON. W.C.2.

This company markets an extensive range of 112 models of various types and appears to be extremely active in the production of new designs. The movements are manufactured by The Telephone Manufacturing Co., Ltd. Case design over the range is extremely varied and, in the main, good. Prices range from an oak mantel clock selling at £1 to a striking and chiming grand-daughter clock offered at 247/6d. The Temco range embraces, too, a number of 24-hour alarm clocks and there are a number of striking and chiming models available round about the £7 mark in small size for table and mantel piece mounting. On the whole, a lively range backed by energetic publicity.

WESTCLOX: Markt & Co. (London) Ltd., Portpool Lane, Gray's Inn Road, LONDON.
E.C.1.

A very fine range of electric alarms, some of them attractively decorated for nursery employment, are manufactured in America under the Westclox trade mark and were marketed in this country by Messrs. Markt & Co. (London) Ltd. Since the war, however, the stocks of the distributors have been cleared and no precise particulars can be obtained.

The Importance of National Advertising

In the marketing of a popular electric clock, mechanical and electrical soundness is not enough. The successful product must be attractively designed and widely stocked, but there is, of course, no possibility of good distribution unless the product is known to the consumer and preferably offers the dealer an attractive margin of profit. National advertising is obviously indicated.

When, however, we turn to the volume of electric clock advertising over the last four years, it is surprising to find that:

- (a) the estimated total expenditure by all manufacturers has been small; and
- (b) Messrs. Smith's English Clocks have been able completely to dominate the entire field with an appropriation which has varied from £6,000 to not more than £14,000.

The position which Smith's have been allowed to occupy for so long is so important a factor in marketing considerations that I draw detailed attention to it by means of (1) a table showing actual yearly advertising expenditure of all manufacturers and (2) a chart showing the curve of all electric clock advertising plotted with the expenditure by Smith's English Clocks.

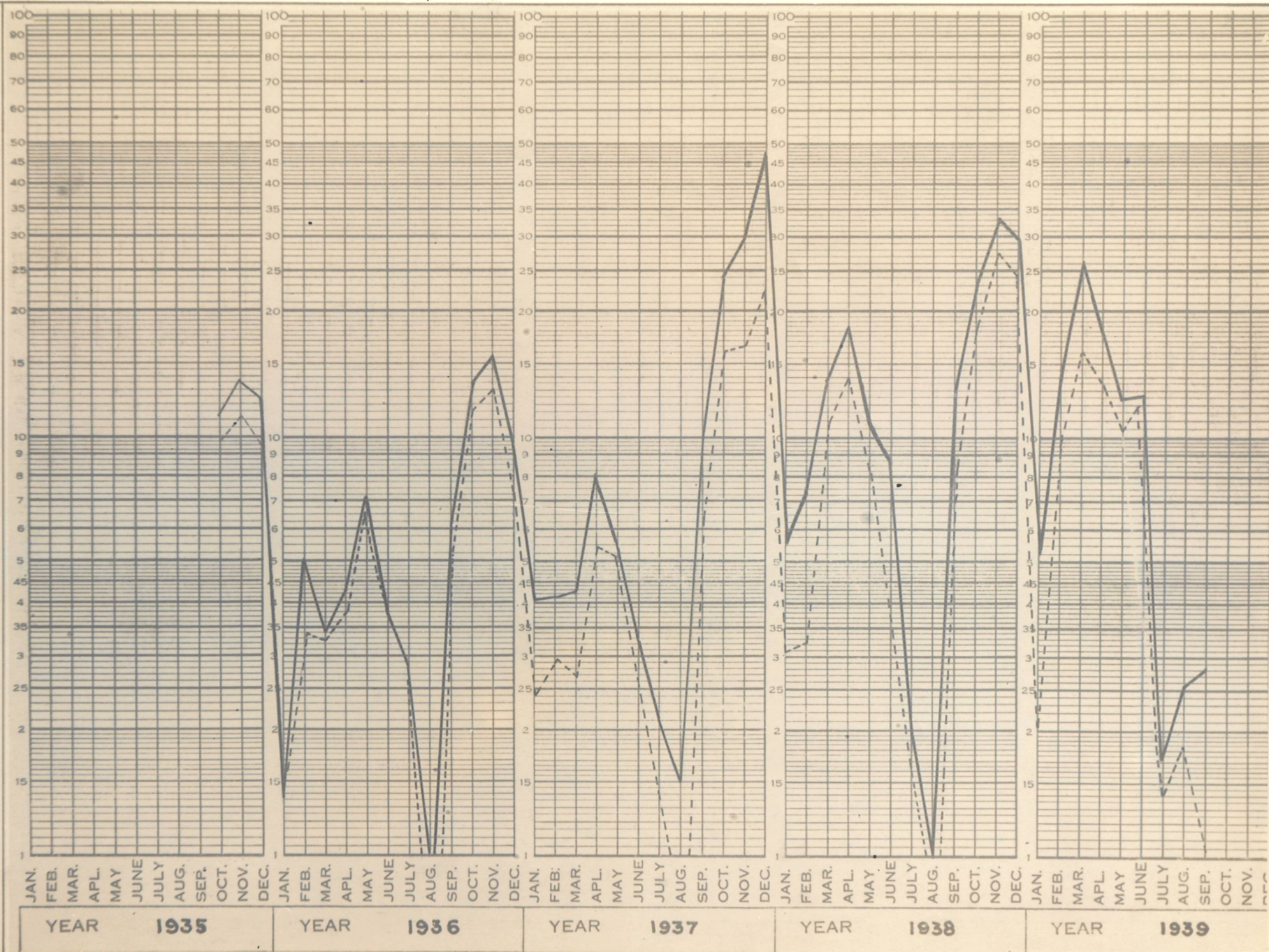
A study of the first table shows that in 1935-36 Smith's Advertising expenditure was no less than 84% of the whole industry. It was 75% in 1936-37 but fell to 62% in 1937-38. However, for 1938-39, it had climbed back to 75%. The figures for 1937-38 are interesting. In October, 1937, the Goblin clock made its appearance and its sponsors spent £268, £669 and £1,806 respectively in October, November and December. This was the first serious challenge which Smith's had received and it is significant to note that during those months,

ELECTRIC CLOCK ADVERTISING IN THE UNITED KINGDOM
(Expenditure in £ based on current scale rates. Year ending 31st September)

Trade Name	Manufacturer or Distributor	1935-36		1936-37		1937-38		1938-39	
		£	%	£	%	£	%	£	%
Bulle	Bulle Products, Ltd.,	159	2.3	Nil	-	Nil	-	44	.2
Ferranti	Ferranti, Ltd.,	575	8.3	945	11	851	4.8	948	5.1
Genalex	General Electric Co., Ltd.,	220	3.0	200	2.5	Nil	-	Nil	-
Goblin	British Vacuum Cleaner & Eng. Co. Ltd.	Nil	-	Nil	-	3,067	17.0	121	.6
Hammond	Electrical Commodities, Ltd.,	Nil	-	Nil	-	146	.8	25	.1
Orel-Micro	Orel-Micro Electric, Ltd.,	Nil	-	86	1	44	.2	Nil	-
Siemens	Siemens Electric Lamps & Supplies, Ltd.,	Nil	-	Nil	-	148	.8	Nil	-
Smith Electric	Smiths English Clocks, Ltd.,	5,939	84	6,131	75	11,243	62.3	13,773	75.2
Sterling & Ismay	Sterling Engineering Co., Ltd.,	Nil	-	.134	1.5	658	3.6	931	5.1
Stockmar	Stockall, Marples & Co., Ltd.,	33	.5	Nil	-	17	.1	Nil	-
Synclocks	Synclocks, Ltd.,	Nil	-	Nil	-	57	.3	75	.4
Tangent	Gent & Co., Ltd.,	216	3.1	481	6	297	1.0	383	2.1
Temco	T. M. .C. Harwell (Sales) Ltd.,	Nil	-	194	2.5	1,438	8.0	1,932	10.0
Westclox	Markt & Co., Ltd.,	Nil	-	Nil	-	86	.5	66	.3
TOTAL ADVERTISING EXPENDITURE:		6,889	100%	8,171	100%	18,052	100%	18,298	100%

NOTE: No National advertising has been traced for Cossor, Frostoff, Graham Farish & Ingraham Clocks.

— ELECTRIC CLOCK ADVERTISING (ALL MAKES)
 - - - - - MESSRS. SMITH'S EXPENDITURE



the Smith expenditure was increased by £500, £250 and £1,500 over the corresponding figures for 1936. By January, 1938, Goblin, discouraged, had dropped out of the advertising picture altogether. Thus, it would seem, it is a part of Smith's advertising policy to make it unprofitable for any other advertiser to get comparable attention.

A study of the graph, which is plotted on the basis of estimated monthly ~~expenditure~~^{expenditure}, shows the extent to which the Smith policy has been successful -- and incidentally illustrates the two peak periods during which clock sales are easiest. At the same time, the characteristics of the curve suggest a way in which the Smith strategy could be defeated if we were determined to gain some share of the clock market. This would be to advertise on a steady, continuous basis, merely reducing by, say, 50% during the summer months.

Immediate Prospects.

We have carried out the foregoing survey in the belief that this work was being done now so that we could be ready with our clock range when happier conditions obtained. On consideration, however, I am inclined to the opinion that there may be sound reasons why the practical work of development should proceed apace and that if we can develop a really successful range of clocks, they should be offered as soon as they are ready. In this respect, I would point to the large number of imported clocks sold in this country. We refer, in particular, to Hammond, Westclox, Siemens and Mauthe. The importation of foreign watches and clocks is now prohibited so that, as soon as available stocks have been exhausted, the sale of imported clocks will cease. Again, the largest home producer is undoubtedly Smith's English Clocks, Ltd., and 75% of their productive capacity has been taken over by the Air Ministry.

The demand for electric clocks, however, will not cease during hostilities. Indeed, the clock is so practical a gift that it is likely to remain a very popular one. In view therefore of the cessation of foreign supplies and the reduction in output of established manufacturers, I suggest that the possibilities of introducing our clock immediately it is ready are worth your serious consideration. In any case, it is suggested that we seriously consider the immediate production of a small range of 8", 10" and 12" diameter industrial clocks for wall mounting to be marketed between the listed figures

of 50/- and 80/-.

A Study of 400 Electric Clocks

In order to determine marketing trends up to the war period, 400 British-made Electric Clocks were studied. These clocks comprise the entire ranges offered by Smith's English Clocks, General Electric Company, Bulle, Synclocks, Temco and (so that we could give due emphasis to the very competitive models available) the entire range marketed by Britannia Distributors (Ingraham) were included. The study in question, which is partially summarised in two tables included as an Appendix to this Report, is extremely interesting in showing that it would be a mistake for this Company to market clocks in the lower price ranges unless we also offered suitable clocks to meet the higher price demand. Although emphasis on low price was undoubtedly weighted in our study, clocks offered at less than 20/- in price accounted for only 3% of all models available. Models retailing between 20/- and 22/6 accounted for only 1.5%. On the other hand, the number of clocks offered at a price between 36/1 to 80/- account for nearly 60% of all patterns listed. Indeed, there would seem to be a tendency for the reputable manufacturers to limit their efforts on low-priced models -- merely offering one or two somewhat discreetly in their main lists. The actual figures are as follow:-

<u>Retail Price</u>	<u>No.</u>	<u>Percent</u>
Below 20/-	12	3.00%
20/- to 22/6	2	.50%
22/7 to 25/-	7	1.75%
25/1 to 30/-	15	3.75%
30/1 to 35/-	12	3.00%
35/1 to 40/-	39	9.75%
40/1 to 50/-	60	15.00%
50/1 to 60/-	55	13.75%
60/1 to 70/-	39	9.75%
70/1 to 80/-	40	10.00%
80/1 to 90/-	18	4.50%
90/1 to 100/-	24	6.00%
Over 100/-	65	16.25%
Over 200/-	12	3.00%

Design

We are now turning our attention to the question of exterior design and proposals will be submitted to you immediately they reach a tangible stage. At the present time, we are confining our attention to five basic types: a mantel clock suitable for use in the lounge and dining room; a kitchen clock also suitable for the bathroom; a table clock for bedroom use; and two wall patterns, one suitable for domestic and the other for commercial employment.

With regard to the movement, it is rather noticeable that the two leading German clocks available in this country -- namely Siemens and Mauthe -- are offered, in certain types, with six and eight-hour spring reserves respectively. Particulars have already been passed on to Mr. Morgan; but here it should be pointed out that this particular feature does not appear to be offered by English manufacturers and there would seem to be some advantage in our being able to offer it in de luxe models. Supply failures are not, it is true, of frequent occurrence in this country -- in Walsall, we probably have an average of only two stoppages per annum. At the same time, it is possible to disturb the supply accidentally or thoughtlessly in operating the main switches and this is especially true in works, offices and similar locations.

Clocks for bedroom use should have spring reserve since most of them are plugged into outlets used for other purposes. If the Crabtree clock had such a feature, we could use this as a selling point.

Our analysis of 400 electric clocks shows the unmistakable popularity of wood as a basic case material -- nearly 60% of all models having cases composed entirely or almost entirely of wood. Synthetic resin, on the other hand, is not widely used and only appears to be considered for the low-price clocks. Indeed, above the 60/- mark, no models were found having cases of moulded material. Metal, as a case material, tends to increase in popularity as the price increases and the same is roughly true of glass and glass-like substances. Glass, incidentally, does not appear to be employed for models below the 35/- mark.

Another object of our study was to determine, in advance, the most acceptable

character for the clock face itself. In this respect, our survey showed that 63% of all clocks have circular faces with their figures based on the circle. Almost as popular were Arabic numerals -- these accounting for 62.25% of all clocks analysed. The actual figures are as follows:-

Circular face with figures based on circle	252	63.00%
Rectangular face with figures arranged rectangularly	106	26.50%
Rectangular face with figures based on circle	14	3.50%
Face and figures to unconventional patterns	28	7.00%
	400	100.00%
Arabic Numerals	349	62.25%
Roman Numerals	117	29.25%
Marks, Lines, Spots, etc.	34	8.50%
	400	100.00%

APPENDIX

AN ANALYSIS OF 400 ELECTRIC CLOCKS
(The ranges offered by Smith's English Clocks, General Electric Co. Bulle, Synclocks, Temco and Ingraham)

Retail Prices	TYPE OF CLOCK											
	Mantel	Alarm	Kitchen	Wall	Commercial	Grand	Strikers	Chimers	Sets	Novelty	Period	Total
Below 20/- ^x	4	6	2	-	-	-	-	-	-	-	-	12
20/- to 22/6	2	-	-	-	-	-	-	-	-	-	-	2
22/7 to 25/-	4	3	-	-	-	-	-	-	-	-	-	7
25/1 to 30/-	10	2	-	3	-	-	-	-	-	-	-	15
30/1 to 35/-	12	-	-	-	-	-	-	-	-	-	-	12
35/1 to 40/-	29	3	1	6	-	-	-	-	-	-	-	39
40/1 to 50/-	54	-	-	5	1	-	-	-	-	-	-	60
50/1 to 60/-	36	2	-	10	6	-	1	-	-	-	-	55
60/1 to 70/-	22	-	2	4	7	-	2	-	-	-	1	39
70/1 to 80/-	24	-	-	3	4	-	6	-	1	1	1	40
80/1 to 90/-	10	-	-	2	1	-	1	-	-	1	3	18
90/1 to 100/-	10	-	-	5	1	-	5	1	-	1	1	24
Over 100/-	21	-	1	15	2	5	3	16	1	-	1	65
Over 200/-	3	-	-	1	1	2	2	1	2	-	4	12
Total	241	16	6	55	23	7	18	18	2	3	11	400

x Ingraham Clocks only.

NOTE "Mantel includes all general purpose and table models; "wall" includes also hanging, inset and flush clocks; "grand includes grandmother, father and daughter models; "sets" covers clocks designed complete with figures, barometers and the like. Prices are those ruling before the present war. The majority are now, of course, subject to various increases.

AN ANALYSIS OF 400 ELECTRIC CLOCKS
(The range of Smith's English Clocks, G.E.C. Bulle, Symclocks, Temco & Ingraham)

Retail Prices	CASE MATERIAL					
	Moulded	Metal	Wood	Glass	Other Materials	Total
Below 20/-	4	8	-	-	-	12
20/- to 22/6	1	-	1	-	-	2
22/7 to 25/-	4	1	1	-	1	7
25/1 to 30/-	5	-	9	-	1	15
30/1 to 35/-	-	3	9	-	-	12
35/1 to 40/-	8	3	17	10	1	39
40/1 to 50/-	1	13	39	6	1	60
50/1 to 60/-	7	10	28	6	4	55
60/1 to 70/-	-	8	24	1	6	39
70/1 to 80/-	-	5	31	3	1	40
80/1 to 90/-	-	1	13	2	2	18
90/1 to 100/-	-	7	13	4	-	24
Over 100/-	-	10	39	15	1	65
Over 200/-	-	3	7	1	1	12
Total	30	72	231	48	19	400

NOTE: The table above shows the basic materials from which the cases of 400 electric clocks were constructed. In particular, instances (where two or more materials were employed), the predominating material was counted and the others ignored. "Glass" also includes the unbreakable glass-like substance known as briolite. "Other Materials" includes onyx, alabaster, fabric and similar little-used substances.

