"Notes on Early British Electrification: The 1880s" by William Kennedy and Robert Delargy

These notes provide additional detail to the evidence and arguments presented in "Shorting the Future?: Capital Markets and the Launch of the British Electrical Industry, 1882-1892", *Business History Review*, Vol. 94, Summer 2020, pp.287-320, and should be read in conjunction with that article.

DATA CHARACTERISTICS AND SOURCES

In the *Business History Review (BHR)* paper we have sought to identify all the electrical companies that raised money on Britain's public stock exchanges in 1882, when, by international standards, an extraordinary, unprecedented amount of money was subscribed for electrification. We then follow the fortunes of these companies in terms of the evolution of their market capitalizations and dividends (if any), down to end-June 1914. To establish the contemporary context, we also examine the few electrical companies that raised money in 1880 and 1881 as well as the growing number that raised money on Britain's public markets in the following decade, 1883-1892. For this, we have relied upon *Burdett's Official Intelligence,* published annually by Henry C. Burdett (later Sir Henry), then Secretary of the Share and Loan Department of the London Stock Exchange, under sanction of the Committee of the Stock Exchange. The first volume of *Burdett's Official Intelligence* appeared early in 1882, containing brief details of all companies known to Burdett's department at that time (i.e. up to the end of 1881). The title was changed in 1899 to the *Stock Exchange Official Intelligence* (*SEOI*) to emphasize the official nature of the publication, as Burdett's successors in the Share and Loan Department of the Stock Exchange remained as compilers and editors. Thus, this publication always constituted a more 'official', and therefore, presumably, more reliable, record than its competitors. The principle of these, *The Stock Exchange Year Book*, first edited and published by Thomas Skinner in 1874, eventually merged in 1934 with the *SEOI* to form the *Stock Exchange Official Year Book* with editorial control passing permanently to the secretary of the Stock Exchange's Share and Loan Department.

Burdett sought to make his publication broadly useful as a general reference for market professionals. It strove to provide authoritative information on the amount of money companies raised through the issue of tradeable instruments; how it was raised (usually shares of some sort or debentures); when it was raised; and what money was paid to holders of their securities (including liquidation payments when appropriate). Because Burdett believed the information in the *Official Intelligence* should be useful for credit evaluation generally, he sought its coverage to be as extensive as possible, including companies that were traded primarily on provincial exchanges or perhaps not even publicly traded at all, such as the closely-held company of Siemens Brothers, although that company kept Burdett reliably informed of its financial activities (the nominal value of securities issued privately and payments made to the holders of those securities).

The quality of the data Burdett published improved over time. The data for large companies that had been in existence for some time were generally quite good from the publication's beginning (e.g. number and type of shares, both those fully paid-up and only partially paid-up, the nominal value of debentures, recent dividends, and often a statement of bank loans and other non-traded debt taken from a company's recent annual report). When newly created companies first appeared in the *Official Intelligence,* the number of shares actually held by the public might vary from the number first reported, which often reflected a company's intention rather than its actual realization,

but would become more accurate in subsequent issues. For example, Swan United Electric Light Company, the company founded by Joseph Swan to manufacture and market his effective incandescent lamp and ultimately the most successful of all British electrical companies floated in 1882, had intended to issue for cash 80,250 shares, each with a face value of £5, but in the event placed only 78,949 of them. The larger figure appeared in *Burdett's 1882* (Vol. I), the smaller, more accurate, figure eventually consistently appeared in subsequent volumes.[1]

When companies floated on Britain's stock exchanges at this time, most of the shares they issued were usually paid for in cash installments until the nominal (face) value of the shares was fully paid up. However, the founders of companies were often paid in fully paid-up shares (upon which no calls were ever due since they were fully paid-up at time of issue) as well as cash.[2] For example, when Swan United floated in May 1882, Joseph Swan received £122,000 in cash as well as 19,750 fully paid-up £5 ordinary shares with a nominal value of £98,750 in return for the plant, equipment, patents, and other assets he transferred to the new company. The cash Swan received in 1882 was a part of the £197,373 received by the company from cash-paying applicants for shares. A typical flotation might require "outside" (non-vendor) applicants for shares to make a small cash payment upon initial application (rarely more than 5%-10% of the nominal value of the shares applied for; this money would be returned if the application for shares was not accepted in its entirety, as often happened when issues were heavily over-subscribed or the proposed flotation was cancelled). The remainder would be due sometime after the shares were allocated to applicants. In some cases this remainder might be due in its entirety shortly after allocation, but more usually the first payment due after allocation would take the amount paid up to only about half the nominal value of the shares sought. This was the case with Swan United; in 1882 only £2.50 was called up on the £5 shares issued for cash. The remainder could be "called up" later, at the discretion of the company's directors.

Payment of this remainder was a legal obligation of the applicant. Indeed, the unpaid amount still owed on a company's ordinary shares was often used as collateral for loans or other obligations to creditors.[3] Thus applying for shares had to be taken seriously. Failure to meet the terms of the application meant at least the forfeiture of any money already paid and could result in legal action to enforce full payment, as occurred in the 1882 case of Phillips vs. Great Western Electric Light & Power Company, the latter a concessionaire of Anglo-American Brush Electric Light Company (A-AB), the most prominent of early British electrical companies.[4] Mr. Phillips had applied for 10 shares of Great Western which he subsequently did not wish to pay for on the grounds that Great Western's prospectus had claimed exclusive rights to St. George Lane-Fox's incandescent lamp

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1 In *Burdett's 1884* (Vol. III, covering 1883), the original number (80,250) was again given due to the complications arising from the issue of new shares upon the merger of Swan United with Edison's English Electric Light. It wasn't until *Burdett's 1890* (Vol. IX, covering 1889, pp. 1144-45) that Swan United was treated as a separate company, distinct from Edison & Swan United, that the smaller, more accurate number of shares needed to calculate dividend payments was given.

2 The founders of companies were often called vendors because they transferred - that is, sold - assets to the newly-formed company. In some cases, vendors kept all the ordinary (voting shares) for themselves; any cash they raised from their Initial Public Offering came from the issue of preference (or other non-voting) shares or debentures.

3 Grossman and Imai (2013), 132-36, 138.

4 A-AB's conspicuous role in early British electrification is discussed in detail in the *BHR* article.

when in fact it had only the right to use the Lane-Fox lamp patents, not exclusive use of them, since A-AB's purchase of the Lane-Fox lamp rights (from whom Great Western had acquired them) had been bungled. In what appears to have been a test case, Great Western took Phillips to court to enforce payment of the outstanding call on the subscribed amount, but, to the company's distress, not only lost the case but was ordered to pay Phillip's legal costs[5], an outcome that greatly tempered any inclination of Brush concessionaires to pursue those who failed to meet calls on their partially-paid shares. The point to note here is that the prospectus constituted a legally enforceable contract and that, on the basis of the prospectus, application for shares signified a legally recognized obligation which could be annulled only on grounds of good cause (such as deceptive or invalid claims in the prospectus). Defaults on partially paid-up shares thus constitute a useful piece of market information where price quotations are scarce and *Burdett's* regularly reported the number (or equivalently, the nominal value) of a company's shares that might be in default of calls. High levels of defaults on a company's partially paid-up shares usually indicated distrust of the company's management and heralded difficulties ahead. Column (6) of Table 1 lists for each of the 39 electrical companies that raised money on Britain's stock exchanges in 1882 the amounts in default on partially paid-up shares. The contrast between the limited defaults on A-AB's shares, £134, and those of the shares of its 16 concessionaires, twelve British and four foreign, amounting to £20,599, is striking. The contrast is even more striking given that all the concessionaires had disappeared one way or another by 1886 while the final call of £2 on A-AB's partially-paid ordinary £10 shares was made only in 1889. The number of defaulting shares then was only 67 and the first ever noted by *Burdett's* for A-AB. Since by 1889, £8 had already been paid on A-AB's ordinary £10 shares, the most plausible explanation for the late defaults is not distrust of the company but that the holders of the shares had either died or otherwise ceased paying attention to calls on their partially paid-up shares.

[5] See *Telegraph Journal and Electrical Review*, December 23, 1882, p.497.

TABLE 1: *Details of Called Cash and Uncalled Cash Amounts for British Electrical Companies Active in 1882 (£)*

		(1) *Total Capital subscribed* '(£)	(2) *Nominal Value Shares Issued for Non-cash Assets* '(£)	(3) *Total Cash Subscribed* '(£)	(4) *Total Cash Paid In* '(£)	(5) *Unpaid Subscriptions* '(£)	(6) *Of Which Defaulted Calls* '(£)
1	**ANGLO-AMERICAN BRUSH E. L.**	458,235	181,475	276,760	276,626	134	134
2.1	BIRM. & WARWICK. BRUSH	100,000	25,000	75,000	75,000	0	0
2.2	BRUSH SCOTLAND	130,000	20,000	110,000	55,000	55,000	0
2.3	MIDLAND BRUSH E.L.& P.	114,110	18,000	96,110	41,800	54,310	6,255
2.4	DEVON & CORNWALL	45,615	9,250	36,365	15,183	21,183	3,000
2.5	EASTBOURNE*	19,090	2,050	17,040	19,250	0	0
2.6	GT WESTERN E. L. & P.	125,000	15,000	110,000	55,000	55,000	0
2.7	HAST & ST. LEN	27,220	5,440	21,780	21,780	0	0
2.8	HAMMOND E. L. & P.	125,000	35,100	89,900	89,900	0	0
2.9	METROPOLITAN BRUSH	500,000	0	500,000	297,549	202,451	4,085
2.10	PROVINCIAL BRUSH	99,205	0	99,205	47,410	51,795	4,385
2.11	SOUTHEASTERN BRUSH	100,000	2,000	98,000	49,000	49,000	0
2.12	YORKSHIRE BRUSH	122,500	50,000	72,500	72,500	0	0
	Summation 2.1-2.12	**1,507,740**	**181,840**	**1,325,900**	**839,372**	**488,739**	**17,725**
3.1	ANGLO-SPANISH	80,535	36,000	44,535	26,721	17,814	0
3.2	AUSTRALASIAN	150,000	30,000	120,000	120,000	0	0
3.3	INTERNATIONAL	201,340	48,000	153,340	116,684	36,656	1,988
3.4	SOUTH AFRICAN	100,000	0	100,000	49,114	50,886	886
	Summation 3.1-3.4	**531,875**	**114,000**	**417,875**	**312,519**	**105,356**	**2,874**
4	**SWAN UNITED**	**800,495**	**282,598**	**517,898**	**300,952**	**216,946**	**0**
5.1	ELECTRIC POWER STORAGE	529,800	529,800	0	0	0	0
5.2	FAURE ELECT ACCUMULATOR	600,000	398,580	201,420	99,429	101,991	0
5.3	INDIAN & ORIENTAL	175,000	25,000	150,000	67,500	82,500	0
	Summation 5.1-5.3	**1,304,800**	**953,380**	**351,420**	**166,929**	**184,491**	**0**
6.1	MAXIM-WESTON **	258,800	62,500	196,300	131,575	0	0
6.2	LANCASHIRE MAXIM-WESTON	50,000	10,000	40,000	14,038	25,962	25,962
	Summation 6.1-6.2	**308,800**	**72500**	**236,300**	**145,613**	**25,962**	**25,962**
7.1	MANCHESTER EDISON	300,000	100,000	200,000	50,000	150,000	0
7.2	EDISON'S INDIAN	197,460	75,000	122,460	57,755	64,705	3,475
	Summation 7.1-7.2	**497,460**	**175000**	**322,460**	**107,755**	**214,705**	**3,475**
8	**EASTERN ELECTRIC L & P**	**149,500**	**45,500**	**104,000**	**102,921**	**1,079**	**1,079**
9	**JABLOCHKOFF**	**194,805**	**100,000**	**94,805**	**76,421**	**18,364**	**18,364**
10.1	GULCHER	244,208	103,773	140,435	88,928	51,508	32,820
10.2	LONDON & PROVINCIAL	125,000	40,000	85,000	85,000	0	0
10.3	BRITISH ELECTRIC LIGHT	72,410	0	72,410	72,410	0	0
10.4	PILSON, JOEL	200,000	60,000	140,000	68,242	71,759	10,551
10.5	RAILWAY & ELECT	170,272	78,500	91,772	57,358	34,415	0
10.6	J.B. ROGERS	65,715	50,000	15,715	6,286	9,429	0
10.7	ELECTRIC LIGHTING CONTRACT	203,340	3,000	200,340	39,918	160,422	150
10.8	DUPLEX	35,000	0	35,000	35,000	0	0
10.9	ELECTRIC CARBON, STORAGE	75,000	7,500	67,500	30,000	37,500	0
10.10	PHOENIX ELECTRIC LIGHT	13,691	0	13,691	9,857	3,834	3,834
10.11	ELECTRIC "SUN"	88,795	50,000	38,795	20,226	18,569	0
10.12	W.T. HENLEY ELECTRIC L & P	100,000	30,000	70,000	20,000	50,000	0
	Summation 10.1-10.12	**1,393,431**	**422,773**	**970,658**	**533,224**	**437,435**	**47,355**
	Total sum	**7,147,141**	**2,529,066**	**4,618,076**	**2,862,331**	**1,693,210**	**116,968**

*Capital collected subject to a premium totalling £2,210. ** Capital issued at a discount totalling £64,725.

Since not all those who owed cash subsequently paid all they owed for the shares they applied for, the early entries of a company in *Burdett's,* frequently with inflated numbers of shares issued and exaggerated amounts actually collected, would tend to imply more cash was raised than was actually the case, but the accurate number would emerge in subsequent volumes, indicating the total (including issuance costs) amount of cash a company actually raised upon its initial public offering. Where appropriate, especially for short-lived companies that appeared in early volumes of *Burdett's,* we have supplemented or corrected *Burdett's* data with information taken from contemporary reputable sources, notably *The Economist* newspaper, which covered economic and market conditions generally, and *The Telegraphic Journal and Electrical Review*, which followed the electrical industry increasingly closely, so closely that by the 1890s the title of the publication was shortened to simply *The Electrical Review* (hereafter *ER*). Generally, unless noted otherwise, our company data is taken from *Burdett's Official Intelligence*.

For price data, we rely on *The Investor's Monthly Manual (IMM)*, published by *The Economist* newspaper from October 1864 until June 1930 and the most widely followed contemporary source of such data before 1914.[6] By 1882 the *IMM* had abandoned its early ambition of reporting the prices of all publicly-traded companies and reported quotations for only those shares traded, in the editor's judgment, in sufficient volume, a practice that meant the prices of most of Britain's early electrical firms were reported infrequently, especially after 1882. However, the prices of the few shares that were traded very heavily were reported daily in *The Times* of London newspaper. Although incomplete, the *IMM's* coverage of the electrical industry was much broader than *The Times*. The "City Notes" section of the *ER also* provided selective price coverage.

The companies raising this money are shown in Table 2 below (an abbreviated version of this table appears as Table 1 in the *Business History Review* article), arranged into eight groupings. The following three Tables provide more detail on three of the most important of these eight groupings: Table 2A, the domestic British concessionaires of the Anglo-American Brush Company (twelve companies in all, raising a total of some £768,000 in cash in 1882 alone, 35.6% of the 1882 total of £2,157,000) and £839,000 overall (when all available capital was finally collected); Table 2B, the foreign concessionaires of A-AB (four companies in all, raising a total of some £215,000, 10.0% of the 1882 cash total, and £313,000 overall); Table 1C comprising twelve companies, all engaged in some sort of equipment manufacture. Each of the companies in Table 2C raised relatively small amounts but, when aggregated, amounted to a significant total, £468,000 in 1882 alone (21.7% of the 1882 total) and £533,000 overall; these twelve companies appear in Row 8 of Table 2, labeled "The Rest".

[6] Dudley Edwards, (1993), 431-33. By 1914 the *IMM's* popularity was waning as sources of daily prices appeared.

Table 2. Summary of the Financial Performance of the Main Groupings of British Electrical Companies Active in 1882.						
		1.	2a.	2b.	3.	4.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before end-June 1914 (in 1882 only)	Cash paid to vendors for assets, usually patents	Nominal value of ordinary shares issued for assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-outs received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
1.	Anglo-American Brush Electric Light Corporation (December 1880)	£276,626 [1, 2] (£80,997 [3])	£132,950 [4]	£181,475 [5]	£395,295 [6,7]	£8,394 [8]
1A.	Brush domestic concessions: 12 companies (For details, see Table 2A.)	£839,372 [1] (£767,642 [1])	£370,750	£181,840 [5]	£136,123	None remaining as independent companies [6]. £1,178
1B.	Brush foreign concessions: 4 companies (For details, Table 2B)	£312,519 [1] (£214,505 [1])	£90,000	£114,000 [5]	£29,435	None remaining as independent companies [6]. £960
2.	Swan United Electric Light Company (May 19, 1882)	£300,952 [1] (£197,373 [1])	£122,000	£282,598 [5, 9]	£510,906 [10]	£76,075 [11]
Page Totals		£1,729,469 [1] (£1,260,516 [1])	£715,700	£759,913 [5]	£1,071,759	£86,607

1. Includes payments to promoters and brokers. 2. Sum excludes £92,555 cash raised by successor company, Brush Electrical Engineering (BEE), after 1889. 3. Calls of this amount were made in December 1882, but the cash was collected in early 1883. 4. This was the amount written off at the end of 1882 from the value of patents purchased and is assumed to be the maximum cash amount. 5. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 6. Includes £124,618 of dividends paid on the BEE shares (preference and ordinary, each numbering 43,421) issued to acquire all of Anglo-American Brush's (A-AB) ordinary shares in 1889, except those issued to acquire assets of St. George Lane-Fox and liquidating or merging concessionaires, whose dividends are included in the totals of the relevant concessionaires; £81,373 was paid on BEE shares exchanged for A-AB shares originally issued to cash buyers. 7. Dividends of £267,757 were paid in 1882, of which £121,496 was paid to the holders of partially-paid shares. 8. End-June 1914 market value of the BEE shares (preference and ordinary, each numbering 43,421) issued in 1889 to acquire all of A-AB's ordinary shares, except the 7,545 shares issued to acquire selected assets of concessionaires (two domestic and one foreign) undergoing liquidation; those share values are included in the totals of the relevant concessionaires. 9. Excludes £183,848 (nominal) of Ediswan shares issued *pro rata* to holders of Swan United's fully-paid shares. 10. Includes Swan United's share of Edison & Swan United [Ediswan] ordinary dividend payments, amounting to £257,444, plus £87,750 interest on Ediswan debentures from 1894, issued when the remnants of Swan United were absorbed by Ediswan. 11. The end-June 1914 market value of Ediswan debentures issued in 1894 in exchange for all outstanding ordinary shares of Swan United was £60,000; the comparable equity was valued at £16,075.

Table 2 [con't.] Summary of the Financial Performance of the Main Groupings of British Electrical Companies Active in 1882.

		1.	2a.	2b.	3.	4.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before end-June 1914 (in 1882 only)	Cash paid to vendors for assets, usually patents	Nominal value of ordinary shares issued for assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-outs received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
3.	Battery Grouping [1] (All January/February 1882)	£166,929 [2, 3] (£159,429 [2, 3])	£50,000 [4]	£953,380 [5,6]	£23,376 [7]	Fauré: voluntary liquidation by 1884.[8] I&O: in liquidation, 1885. EPS was £9,797 [9].
4.	Maxim-Weston Electric Company[9] (April 1, 1881)	£131,575 [2] (£10,000 [2])	£113,829 [10]	£62,500 [6]	£23,100[11].	In liquidation, 1889.
4A.	Lancashire Maxim-Weston Electric Company. (September 19, 1882)	£14,038 [2] (£14,038 [2])	£5,000 [12]	£10,000 [6, 12]	Nil.	In voluntary liquidation, 1884.
Page Totals		£312,542 [2] (£183,467 [2])	£168,825	£1,025,880 [6]	£46,476	£9,797

1. Comprised of three companies: Fauré Electric Accumulator Co.; Electrical Power Storage Co. (EPS); Indian & Oriental Electrical Storage & Works Co (I&O). 2. Includes payments to promoters and brokers. 3. Of which: Fauré, £99,429; EPS raised no cash publicly; I & O, £67,500. 4. Of which: £25,000 paid to Camille Fauré; EPS, nil; £50,000 paid by I & O. 5. Of which: £300,000 issued to Camille Fauré; £529,800 issued by EPS; £25,000 issued by I & O. 6. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 7. EPS's share of cumulated ordinary dividends paid by Electric Construction Corporation (ECC) after merger in 1889. There were no payouts made by the other two companies. 8. To the distress of shareholders, a meeting in June 1883 was called to announce that "the chairman of the board of directors (a Frenchman, M. Philippart) was under arrest and the remaining directors apparently unafraid or unwilling to meet the shareholders" (*ER*, June 2, 1883, p.459.). 9. EPS merged with Electric Construction Corporation (ECC) in 1889. The end-June 1914 value of shares were those allocated by ECC to EPS. 9. Name changed from Electric Light & Power Generator Company in June 1882. 10. Includes unspecified fees. 11. Consisting of two dividends, £6,925, plus liquidation payments of £16,175 estimated from last price (£0.0625) given for the company's ordinary shares in the *IMM* of January 31, 1889, 12. Paid to Maxim-Weston Electric.

Table 2 [con't.] Summary of the Financial Performance of the Main Groupings of British Electrical Companies Active in 1882.						
		1.	2a.	2b.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before end-June 1914 (in 1882 only)	Cash paid to vendors for assets, usually patents	Nominal value of ordinary shares issued for assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-out received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
5A.	Manchester & District Edison Electric Light Company (May 23, 1882)	£50,000 [1] (£40,000 [1])	£25,000	£100,000 [2, 3]	£20,150 [4]	Merged with Ediswan in 1896. End-June 1914 value of 10,000 Ediswan shares issued in exchange: £625.
5B.	Edison's Indian & Colonial Electric Company (June 13, 1882)	£57,755 [1,5] (£57,755 [1,3])	£25,000	£75,000 [5]	£4,721 [6]	£308 [7]
6.	Eastern Electric Light & Power Company (July 15, 1881)	£102,921 [1] (£81,381 [1])	£23,759	£45,500 [3]	Nil.	In liquidation in London in 1884.
Page Totals		£210,676 [1] (£179,136 [1])	£73,759	£220,500 [3]	£24,871	£933.

1. Includes payments to promoters and brokers. 2. "B" class (subordinate) ordinary shares issued to Edison, on which no dividends were ever paid. 3. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 4. £7,750 cash dividends paid on Manchester Edison ordinary shares plus £12,400 cash dividends paid by Ediswan to holders of the 10,000 Ediswan ordinary shares exchanged for all 20,000 of Manchester Edison's in 1896. 5. Authorized 40,000 "A" shares, 10,000 "B" (subordinate), both £5 nominal, of which 24,482 "A" shares were allocated for cash, with calls on 1,390 unmet; Edison received the "B" shares, plus 5,000 "A" shares (*ER*, June 2, 1883, 456). 6. Dividends paid by Brush Electrical Engineering (BEE) on the 1,645 shares issued in 1889 as Edison's Indian & Colonial's (since 1886 part of Australasian Brush) share of the 5,500 BEE shares issued in exchange for all of Australasian Brush' s. 7. End-June 1914 value of 1,645 BEE ordinary shares and 1,645 BEE preferred shares exchanged for Edison's Indian & Colonial share of Australasian Brush.

Table 2 [con't.] Summary of the Financial Performance of the Main Groupings of British Electrical Companies Active in 1882.						
		1.	2a.	2b.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before end-June 1914 (in 1882 only)	Cash paid to vendors for assets, usually patents	Nominal value of ordinary shares issued for assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-out received by holders of ordinary shares through end-June 1914	Date of termination or terminal value at end-June 1914
7.	Jablochkoff Electric Light & Power Company (18 May 1882)	£76,420 [1,2] (£66,364 [1,2])	£50,000	£100,000 [3]	Nil	In voluntary liquidation by 1884.
8.	"The Rest" 12 companies (For details, 2C.)	£533,224 [1] (£467,662 [1])	£136,387	£422,773 [3]	£65,633	None survived in any form to 1914.
Page Totals: 2 groups		£609,645 [1] (£534,026 [1])	£186,387	£522,773 [2]	£65,6343	Nil
Grand total: 8 groups		£2,862,331 [1] (£2,157,145 [1])	£1,144,671	£2,529,066 [2]	£1,208,740	£97,338

1. Includes payments to promoters and brokers. 2. The amount given in *Burdett's* adjusted for calls still in arrears more than a year after flotation, £18,384, reported in *ER*, October 13, 1883, 285. 3. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations.

TABLE 2A Summary of the Financial Performance of Brush Domestic Concessionaires

		1.	1a.	2.	3.	3a.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary shares issued before end-June 1914	Of which: cash raised in 1882	Total nominal value of ordinary shares issued before end-June 1914	Cash paid for Brush assets, usually patents	Nominal value of ordinary shares issued for assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-outs made to holders of ordinary shares (unless otherwise noted) through end-June 1914	Date of termination or value at end-June 1914
1.	Birmingham and Warwickshire Brush Electric Light Company, Ltd. (May 17, 1882, from *Electrical. Review*)	£75,000 [1]	£75,000 [1, 2]	£100,000[3] Never quoted in *IMM*.	£15,000 [2]	£25,000 [2, 3]	£535 [4]	Absorbed by Hammond Electric via a share swap (no cash), 10 November 1883.
2.	Brush Electric Light and Power Company of Scotland, Ltd. (April 25, 1882, from *Electrical Review*)	£55,000 [1]	£55,000 [1]	£130,000 [3] Peak market value, £38,500, *IMM*, August 1882.	£10,000	£20,000 [5]	£18,750 [6]	Nil. Voluntary liquidation under court supervision, 3 November 1883.
3.	Brush Midland Electric Light and Power Company, Ltd. (May 11, 1882, from *Electrical Review*)	£41,800 [1, 7]	£41,800 [1, 7]	£114,110 [2] Never quoted in *IMM*.	£14,000 [5]	£18,000 [2]	£7,865 [8]	£497 [9]
4.	Devon and Cornwall Electric Light and Power Company, Ltd.[10] (May 11, 1882)	£15,183 [1]	£15,183 [1]	£45,615 [2] Never quoted in *IMM*	£10,500 [11]	£9,250 [2, 11]	£1,818 [12]	Nil. Voluntary liquidation begun January 1883.[10]
Page Totals (4 companies)		£186,983 [1]	£186,983 [1]	£389,725 [2]	£49,500	£72,250 [2]	£28,968	£497

1. Includes payments to promoters and brokers. 2. Paid to Hammond Electric Light & Power Supply (HELPS). 3. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 4. Paid upon liquidation of HELPS in 1887 to the holders of the 3,566 fully-paid new shares issued by HELPS for the company's assets in November 1883. 5. Taken from Anglo-American Brush's (A-AB's) audited accounts for 1882 (*ER*, January 20, 1883, p. 59) rather than *Burdett's*. 6. Cash from liquidation; there were no dividends. Value estimated from the last quote in the *IMM* days before liquidation (£0.625) and assumes the fully-paid shares also received the liquidation payment. 7. The original subscribed amount of £48,055 adjusted for £6,225 of defaulted calls. 8. £265 in cash dividends from 2,648 A-AB ordinary shares issued to acquire company's remaining assets from liquidator plus £7,600 cash dividends from fully-paid shares (ordinary and preferred) of Brush Electrical Engineering (BEE) issued in exchange for A-AB shares upon merger in 1889. 9. End-June 1914 value of fully-paid BEE shares (ordinary and preferred, each numbering 2,648). 10. The first Brush sub-concession to enter liquidation. 11. Paid to Great Western Electric (see Row 6) for use of Brush rights. 12. Estimated from details of the liquidation proceedings reported in *ER* (September 12, 1885, p.242).

TABLE 2A [con't.] Summary of the Financial Performance of Brush Domestic Concessionaires

Company (Date of Company Registration)		1. Total cash raised by ordinary shares issued before end-June 1914	1a. Of which: cash raised in 1882	2. Total nominal value of ordinary shares issued before end-June 1914	3. Cash paid for Brush rights	3a. Nominal value of ordinary shares issued for rights (fully paid unless otherwise noted)	4. Total cumulated cash pay-outs made to holders of ordinary shares (unless otherwise noted) through end-June 1914	5. Date of termination or value at end-June 1914
5.	Eastbourne Electric Light Company, Ltd. (February 15, 1882)	£19,250 [1, 2]	£10,250 [1]	£19,090 [3] Never quoted in *IMM*.	Nil	£2,050 [3,4]	£39,283 [5]	Purchased by Local Authority in December 1899.
6.	Great Western Electric Light and Power Company, Ltd. (March 30, 1882)	£55,000 [1]	£55,000 [1]	£125,000 [3] Peak market value, £31,500, *IMM*, October 1882.	£13,750 [6]	£15,000 [3]	£24,790 [7]	£681 [8].
7.	Hastings and St. Leonard's-on-Sea Electric Light Co., Ltd. (March 7, 1882)	£21,780 [1]	£4,000 [1]	£27,220 [3] Never quoted in *IMM*.	Nil	£5,440 [3,9]	£32,087 [10]	Purchased by Local Authority in July 1898.
8.	Hammond Electric Light and Power Supply Co., Ltd. (HELPS) (January 24, 1882)	£89,900 [1]	£44,950 [1]	£125,000 [3] Peak market value, £368,590, *IMM*, May 1882.	£27,500 [11]	£35,100 [3, 12]	£10,323 [13]	Liquidation begun 1885; final pay-out, 1887.
Page Totals (4 companies)		£185,930 [1]	£114,200 [1]	£296,310 [3]	£41,250	£57,590 [3]	£106,483	681

1. Includes payments to promoters and brokers. 2. Includes premiums on shares issued after 1882. 3. Maximum nominal value; assumes all shares fully paid and before any write-downs. 4. 20% of issued shares (fully paid), capped at 600. 5. Of which £6,125 were dividends, the remainder purchase money paid by Local Authority; excludes money paid on shares issued to Hammond Electric Light & Power Supply (HELPS), which is included in totals for that company (as part of liquidation proceeds). 6. Taken from Anglo-American Brush's (A-AB's) published accounts for 1882 (*ER*, Jan20, 1883, p. 59) rather than *Burdett's*. 7. Cash from liquidation (£0.50 per share paid on the 28,000 shares issued for cash), plus a total of £363 subsequently paid in cash dividends on 3,633 Anglo-American Brush ordinary shares issued to acquire Great Western's assets from liquidator, plus £10,427 cash dividends paid on 3,633 ordinary and 3,633 preference shares of Brush Electrical Engineering following a share swap in 1889. In March, 1883, the partially-paid shares were written down by £55,000 in order to eliminate the uncalled liability. 8. End-June 1914 value of shares issued for Great Western assets in early 1885. 9. 20% of issued shares, capped at 600. 10. Of which £6,498 were dividends, the remainder purchase money paid by Local Authority; only 80% of total payments are included here, the remaining 20% is in totals for HELPS (as part of liquidation proceeds). 11. Taken from Anglo-American Brush's (A-AB's) published accounts for 1882 (*ER*, Jan20, 1883, p. 59) rather than *Burdett's*. 12. Issued fully paid to Robert Hammond; includes 20 Founder's shares (nominal value, £100). 13. Of which £3,998 were dividends, the remainder liquidation proceeds. Liquidation payments to former holders of Birmingham and Yorkshire Brush shares are included with totals for those companies. The expected value (£0.15 per share) of future payments from Eastbourne and Hastings on shares issued to HELPS is included in HELPS' liquidation payments.

TABLE 2A [con't.] Summary of the Financial Performance of Brush Domestic Concessionaires

		1.	1a.	2.	3.	3a.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary shares issued before end-June 1914	Of which: cash raised in 1882	Total nominal value of ordinary shares issued before end-June 1914	Cash paid for Brush rights	Nominal value of ordinary shares issued for rights (fully paid unless otherwise noted)	Total cumulated cash pay-outs made to holders of ordinary shares (unless otherwise noted) through end-June 1914	Date of termination or value at end-June 1914
9.	Metropolitan (Brush) Electric Light and Power Company, Ltd. (May 16, 1882)	£297,549 [1,2]	£297,549 [1,2]	£500,000 [3] Peak market value £24,796, *IMM* Oct. 1883 [4]	£195,000 [5]	Nil	Nil	Voluntary liquidation in 1884.
10.	Provincial (Brush) Electric Light and Power Company, Ltd. (May 16, 1882)	£47,410 [1,2]	£47,410 [1,2]	£99,205 [3] Never quoted in *IMM*.	£25,000 [6]	Nil [6]	Nil	Liquidated in 1884.
11.	South Eastern (Brush) Electric Light and Power Company, Ltd. (May 2, 1882, from *Electrical Review*)	£49,000 [1]	£49,000 [1]	£100,000 [3] Never quoted in *IMM*.	£10,000 [6]	£2,000 [3,6]	Nil	Liquidated in 1885.
12.	Yorkshire (Brush) Electric Light and Power Company, Ltd. (May 18, 1882, from *Electrical Review*)	£72,500 [1,7]	£72,500 [1,7]	£122,500 [3] Never quoted in *IMM*.	£50,000	£50,000 [3]	£673 [8]	Absorbed by Hammond Electric via a share swap (no cash), 10 Nov. 1883.
Page Totals (4 companies)		£466,459 [1]	£466,459 [1]	£821,705 [3]	£280,000	£52,000 [3]	673	Nil
Grand total: 12 companies		£839,372 [1]	£767,642 [1]	£1,507,740 [3]	£370,750	£181,840 [3]	£136,123	£1,178

1. Includes payments to promoters and brokers. 2. Actual amount raised after deducting calls in arrears. 3. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 4. Only quote in IMM. 5. Prospectus (*The Times*, May 17, 1882) noted that £175,000 was paid to A-AB (of which £25,000 was paid to Walter Webb, a lawyer, as part of flotation costs), and £40,000 to the company's vendors and promoters, City and Suburban Electric Company, Ltd. A further £20,000 was paid to HELPS for its assets in the City of London, 6. Taken from annual report of A-AB (*ER*, January 20, 1883, p.59) rather than *Burdett's*. 7. Paid to HELPS; the amount is taken from the record of an Extraordinary General Meeting of the company (*ER*, November 18, 1882) rather than Burdett's, which had initially recorded £150,000. 8. Liquidation proceeds paid to the holders of the 4,487 HELPS newly-issued shares paid to Yorkshire Brush's shareholders for assets acquired in November 1883. Includes value expected upon liquidation (£0.15) of future payments from Eastbourne and Hastings on shares issued to HELPS.

TABLE 2B. Summary of the Financial Performance of Brush Foreign Concessionaires								
		1.	1a.	2.	3.	3a.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before July 1914	Of which: cash raised in 1882	Total nominal value of ordinary shares issued before July 1914	Cash paid for assets, usually patents	Nominal value of ordinary shares issued for assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-out received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
1.	Anglo-Spanish (Brush) Electric Light & Power Company, Ltd. (18 May 1882)	£26,721 [1, 2]	£26,721 [1, 2]	£ 80,535 [3] Never quoted in *IMM*.	£4,000 [4]	£36,000 [3, 4]	£871 [4]	In liquidation, 1885.
2.	Australasian Electric Light, Power & Storage, Company, Ltd. (11 May 1882)	£120,000 [1]	£72,000 [1]	£150,000 [3] Peak market value: £69,750, *IMM*, Sept 1882.	£45,000	£30,000 [3]	£11,064 [5]	£723 [6]
Page Totals		£146,721 [1]	£98,721 [1]	£230,535 [3]	£49,000	£66,000 [3]	£11,935	£723

1. Includes payments to promoters and brokers. 2. By December 31, 1883, £26,721 had been raised by the issue of 8,907 shares (£5 nominal), with £3 paid up, apparently all in 1882. There is no evidence that any more money was ever raised. *Burdett's IV* reports a debit balance of £893 at end-December 1883. 3. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 4. £50,000 was paid to the vendors (£40,000 of which was paid to Anglo-American Brush [A-AB]), of which £36,000 could be in fully paid-up shares. *Burdett's V* (1886) reports that A-AB relinquished its £36,000 (nominal) in fully-paid shares in Anglo-Spanish in return for £500 cash and the return of the Brush patents for Spain. Assuming all other shareholders were paid at the same nominal rate per share, their payment would have amounted to £371. Unusually, *Burdett's V* did not identify (perhaps could not) the liquidator or place of liquidation. 5. Cash dividends paid on the 3,855 (both ordinary and preferred) fully-paid BEE shares exchanged in August 1889 for the original Australasian shares (i.e. excluding the 1,645 fully-paid BEE shares issued to holders of the shares of Edison's Indian & Colonial exchanged in 1886 for newly-issued, fully-paid shares of Australasian when the two companies merged; those dividends are included with the pay-outs of Edison's Indian & Colonial). 6.Each BEE preference share at end June-1914 was quoted at £0.1250. We have assumed the 3,855 unquoted ordinary shares were valued at half that rate, £0.0625 per share.

TABLE 2B [con't.] Summary of the Financial Experience of Brush Foreign Concessionaires								
		1.	1a.	2.	3.	3a.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before July 1914	Of which: cash raised in 1882	Total nominal value of ordinary shares issued before July 1914	Cash paid for assets, usually patents	Nominal value of ordinary shares issued for assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-out received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
3.	International Electric Co [1] (June 13,1882)	£116,684 [2,3]	£66,670 [2,3]	£201,340 [4] Never quoted in IMM.	£16,000 [5]	£48,000 [3,6]	£3,729 [7]	£237 [7]
4.	South African "Brush" Electric Light and Power Co. (May 13, 1882, from *Electric Review*)	£49,114 [2,8]	£49,114 [2,8]	£100,000 [4] Peak market value: £25,000, *IMM*, October 1882.	£25,000	None	£13,771 [9]	Liquidation begun in 1885; competed 4 March 1886.
Page Totals		£165,798 [2]	£115,784 [2]	£301,340 [4]	£41,000	£48,000	£17,500	£237
Grand Total (all four companies)		£312,519 [2]	£214,505 [2]	£531,875 [4]	£90,000	£114,000	£29,435	£960

1. Originally registered as Anglo-Austrian Brush Electrical Company; name changed in December 1882. 2. Includes payments to promoters and brokers. 3. Of this amount, £12,000 was paid by A-AB itself as calls of £1.50 were made on the 8,000 partially paid-up shares issued to A-AB in part payment for rights. 4. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 5. Taken from Anglo-American Brush's (A-AB's) audited accounts for 1882 (*ER*, January 20, 1883, p. 59) rather than *Burdett's*. 6. Unusually, 8,000 ordinary shares (each £5 nominal) were issued only half paid-up in exchange for patent rights, totaling £20,000 in nominal value. 5,600 fully-paid ordinary shares were also issued. 7. Dividends paid on 1,264 fully-paid shares of A-AB (and *pro rata*, the shares of its successor company, Brush Electrical Engineering [BEE]) issued by A-AB in exchange for assets acquired from International Electric's liquidator in 1886. Each BEE preference share at end June-1914 was quoted at £0.1250. We have assumed the 1,264 unquoted ordinary shares were valued at half that rate, £0.0625 per share. 8. Calls in arrears in 1883: £886. In 1884, the £5 nominal value of shares was reduced by 50% to ensure that further calls could not be made. 9. From liquidation proceeds only; no dividends were paid.

TABLE 2C: Summary of the Financial Performance of "The Rest."								
		1.	1a.	2.	3.	3a.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before end-June 1914	Of which: cash raised in 1882	Total nominal value of ordinary shares issued before end-June 1914	Cash paid for vendors' assets, usually patents	Nominal value of ordinary shares issued for vendors' assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-outs received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
1.	Gülcher Electric Light & Power Company, Ltd. (May 30, 1882)	£88,928 [1]	£70,218 [1]	£244,208 [2] Never quoted in *IMM.*	£25,000	£103,773 [2]	£11,000 [3]	Second (and final) liquidation, 1894.
2.	London & Provincial Electric Lighting & Power Generating Co., Ltd. (May 8, 1882, from *Electrical Review*)	£85,000 [1]	£85,000 [1]	£125,000 [2] Never quoted in *IMM.*	£30,000	£40,000 [2]	Nil	Compulsorily wound up, November 3, 1883.
3.	British Electric Light Company, Ltd. (October 4,1878)	£72,410 [1]	£37,800 [1]	£72,410 [2] Never quoted in *IMM.*	None noted. [4]	None noted. [4]	£6,922 [5]	Foreclosure by debenture holders, 1895. [6]
4.	Pilson, Joel & General Electric Company, Ltd. (May 15, 1882, from *Electrical Review*)	£68,242 [1]	£56,000 [1]	£200,000 [2] Peak market value, £82,087, Oct. 1882	£28,887 [7]	£60,000 [2]	£2,769 [8]	Voluntary winding-up resolution, 14 December 1888.
Page Totals: 4 companies		£314,579 [1]	249,018 [1]	£641,618 [2]	£83,887	£203,773 [2]	£20,691	Nil value.

1. Includes payments to promoters, and brokers. 2. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 3. £16,000 cash from first liquidation and re-structuring in May 1887, of which £5,000 paid to debenture holders. 4. A payment may have been missed by *Burdett's*, since the company had sold rights to the Gramme dynamo to London & Provincial Electric (see Row 2 above) before the end of 1882. British Electric Light (BEL) must also have paid something for the rights, which it in turn sold on. Hughes (*Networks*, 61) writes that BEL had also purchased rights to the Lane-Fox incandescent lamp. 5. Dividends only; paid in 1880-81. 6. Debentures were issued in 1888 to satisfy creditors, thereby (temporarily) avoiding liquidation. 7. Total includes £13,887 paid to patent holders in exchange for the cancellation or surrender of their fully-paid ordinary shares. 8. Dividends, £1,233; liquidation payout, £1,536, implied by last quote, made just before voluntary winding up.

TABLE 2C [con't.]: Summary of the Financial Performance of the "The Rest."								
		1.	1a.	2.	3.	3a.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before end-June 1914	Of which: cash raised in 1882	Total nominal value of ordinary shares issued before end-June 1914	Cash paid for vendors' assets, usually patents	Nominal value of ordinary shares issued for vendors' assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-outs received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
5.	Railway & Electric Appliances Co., Ltd. (March 31, 1882)	£57,358 [1]	£57,358 [1]	£170,272 [2] Never quoted in *IMM.*	£16,500 [3]	£78,500 [2]	Nil	In liquidation in 1887.
6.	J. B. Rogers Electric Light & Power Co., Ltd. (July 21, 1882, from *The Times*, August 2, 1882)	£6,286 [1]	£6,286 [1]	£65,715 [2] Never quoted in *IMM.*	£6,000	£50,000 [2,4]	Nil	Voluntary liquidation completed by early 1885.
7.	Electric Lighting Contract & Maintenance Co., Ltd. (March 24, 1882, from *Electrical Review*)	£39,918 [1]	£39,918 [1]	£203,340 [2] Never quoted in *IMM.*	None	£3,000	£20,000 [5]	Voluntary liquidation conducted by two former directors in 1883.
8.	Duplex Electric Light, Power & Storage Co., Ltd. (May 18, 1882, from *Electrical Review*)	£35,000 [1]	£35,000 [1]	£35,000 [2] Never quoted in *IMM.*	None [6]	None [6]	£15,943 [7]	Wound up and re-organized, 14 July 1883. Final liquidation, 1884.
Page Totals: 4 companies		£138,562 [1]	£138,562 [1]	£474,327 [2]	£22,500	£131,500	£35,943	Nil value.

1. Includes payments to promoters and brokers. 2. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 3. Paid to Maxim-Weston Electric. 4. Includes £10,000 in deferred ordinaries. £34,000 in deferred debentures were also issued but no interest was ever paid on them. 5. Approximately half of the paid-in capital was assumed returned to shareholders in the early voluntary liquidation conducted by former directors. 6. There was a promise of royalties, but no cash or shares were reported paid. 7. Of which: dividends £2,188; liquidation pay-out, £13,755, paid by Economic Electric Light Company to acquire Duplex's assets and resume operations. The successor company entered voluntary liquidation in 1884. No liquidation payment was ever noted.

TABLE 2C [con't.]: Summary of the Financial Performance of "The Rest."								
		1.	1a.	2.	3.	3a.	4.	5.
Company (Date of Company Registration)		Total cash raised by ordinary share issue before end-June 1914	Of which: cash raised in 1882	Total nominal value of ordinary shares issued before end-June 1914	Cash paid for vendors' assets, usually patents	Nominal value of ordinary shares issued for vendors' assets, usually patents (fully paid unless otherwise noted)	Total cumulated cash pay-outs received by holders of ordinary shares through end-June 1914	Date of termination or value at end-June 1914
9.	Electric Carbon Storage & Apparatus Company of Scotland, Ltd. (May 9, 1882, from *Electrical Review*)	£30,000 [1]	£30,000 [1]	£75,000 [2] Never quoted in *IMM*.	£10,000 [3]	£7,500 [3]	£9,000 [4]	Liquidated 6 September 1883 in Leith, Scotland.
10.	Phoenix Electric Light & Power Company (May 17, 1882, from *Electrical Review*)	£9,857 [1] From *ER*, Jan 30,1883 (p.37-38)	£9,857 [1] From *ER*, Jan 13,1883 (p.37-38)	£13,691 [2] Never quoted in *IMM*.	None.	None.	Nil.	Notice of winding up, 1883.
11.	Electric "Sun" Lamp & Power Company. (June 26, 1882, from *Electrical Review*)	£20,226 [1]	£20,226 [1]	£88,795 [2] Never quoted in *IMM*	Unspecified [5]	£50,000 [6]	Nil [7]	Liquidated in 1884.
12.	W. T. Henley Electric Light & Power Company (June 2, 1882)	£20,000 [1]	£20,000 [1]	£100,000 [2] Never quoted in *IMM*	Less than £20,000	£30,000	Nil	Liquidated around 1884. [8]
Page Totals: 4 companies		£80,083 [1]	£80,083 [1]	£277,486 [2]	£30,000	£87,500	£9,000	Nil value.
Grand total: 12 companies		£533,224 [1]	£467,662 [1]	£1,393,431 [2]	£136,387	£422,773	£65,633	Nil value. [9]

1. Includes payments to vendors and promoters. 2. Maximum nominal value; assumes all shares fully paid and before any write-downs or cancellations. 3. £10,000 cash was paid for freehold property, plus £15,000 (nominal) in ordinary shares issued half paid-up. 4. £9,000 was the assumed value of freehold property upon liquidation of the company. 5. An unspecified amount of cash (clearly less than £20,226) was paid. 6. Deferred ordinary shares. 7. A debit balance on profit and loss account stood at £6,083 at the end of December 1883. 8. Last recorded in *Burdett's* in 1884. The company appears to have been quietly absorbed by W. T. Henley Telegraph Works, a long-established company and a major shareholder from whom patent and other rights had been purchased. The bulk of the cash raised appears to have gone to Henley's Telegraph Works for various rights, including use of plant and equipment. 9. None of the 12 companies survived to 1914.

Our 1882 data does not include firms active in electrical activity in 1882 that did not also seek to raise money through the stock exchanges in that year. The most important electrical partnerships active in 1882 were Woodhouse & Rawson, Crompton & Company, and Elwell-Parker. Although all these businesses eventually went public (Woodhouse & Rawson and Crompton & Company before 1890) none ever enjoyed more than momentary success. Ferranti, Thompson & Ince, a private unquoted company created in September 1882 to manufacture and market the inventions of Sebastian de Ferranti, was never listed in *Burdett's*; it merged in November 1883 with (listed) Hammond Electric (liquidated in 1887). Like Ferranti's company, Edison's English Electric Light Company, created in March 1882, was a private, never-quoted, never-listed company, which merged in 1883 with the British domestic operations of (listed) Swan United Electric Light. Although his English Electric Light flagship company was never listed in Britain, Edison did establish in 1882 two British-listed electricity-supply companies, Manchester & District Edison Electric Light Company and Edison's Indian & Colonial Electric Company. The electricity-supply business that in 1885 became the profitable (listed) Brighton & Hove Electric Light Company was established in 1882 on an informal (unlisted, unincorporated) basis by Robert Hammond and a group of local businessmen; it became a public company in 1885 and was purchased by the local authority in 1894 for £17,000.[7] The partnership that evolved into the successful public (British) General Electric Company, with a market capitalization by 1914 of over £1,000,000 (a large amount for a manufacturing company at the time), was not established until 1886 and did not become a private (closely held and unquoted) limited company until 1889 and a listed, publicly quoted company only in 1900.[8]

THE SIGNIFICANCE OF WRITE-DOWNS AND WRITE-OFFS

Defaulting on the unpaid amounts due on shares for which application had been made and accepted was not the only way to avoid paying for newly-unattractive shares that had become difficult or impossible to sell.[9] Normally, any uncollected portion of the subscribed amount would be paid as directors exercised their right to call up the pledged money. This occurred, as we have seen, with A-AB, when the remaining £6 (on shares with an initial nominal value of £10, £4 of which had been paid upon application and allocation in December 1880) was paid up between 1883 and 1889. However, perhaps upon the receipt of disquieting information, shareholders might seek legal abrogation of their obligation to pay the money entailed in their application for shares. This could be done, subject to court approval assuring protection of the company's creditors, by a majority of voting shareholders, at either an Emergency General Meeting or an Annual General Meeting, requiring, whether the company directors agreed or not, that the nominal value of their shares be written down to an amount barely more than that which they had already paid or down to precisely the amount already paid up, thereby ensuring that most or all of any still-uncalled portion of their

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[7] Parsons (1939), *Power Stations*, 19-21.

[8] Jones and Marriott (1970), 72-74. Although the prices of GEC's preference (non-voting) shares were regularly reported in the *IMM* from 1900, the prices of its ordinary (voting) shares were never publicly reported (in any source) before 1914.

[9] The obligation lay with the shares' owner of record. Applicants always had the option of trying to sell their shares, thus passing the obligation to the new owner. However, if the applicant's unfavorable opinion of the company were widely shared, its shares would be difficult, if not impossible, to sell.

original application could never actually be called up without shareholders' explicit approval. A more extreme version of this action involved shareholders pressing for an immediate voluntary winding-up of their company, with the ostensible hope of retrieving during liquidation some value from the assets they had already paid for. Needless to say, either of these actions taken to avoid paying the full amount of the original subscription money would be invoked only if the majority of shareholders perceived that they had been seriously mistaken, for whatever reason, in their original application.

Write-downs and voluntary liquidations instigated by shareholders with still-uncalled liabilities occurred most notably, but not exclusively, with A-AB's concessionaires. Between them, A-AB and the 16 companies that bought concessions from it to employ its patented technologies secured very nearly half (49.3%) of all cash raised by electrical companies in 1882, amounting to £1,063,000 (of the total of £2,157,000 cash raised by all electrical companies in 1882). Including the £108,000 A-AB itself had raised in 1880, the amount the Brush group had raised by 1882 came to £1,171,000. These 17 Brush companies called up a further £257,000 in the following years. The total cash commitments of these 17 companies, including the unpaid cash that could be called up after 1882, were larger still, amounting to £2,021,000 (see Table 1). But of this total, £594,000 (29.4%) was never called up because most concessionaires sought to limit the losses they anticipated after A-AB distributed to its shareholders as a special dividend the bulk of the money they had paid for the use of the Brush and Lane-Fox patents.

Table 1 (Rows 2.1-2.12) shows for A-AB's 12 domestic concessionaires the relevant details: the total amount of money subscribed (Col. 1); the total capital in cash called up by end-June 1914 (Col. 3), and the amount, if any, that was never called up due to capital write-downs, liquidations, and defaults (Col. 5). As we have seen, Col. 6 indicated the amount of unpaid capital due to defaults. Col. 2 indicates the nominal value of shares issued for non-cash assets (plant, equipment, property, patents, licenses, etc.). Similarly, Table 1 (Rows 3.1-3.4) shows that data for A-AB's four foreign concessionaires. Of these 16 concessionaire companies, plus A-AB itself, only five called up essentially all the money originally subscribed: A-AB itself (defaults being both late and trivial); Hammond Electric Light & Power Supply Company (HELPS, by far the most technologically competent of all the Brush concessionaires); two small Brush sub-concessions created by Robert Hammond - Eastbourne Electric Light Company and Hastings & St. Leonard's-on-Sea Electric Light Company - and Australasian Electric Light, Power & Storage Company (which in 1886 had taken over Edison's Indian & Colonial Electric Company). These five were the only ones that saw enough promise in the Brush - Lane-Fox technologies to persist in developing them. As discussed in the *BHR* article, the shareholders of the remaining twelve did not share that confidence and successfully sought, by write-downs and voluntary liquidations, to limit their losses to the first calls they had met.[10] In this manner, 29.4% (£594,000) of the cash originally subscribed by A-AB (£277,000) and its concessionaires (£1,744,000) was lost to British electrification. To put these amounts in perspective, up to 1886, Thomas Edison, for his various electrical projects, had raised only the dollar equivalent of £370,000 ($1,800,000).

[10] Or had not met at all, since many shares in a variety of companies were in default on early calls. However, after the Phillips rebuff to Great Western, Brush concessionaires were extremely reluctant to pursue those who defaulted on calls, content simply to keep the money they had already collected .

Table 1 also provides company-by-company details of the amounts of subscribed capital for all British electrical companies left uncalled down to 1914. Some of the cash amounts subscribed for but left unpaid should be treated with caution. This is especially true for Electric Lighting Contract & Maintenance company, Ltd (Row 10.7). This was a relatively small company with only a modest amount (approximately 20%) called up on issued shares. This company launched in 1882 with great hopes that there would be a vibrant market for "an independent medium between the public and the various manufacturing and patentee companies" seeking to supply electrical services.[11] The large amount of uncalled capital would enable the company to expand seamlessly as demand for its services grew. However, these expectations were soon found to be hopelessly optimistic, and the company quickly entered voluntary liquidation in 1883 if not earlier (*Burdett's* is vague about the date), with two former directors administering the process before any of the large uncalled amount could be tapped. As Appendix Table C (Row 7) indicates, prompt liquidation enabled shareholders to recover at least half of the cash they had paid for the company's shares as well as escaping any liability for the large, still-uncalled portion.

OTHER REASONS FOR UNCALLED AMOUNTS ON SHARES

While precautionary write-downs and voluntary liquidations were the most prominent reasons why the funds pledged by shareholders were not fully called up, they were not the only ones. In some cases, company management, with at least shareholders' tacit agreement, did not feel the additional cash was needed and could be left with shareholders as a reserve, perhaps serving as collateral if the company needed to borrow.[12] For example, Swan United Electric Light Company, a profitable business, called up only £3.50 on the 78,949 shares of £5 nominal applied for, leaving £118,424 as an uncalled liability. Similarly, the creation in 1883 of the Edison and Swan United Electric Light Company (popularly known as Ediswan), the product of the merger undertaken to avoid debilitating patent litigation between Swan United's operations in Britain (Swan's extensive profitable foreign operations remained separate until 1896) and Edison's English Electric Light Company, resulted in 89,261 new partially-paid shares (£5 nominal) being issued to the shareholders of both constituent companies, with £2.50 deemed paid up on those shares issued to the holders of the partially paid-up shares (or equivalent) of both companies.[13]. The principals of the merging companies, those who held the fully-paid shares - most prominently Joseph Swan, Thomas Edison, and their respective close backers - received fully paid-up shares (12,139 *pro rata* to Swan shareholders with fully-paid shares; 5,000 to Edison's). Of the partially-paid up shares in the new company, holders of Swan United's shares received 49,261; 40,000 were granted shareholders of Edison's English Electric Light Company. In terms of the nominal values of the newly issued shares of Ediswan, Swan shareholders held 59.53%, Edison's English Electric Light's the rest. Note that after the merger, at least some of the former shareholders in Edison' English Electric Light now had a contingent liability whether or not they had previously had one.

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[11] *The Times*, March 25, 1882, 17.

[12] Grossman and Imai (2013), 138.

[13] Because Edison English Electric Light was a private company, we do not know its capital structure. However, the companies Edison created, including his London-listed Manchester and Indian & Colonial companies, usually had a tiered structure in which Edison, and perhaps other favoured backers, received shares with no contingent liability while others received shares with some sort of contingent liability.

On the 89,261 shares in the new company issued as partially paid-up, only a further £0.50 was ever called up on them, leaving £2 per share uncalled at end-June 1914, or £178,522 in total. Of this total, Swan United shareholders, who had received 49,261 partially-paid shares in the new company, still had an uncalled liability of £98,522. Swan United's foreign businesses continued to operate separately, competing with Edison in both the US and Europe, until 1896, when, after the expiry of its most valuable patents, it was folded into Ediswan, with the holders of Swan United's shares exchanging them for 4% debentures with a nominal value of £100,000 (market value £104,000 at time of issue). This exchange of debentures for Swan United ordinary shares resulted in the retirement of all Swan United's ordinary shares and hence the uncalled liability attached to them. Thus from October 1883 until the end of 1896, the uncalled liabilities of Swan United and Ediswan together totaled £296,946, 86.0% of the cash the two companies raised through the London Stock Exchange; the uncalled liability attached to the shares originally issued to Swan United's shareholders alone was £216,946 (including its share of Ediswan's uncalled liabilities). After Swan United's foreign operations merged with Ediswan, Swan United ceased to exist in any form and its shares were extinguished. At that point, the uncalled liability attached to Swan United's original shares was that of its portion of Ediswan shares alone, which remained at £98,522 (= 49,261*£2).

Another ultimately viable company that left shareholder obligations uncalled was Manchester & District Edison Electric Light Company. This company issued for cash 20,000 shares of £10 nominal, of which £40,000 (£2 per share) was immediately called up, leaving £160,000 as an uncalled liability (£8 per share). The first five years of the company's existence were difficult, resulting in 1887 in a write-down of £1 per share, but, unusually, leaving unchanged the amount uncalled at £160,000 (still £8 per share, with the nominal value of each share now £9, not £10, with £1 paid up). At the same time the company changed its name to Manchester Edison-Swan Company, reflecting a closer relationship between the two companies. 1887 marked a turning point for the re-named company as it was now sufficiently profitable to begin, and continue, paying dividends, albeit now on a smaller capital base. Seven years later, in the autumn of 1894, the company called up an additional £0.50 per share, making £1.50 per share called up and netting the company an additional £10,000 (less issue costs), leaving £150,000 in uncalled liability for shareholders. In 1896 Manchester Edison-Swan was absorbed by Ediswan in a share swap, 10,000 shares of newly-issued Ediswan shares (with £3 paid up on £5 nominal) being exchanged for all of Manchester Edison-Swan's. Manchester Edison-Swan then ceased to exist. This left the former shareholders of Manchester Edison-Swan with only an uncalled liability of £20,000 (£2 per share) upon their newly-issued Ediswan shares, a great reduction on the £150,000 of uncalled liability they had recently had with Manchester Edison-Swan.

THE ROLE OF ENGINEERING COMPANIES

British electrical investments in the 1880s may be divided into two groups: the companies that manufactured electrical goods (some or all of lamps, generators, transformers, switches, rectifiers, cables, meters, fuses, etc.) and those that bought such equipment in order to generate and distribute electricity to end users. While some companies initially sought to do both, notably A-AB and Maxim-Weston, even these companies relied upon concessionaires (especially A-AB) to buy most of their output and to provide the bulk of the electricity supplied to end users. Among concessionaires, only Robert Hammond's Hammond Electric Light & Power Supply Company (HELPS) had the technical ability to secure critical equipment on its own. Hammond accomplished this by

acquiring a significant (albeit minority) stake in the closely-held (unquoted) company of Ferranti, Thompson & Ince, thereby obtaining for HELPS a generator able to power a circuit with enough A-AB arc lamps to make them cost effective, A-AB's standard generator in 1882 proving to be so under-powered that the cost of electricity per arc lamp was prohibitive for many would-be users. While by 1884 A-AB's chief engineer, W. M. Mordey, had devised a much more powerful generator, Hammond had shown that his company was not condemned to wait helplessly until A-AB could produce adequate equipment. In forging links with the 18-year old Ferranti, Hammond had also shown himself an astute judge of inventive talent, although not all his inventive efforts were equally successful (notably his failed attempts in 1884 to manufacture incandescent lamps to avoid paying for the expensive lamps manufactured by Edison and Swan, these merged companies then in the process of snuffing out the last elements of competition in the British market for reliable incandescent lamps.)

Table 3: Cash Raised Through the Issue of Traded Securities by British Electrical Companies, 1880-1892

	(1) Total gross cash amount raised by year (**including** calls) (all electrical companies: engineering and supply) £ '000	(2) Col. (1) as % of 1882 issue	(3) Total gross cash raised by electrical engineering companies through issues of ordinary shares, **including** calls on shares issued in period 1880-1882 £ '000 (as % of 1882 amount in this Column)		(4) Total gross cash raised by electrical engineering companies through new issues of ordinary shares, **excluding** calls on shares issued in period 1880-1882 £ '000 (as % of amount in Col. (3))	
1880	£483[a]	22.4%	£483[a]	(47.0%)	£483[a]	(100.0%)
1881	£185[b]	7.7%	£135[b]	(13.1%)	£135[b]	(100.0%)
1882	£2,157*	100.0%	£967	(100.0%*)	£886	(92.1%*)
1883	£171	8.0%	£112	(11.6%)	£41	(36.1%)
1884	£192	8.9%	£126	(13.0%)	£45	(35.4%)
1885	£164[c]	7.6%	£137[c]	(14.2%)	£97[c]	(70.8%)
1886	£91	4.2%	£22	(2.2%)	£22	(100.0%)
1887	£628	29.1%	£54	(5.6%)	£26	(47.4%)
1888	£738	34.2%	£303	(31.3%)	£303	(100.0%)
1889	£839	38.9%	£541	(56.0%)	£516	(95.3%)
1890	£560	25.9%	£165	(17.0%)	£165	(100.0%)
1891	£1,166	54.0%	£219	(22.7%)	£219	(100.0%)
1892	£786	36.5%	£121	(12.5%)	£121	(100.0%)
Column Totals 1883-1892	£5,335	247.3%	£1,800	(186.2%)	£1,553	(86.3%)

*Calls announced in 1882 are included in the 1882 Row, even if the calls were actually paid in 1883.

a. £375,000 raised by Siemens Brothers; £108,000 raised by Anglo-American Brush. These companies were then all engaged in electrical engineering.

b. £100,000 raised by Electric Light & Power Generator Company (name changed to Maxim-Weston in June 1882; £34,610 raised by British Electric Light; £39,900 by Eastern Electric Light & Power; £10,000 by Dublin Electric Light.

c. £50,000 raised by Siemens Brothers, which was then focused almost entirely on the manufacture of underseas telegraph cables.

In the process of electrification, the equipment manufacturers played the central role for they were the main sources of the innovation needed to foster a robust demand for electricity. Table 3 records in Column 1 the cash amounts raised through stock exchanges between 1880 and 1892 of all electrical companies and in Column 3 the amounts raised by engineering companies alone. Column 4 records the volume of new money raised by electrical-engineering firms (i.e. excluding calls on shares issued between 1880 and 1882).

The experiences of the engineering companies covered in Table 3 were varied. Despite its demonstrated capability and a call-up of £44,950 in 1883-84, HELPS was forced into liquidation in 1885, a victim of the difficult circumstances that prevailed after A-AB's 100% dividend (as discussed in the *BHR* paper)[14]. Maxim-Weston's managerial incompetence resulted in a failed rights issue in May 1883, when, despite ostensibly attractive terms only a third of the offered shares were taken up.[15] Maxim-Weston staggered on until finally entering liquidation in 1889. Swan United (its British operations now merged with Edison's English Electric Light Company) enjoyed a profitable existence until the early twentieth century but never had the ambition to do more than manufacture incandescent lamps. And even in this niche electrical business, despite its past profitability and the availability of shareholders' uncalled subscription money, it declined to make the effort to stay abreast of the evolving metallurgical technologies (mostly developed in Germany) that resulted in much more durable incandescent lamps. Thus, as its patents expired and competition mounted, its sales and profitability faded. It paid its last dividend, a meager 2%, in 1908. By 1914 its ordinary shares were worth little. It was absorbed by British Thomson-Houston (then the British arm of GE of the US) after the War for a nominal sum.

Ironically, A-AB was the only electrical company floated in 1882 that survived into the post-1918 period in any meaningful form. Brush Electrical Engineering (BEE) was the direct successor to A-AB, emerging from a re-organization in 1889 in which two smaller companies – Falcon Engine & Car Works (a manufacturer of railway carriages acquired to support A-AB's entrance into the newly-booming electric-trolley business, the first significant power application of electricity), and Australasian Electric Light, Power & Storage – were acquired in all-share transactions. A-AB and its successor company were able to raise £233,600 in the period 1883-92 (including £75,000 in debentures). Of this amount, £128,300 (including £44,950 in calls made on closely related HELPS) almost exactly half, was obtained by making calls on the shares issued in 1880 (in HELPS' case, 1882). However, even with access to new money, BEE was not able to achieve consistent profitability, becoming nearly moribund by 1914, paying no dividends while its junior unsecured debentures traded at 40% of par. However, the demands generated by the First World War and the need afterwards to make good the electrical lag the War had revealed gave the company a new lease on life, although it remained smaller than GEC, British Thomson-Houston, and British Westinghouse. Brush Electrical Engineering grew, often through acquisitions, until it in turn was acquired by the Hawker Siddeley Group in 1957, beginning Brush's existence as a distinct unit of another company, an arrangement that has continued down to the present. At the end of 2018 it was a unit

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[14] Details relating to the management bonus that played a prominent role in the declaration of the controversial 100% dividend are found in the Appendix to this Discussion Paper.

[15] Maxim-Weston offered to pay dividends on the full nominal value of the newly issued shares, £1, rather than, as customary, on the smaller amount actually paid up, in this case only £0.25 (*Burdett's III* (1884)). For evidence of the managerial incompetence of Maxim-Weston, see Byatt (1979: 188-89).

manufacturing turbo-generators, transformers, and switch-gear for Melrose PLC, a corporate turn-around specialist that had acquired Brush when it took over FKI, a floundering construction company, in 2008.[16]

Mere survival, however, was not sufficient to provide an adequate basis for a successful electrical engineering industry. Unfortunately, the nature of British demand for electricity after 1882, undisturbed by innovation, did not encourage development. While American engineering firms, closely followed by their German counterparts, were developing the power applications of electricity, starting with urban traction schemes, which were destined to greatly expand the range of electrical applications and thus the demand for electricity, British demand remained largely fixated on D-C urban lighting schemes. The upsurge in electrical projects in the decade after 1882, beginning in 1887, was focused on such schemes. (See Table 3.) For example, the £628,000 raised in 1887, by far the largest amount raised since 1882 but still less than 30% of the 1882 total, was completely dominated by the launch of the London Electricity Supply Company (£531,800, 84.6% of the 1887 total), whose purpose was a great expansion of Sir Coutts Lindsay's lighting project in Bond Street, which involved funding Ferranti's ambitious but ill-fated Deptford project. The following years of electrical activity were similar. In 1891, when £1,166,000 was raised through the stock market for British electrical projects - the largest amount since 1882, but still only slightly over half of the amount raised that year – some 80% went to urban lighting schemes, of which, at 84%, London's share was again overwhelmingly the largest. Except for Ferranti's Deptford scheme, the London electricity-supply companies focused on conventional D-C systems in the style of Edison's Pearl Street model, which was then in the process of being displaced by the A-C systems pioneered by George Westinghouse and emulated by Thomson-Houston.

In this environment of muted electricity demand, a total of only six firms active in British electrical engineering (often combining this with established mechanical engineering interests) raised £1,460,000 of the total of £1,800,000 raised by such companies on stock exchanges between 1883 and 1892.[17] While cumulatively £1,800,000 was a large amount relative to that raised in 1882 (186.2% of the 1882 total raised by electrical engineering companies), only in 1889 was it (barely) more than half of the sum raised by engineering companies in 1882. In 1889, the year of peak fund-raising by British electrical engineering firms in this decade, these six firms raised £501,000 of the total of £541,000 raised by all British electrical engineering firms. The remaining £40,000 was raised by an enterprise called Laing, Wharton & Down Construction Syndicate, then doing construction work for the American firm Thomson-Houston busy installing its market-leading electric trolley

[16] Melrose annual reports from 2008. Judging from Melrose's standard practice of selling on acquired and reorganized companies within five or six years of acquisition, disposal of Brush Turbogenerators was proving unexpectedly difficult.

[17] The six companies that raised the bulk of the electrical engineering money between 1883 and 1892 were: (1) A-AB (including HELPS) and its successor, Brush Electrical Engineering, which raised £233,500 (including £129,875 in calls); (2) Woodhouse & Rawson United, £616,000 (not all in cash); (3) Crompton & Co, which raised £196,000; (4) Willans & Robinson, Ltd., which raised £144,625; (5) Dick, Kerr & Co., which raised £160,000; and (6) British Insulated Wire, Ltd., which raised £110,000. The most important companies raising the remaining £340,000 were Swan United (calls of £80,000); Siemens Brothers (£50,000 in new money, mostly for underseas cables); and Ediswan (£44,600 in calls). Together these three companies raised £174,600. The remaining £165,400 was raised by a number of small and short-lived electrical engineering companies.

system in Britain. In 1894 Laing, Wharton & Down was taken over in an all-share transaction by Thomson-Houston, by that time the dominant firm in the merger that created (American) General Electric in 1892. Moreover, many of the securities issued between 1883 and 1892 did not bring new money into British electrical engineering but rather monetized assets already in existence.

However, with the exception of British Insulated Wire, which "floated" (apparently as a private company with few shareholders) in 1890 and counted Sebastian de Ferranti among its directors[18], Brush Electrical Engineering set the dominant pattern for British electrical engineering before 1914 (and beyond): an inability to innovate and maintain profitability as electrical technology and applications evolved. Rookes Crompton had collaborated with Joseph Swan in early British installations of incandescent lighting systems. In 1887 he delivered a well-received, albeit battery-dependent, D-C lighting scheme for the Ring Theatre in Vienna, which served as a template for his larger residential lighting scheme in London. Development of that scheme prompted his stock exchange listing in 1888. However, Crompton had little interest in electrical pioneering. His early schemes were functional but depended upon expensive batteries, a strategy Edison had considered earlier but rejected as too expensive and cumbersome. He had no interest in A-C systems and power applications, the fields that came subsequently to dominate electrification. His firm suffered heavy losses from a misguided effort to market electrical space-heating systems in a field dominated by coal fires and gas space heaters. The business of Willans and Robinson also floated in 1888, but the £144,625 of securities (ordinary and preference shares virtually equally) issued by their new company were issued only to members of the previously existing partnership; new issues to finance expansion only followed years later. Willans & Robinson had supplied steam engines and turbines to Crompton and other electrical firms but came to find the demand for their high-speed engines displaced by turbines while their own turbines failed to match the effectiveness of Sir Charles Parson's. The company's market capitalization peaked in 1901; by 1914 it had fallen by more than 75%. Dick, Kerr, a Scottish-based partnership between W.B. Dick, a steel-rail contractor, and John Kerr, a steam engineer, first became involved with electrical engineering when laying the permanent way and supplying rolling stock for electric-traction schemes, first without the motors, then buying in the motors and fitting them to the carriages in their own workshops.[19] However, for its technological development the company depended heavily upon American personnel (including Charles Brush), and, following the early death of its capable American technical director from appendicitis in 1902, was unable to diversify successfully beyond traction as that market waned when the focus of British investment shifted overseas.

These three firms had all been involved, one way or another, with electrification before seeking a stock market quotation. Stock market flotations monetized their existing operations by means of tradable securities and, more importantly, subsequently enabled them to raise money for more rapid expansion. This was also true of Woodhouse and Rawson United, the engineering firm that raised the largest nominal amount of money in the period 1883-92, nearly as much as the other five firms combined (£616,000, including £91,800 in ordinary shares issued fully paid for existing assets and £166,000 in debentures). The partnership of Otway Edward Woodhouse (Wimbledon men's singles champion in 1880, who died in 1887) and F. L. Rawson began life in 1881 making a

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[18] Wilson (2000: 104) British Insulated Wire did not acquire a stock exchange listing until 1897; its shares were first quoted in the *IMM* in 1899.

[19] Wilson (1988) 72.

variety of simple electrical accessories (such as lamp holders). The partnership became a private limited (unquoted) company in January 1885, thereby raising only a modest amount of cash (£7,280) to further develop its electrical business, at this time consisting primarily of switchboards for low-voltage D-C circuits and incandescent lamps.[20] In July 1889 Woodhouse and Rawson used a stock-market listing to raise a much larger amount of cash (£191,450) to support the consolidation and enlargement of its operations, now expanded to manufacture and market internationally a wider variety of electrical accessories, and to pay the costs arising from an unsuccessful defense of a patent-infringement case brought by Edison & Swan United. Cash was also raised by issues of partially-paid up shares in 1891 and 1892. Unfortunately in this case our sources do not enable us to determine whether the shares issued fully paid-up were issued for cash or for non-cash assets, such as those of companies – like International Okonite Company, Ltd. - taken over by Woodhouse and Rawson United in 1890 or 1891. Thus, our sources indicate that the company may have raised as much cash as £342,400, or as little as £296,600 by means of share issue. Similarly, it is not clear how much, if any, of the £166,500 (nominal) of debentures were issued for cash rather than non-cash assets. Normally, for most companies, *Burdett's* was much clearer about whether shares were issued for cash or non-cash assets. But Woodhouse and Rawson United was an atypical company, much involved in promotions of and mergers with little-known companies, activities which could easily give rise to much non-cash security issue. In any event, the company didn't last long. Its accounts for the year ending in June 1892 unexpectedly revealed a debit balance of £86,734, coinciding with the end of dividend payments. Shareholders were not pleased. Following the report of a shareholders' committee of investigation, the company was issued a winding-up order on 17 May 1893. The Official Receiver's first, preliminary report tentatively suggested that the company's assets were sufficient to pay off the debentures in full and distribute some £29,000 to other claimants; the receiver for the debenture holders found this assessment highly optimistic.[21] When the final accounts were rendered a year later, the judgment of the receiver acting for the debenture holders was vindicated, his clients receiving only £32,000 of the £160,000 nominal value of their securities, leaving nothing for shareholders.[22] Notwithstanding a promising start, Woodhouse and Rawson United did little to advance British electrification.

Thus despite a variety of British electrical engineering companies raising substantial amounts of money through stock exchanges before 1893, no domestic British firm emerged capable of innovating across the broad range of electrical activity in generation, distribution, and applications, ranging from large-scale generators, turbines, high-voltage switch-gear and transformers, the whole gamut of motors, both D-C and the A-C, each best suited to particular uses, to consumer appliances such fans, refrigerators, and radios, comparable to GE and Westinghouse in the US and Siemens and AEG in Germany, all of which had established dominance in their respective countries by the mid-1880s.[23] Although GE, Westinghouse, and Siemens all had subsidiaries in Britain, they flourished only episodically at best. After doing good business in the 1890s, Westinghouse sought to expand its operations in Britain and began raising large amounts of money on Britain's capital markets via issues of debentures and preference shares in 1899 (the parent company in Pittsburgh held all the

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[20] In the mid-1880s Woodhouse and Rawson were serious competitors of Edison and Swan in the incandescent lamp market until losing a patent infringement suit to them. See Bright (1949: 106-108) and Byatt (1979: 155).

[21] *The Times*, December 21, 1893, p.4.

[22] *ER*, December 14, 1894, 713.

[23] Wilson (2000), 106.

voting equity), amounting to £2,550,000 (nominal) in preference shares and £1,241,000 (nominal) in debentures by 1914. British Westinghouse's difficulties in Britain stemmed from a large, expensive manufacturing facility built along American lines at Trafford Park, Manchester, which proved ill-suited for a British market electrifying more slowly and erratically than America's, particularly when large shifts in British investment away from domestic projects occurred. Britain's foreign investment (often steam railroads) resulted in much less demand for British-built electrical equipment than did domestic investment.[24] Excess capacity and high levels of debt meant that equipment was often sold cheaply, to the detriment of profitability. To make matters worse for the company, British Westinghouse initially suffered labour unrest stemming from the unreflective imposition of American work practices on British workers.[25] Similarly, both Siemens Brothers, following the death of Sir William Siemens in 1883, and British Thomson-Houston had difficulty directing their British operations from their headquarters in Berlin and New York respectively, especially in a relatively unstable investment-demand environment.[26]

The most successful electrical-engineering company based in Britain was the General Electric Corporation (GEC, no relation before 1914 to the American company with a similar name). This company began electrical operations in 1886 as a partnership among Bavarians who had settled in England. Initially it manufactured small electrical items (bells, low-voltage switches, etc.) and acted as a selling agency for German electrical equipment. Its business grew rapidly and in August 1889 organized itself into a private limited company, raising no money from the general public. GEC went public only in 1900, with a nominal value of £500,000, of which £250,000 was in ordinary shares and £250,000 in 5% preference shares. All the ordinary shares were issued to company founders for the assets they transferred to the new company, as was £70,000 of the preference shares, with the remaining £180,000 issued for cash. At the same time, £200,000 was issued in 4% debentures, of which £127,100 was used to retire debts of the predecessor company and £72,900 became available for expansion. GEC's 1900 fund raising through the London Stock Exchange served only as a supplement to its inherent profitability, not the main source of the resources the company needed for expansion. GEC's continued growth after 1900 owed much to the founders remaining close observers of the German electrical industry. The company was generally well managed and the most consistently profitable among British-based electrical engineering firms, able to finance continued expansion after 1900, mostly with retained earnings although it too was adversely affected by the sharp swings of British investment between foreign and domestic projects. The company was cautious in its expansion and was never a technological leader, relying upon astute sales practices and skillful emulation of proven German practice to maintain profitability. Only with the takeover in 1918 of Fraser and Chalmers, a firm with its origins in the manufacture of mining equipment that later ventured, with only limited success, into heavy electrical equipment, did GEC gain the capacity to operate across the entire range of electrical activity. Only in 1920, with its links to German firms broken by the War, did it open a research facility.[27]

Since peace-time Britain before 1931 was an economy open to international trade and foreign direct investment, the losses due to relatively backward domestic engineering firms were at

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[24] Kennedy (1987), 148-163.

[25] Jones and Marriott (1970), 46-51.

[26] Siemens (1957), 313-314.

[27] Jones and Marriott (1970: 88-89).

least partially contained. But engineering backwardness did mean that innovations tended to be introduced relatively slowly into the British economy as foreign firms became aware of the gaps in British electrical provision. There were few examples of successful indigenous innovation, so new ideas spread relatively slowly.[28] Newcastle Electricity Supply Company (NESCo) was an exception to this grim rule due to its capable consulting engineer, Charles Merz, being both an astute observer of foreign practice and well-placed, due to family connections, to introduce innovative ideas to an attentive audience. For example, NESCo, at Merz' urging, was the first electricity-supply company in Britain to offer three-phase A-C, when it was already the dominant current in the U.S. and Germany. Tellingly, Merz had served his apprenticeship with the British subsidiary of Thomson-Houston, the most consistently innovative of the American duopoly.

ENGINEERING EDUCATION

An important consequence of the slow process of electrification in Britain was that there was relatively little demand for university-trained electrical engineers, graduates able to draw upon the expanding base of scientific understanding to guide them in formulating improved practice in, for example, high-voltage transmission and motor and circuit design. Thus, despite its impressive science base, Britain lacked the university training in engineering that generated much electrical innovation in Germany, a grave handicap in an open economy. It also lacked the commercial imperatives that quickly caused American universities, most notably but not only the Massachusetts Institute of Technology (MIT), to emulate German educational practice and thus expand America's own science base. Indeed, driven by its own perceived development needs, GE forged increasingly close links with MIT, from which it drew many of the men who staffed the research laboratory it created in 1900 as well as those conducting more routine operations. Elihu Thomson, one of the men who played an important role in the creation of GE in 1892, became President of MIT in 1920. In 1930, Gerard Swope, then President of GE and an 1895 electrical-engineering graduate of MIT, was instrumental in securing the appointment of Karl Compton, a prominent physicist then at Princeton, as President of MIT, in an effort to enhance the scientific and mathematical rigor of engineering education. The impact that increased rigor in engineering education had might be illustrated by two examples of men educated as electrical engineers who then made important scientific contributions beyond electrical engineering: Claude Shannon (1916-2001), whose Master's degree in electrical engineering at MIT greatly advanced digital circuit design theory and laid the foundation for what is now known as information theory; and John Bardeen (1908-1991) the only man yet to win two Nobel Prizes in physics, the first in 1956 for work on semiconductors, the second in 1972 for work on superconductivity.

To conclude, electrification was one of the transformational technologies (the other was organic chemistry) of the latter half of the 19th century. How it was conducted has ramifications that are still being felt.

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[28] An important exception to this generalization was Charles Parson's development of steam turbines, which were more quickly taken up abroad than in Britain (Byatt, 1979: 146).

BIBLIOGRAPHY

Bright, Arthur A. (1949) *The Electric Lamp Industry: Technological Change and Economic Development from 1800 to 1947* (Cambridge, Mass.)

Byatt, I.C.R. (1979) *The British Electrical Industry, 1875-1914: The Economic Returns to a New Technology* (Oxford).

Dudley Edwards, Ruth (1993) *The Pursuit of Reason: The Economist, 1843-1993* (London).

Kennedy, William P. (1987) *Industrial Structure, Capital Markets and the Origins of British Economic Decline* (Cambridge).

Parsons, R.H. (1939) *The Early Days of the Power Station Industry* (Cambridge, 1939).

Jones, Robert and Oliver Marriott (1970), *Anatomy of a Merger: A History of G.E.C., A.E.I. and English Electric* (London).

Siemens, Georg, A. F. Rodger translator (1957) *History of the House of Siemens, Vol. I: The Era of Free Enterprise* (Freiburg/Munich).

Wilson, John F. (1988) *Ferranti and the British Electrical Industry, 1864-1930,* (Manchester).

Wilson, John F. (2000) *Ferranti, A History: Building a Family Business, 1882-1975, Vol. I* (Lancaster).

APPENDIX: The presentation and discussion of Anglo-American Brush's accounts conducted by new management in the wake of the controversial payment of the 100% dividend in August 1882, taken from the *Electrical Review* of 2 and 9 February 1884.

The Direct United States Cable Company, Limited.

THE report of the directors for the six months ending 31st December, 1883, states that for the half-year the revenue, after deducting out-payments, amounted to £73,472 12s. 7d., against £77,469 8s. 3d. (after similar deductions) for the corresponding half-year of 1882, being a difference of £3,996 15s. 8d., against the half-year under review.

The working and other expenses, including interest on debentures and income tax, &c., amounted to £21,824 4s. 5d., leaving a balance of £51,648 8s. 2d. as the net profit of the half-year, making, with £1,852 7s. 11d. brought forward from the previous half-year, a total balance of £53,500 16s. 1d. For the corresponding half-year of 1882, the working expenses and other payments amounted to £22,786 3s. 2d.

Interim dividends of 1¼ per cent., each for the quarter ending 30th September, 1883, paid 16th November, 1883, and for the quarter ending 31st December, 1883, payable 16th February, 1884, together amounting to £30,355, have been declared.

The sum of £19,621 7s. 7d. has been set aside to the reserve fund (thereby increasing that fund to £340,000), leaving a balance of £3,524 8s. 6d., which has been carried forward.

An interruption has occurred in our short section of cable, which, however, does not affect the receipts, as the traffic passes by the alternative land line between Torbay and New York. The repair will be effected as soon as possible.

The Anglo-American Brush Electric Light Corporation, Limited.

THE report of this company runs as follows :—

1. The directors beg to submit to the shareholders the annual report and balance sheet for the year ended 31st December, 1883.

2. The shareholders are already aware that soon after the last general meeting, one half of the directors who constituted the board retired, and that in May last Lord Thurlow, the present chairman, and Mr. H. C. Gibbs, accepted seats at the board; and later in the year it was augmented by Mr. Edward Woods, Vice-President of the Institution of Civil Engineers.

3. One of the first duties that devolved upon the board as reconstituted, was to appoint successors to the late general manager, the secretary, and the engineer. They appointed Mr. Frank Wynne as general manager and engineer, and Mr. Emile Garcke as secretary.

4. The board found that considerable reorganization of the corporation's business was desirable, and it was also thought necessary, after a careful investigation of the books and accounts, to remodel the system of bookkeeping. An eminent firm of accountants, Messrs. Cooper Brothers & Co., have, at the request of the board, reported on the state of the books. In their report on the system of bookkeeping, as introduced by the new management, they state that they "consider that the new system of accounts in the office, and in the factory, is generally good, and apparently meets the requirements of the business of the corporation."

5. It was thought well to consummate this re-arrangement of the books of the corporation before issuing the balance sheet for the past year; and in submitting the latter to the shareholders, the directors, after consultation with counsel and with Messrs. Cooper Brothers & Co., have decided to deal with the accounts as hereafter explained, debiting profit and loss account with the various large amounts shown.

6. This course was chiefly rendered necessary by the fact, that in the accounts, as made up for 1882, no provision appeared for subsequent fluctuations in the value of those assets of the corporation, which were more or less subject to variation, and with a view to avoiding the results of the manufacturing operations being affected in future by circumstances not connected therewith, the board have decided to debit revenue account at once and for all time, with full provision for all such items as tend to uncertainty.

7. For these reasons the value of the whole of the shares held by the corporation in the subsidiary companies has been provided for. Some of these have been surrendered, but the corporation is still either possessed of, or entitled to, shares to the amount of £99,200.

8. The proposed adjustment also includes an amount of £51,632 10s., which is treated as paid under the settlement of accounts with Mr. Lane-Fox, but which is, for the most part, merely a reversal of items in last year's balance sheet. Other amounts augmenting the adverse balance will be explained later on, and are in chief the following:—Liquidation of accounts, £31,069 19s. 1d.; amount written off book value of stocks, £16,058 3s. 7d., and special reductions of stocks and patents referred to later.

9. It will be seen, therefore, even without further details, that the largest items in no way properly belong to the normal profit and loss account, being entirely outside the corporation's business for the year. In order that this large adverse balance may not stand in the way of the payment of dividends in future, and with a view to placing the corporation in a better financial position, the board recommend that such a reduction of the capital be made as will admit of the elimination of this deficit from the balance sheet.

10. The board have not only written off every doubtful asset, but have made the most ample provision for all contingencies, in the hope that this will free the balance sheet from any elements of uncertainty, and contribute to regularity in the payment of dividends in future.

11. The efforts of the board have been earnestly directed to freeing the corporation from the annoyance of expensive and vexatious litigation, and from all the misunderstandings affecting its relations with some of the subsidiary companies, and with Mr. Lane-Fox; and it affords the directors much satisfaction to be able to congratulate the shareholders upon the successful result of their negociations, which proved exceedingly difficult and protracted.

12. . . . . .

13. . . . . .

14. All allegations and charges made against the corporation by the Hammond Electric Light and Power Supply Company, in the matter of the "Lane-Fox" patents, having been unconditionally withdrawn and abandoned, as being unsustainable, the action brought by the corporation against that company, has been settled on a basis both honourable and satisfactory to the corporation. The result of the settlement is that certain apparatus, part of which was not in exact accordance with contract, is taken back by the corporation at net invoice prices, the Hammond Company contracting to re-purchase from the corporation apparatus to an equal amount. The Hammond Company have paid the corporation an amount in cash, and the remaining items of account have been adjusted. The various large money claims set up by the Hammond Company have been abandoned, and the directors are glad to say that good feeling has been restored between the two companies, and they look forward to a considerable renewal of business.

15. The shareholders will recollect that in 1882, Mr. Lane-Fox undertook to re-purchase from the corporation, for a sum of £50,000, certain patents, originally acquired from him, and known as his Distribution Patents. In part payment of this sum, the corporation was entitled to retain any sum due in account with Mr. Lane-Fox, which sum was estimated at nearly £14,000. Mr. Lane-Fox, however, maintained that a much larger sum was due to him, and cross actions were pending between him and the Corporation. As the amount payable to the corporation under the above-mentioned arrangement was a very large one, and as the corporation understood that Mr. Lane-Fox had not been successful in effecting a re-sale, upon the result of which he counted, to enable him to settle the claim of the corporation, and as moreover the corporation also considered that it would be an advantage to them to be in a position to release their licensees if necessary, from the covenant binding them exclusively to sell the "Lane-Fox" lamp, the directors deemed it advisable to enter into a compromise with Mr. Lane-Fox, whereby the corporation retained all monies due to him in their hands, and subject to the said existing rights of the corporation's licensees and purchasers, Mr. Lane-Fox took back his patents and agreed to grant the corporation a full and free license to manufacture, sell and use, and to permit their customers in the United Kingdom to use and employ all his inventions connected with electricity, and any improvements that might be made therein. He further undertook to pay to the corporation 20 per cent. of any profits which might accrue to him in respect of the sale or use of any of his patents until the corporation had received the sum of £20,000. In completing this arrangement the corporation agreed to transfer to Mr. Lane-Fox £14,000 in shares of the International Electric Company, and to make him a cash advance, in respect of which they have a first charge on all his electrical patents. The board feel satisfied that in making this settlement a tedious and costly litigation has been satisfactorily disposed of.

16. The action brought by the owners of the "Gramme" patent against the corporation in 1882, is not being actively proceeded with by the plaintiffs. On the contrary, the corporation have successfully applied for security for their costs, and unless the plaintiffs find the same, it may be anticipated that the action will be dismissed. Should, however, the action be proceeded with, the advice of counsel, most competent to form an opinion on electrical patents, is that the corporation need not be under any apprehension as to the result.

17. Beyond the action above-referred to, and two comparatively unimportant cases relating to alleged contracts of long standing for goods in dispute, the corporation are entirely free from litigation.

18. . . . . .

19. . . . . .

20. . . . . .

21. . . . . .

22. The called-up capital has been increased by £26,999, the amount of the call made in August last.

23. The total liabilities, including ample provision for all disputed claims upon the corporation, now stand at only £7,888 0s. 1d. In this respect the position of the corporation compares most favourably with the corresponding period of the previous year.

24. The value of the patents is shown at the figure to which it was reduced at the last general meeting, *plus* £758 16s. 10d., the amount paid for annuities during the year; and the directors propose that this asset be reduced to £25,000.

25. Property and plant stand at £57,082 19s. 10d., a figure which the directors consider represents a minimum valuation of this asset. The corporation's main works and offices in Belvedere Road are within the lines of limitation of the South Eastern Railway Company's Act, 1882, and they will, therefore, be sold to that company under the Act, if the widening of the line is proceeded with.

26. The stocktaking was carefully and minutely carried out in October last, involving a great amount of labour over a considerable period of time. It was therefore considered desirable and sufficient to arrive at the stock, on 31st December, by taking the result of the survey in October as a basis, modified by the receipts and issues during the last three months of the year.

27. . . . . .

28. . . . . .

29. As a result of the winding up of the Brush Electric Light and Power Company of Scotland, and of the Dublin Electric Light Company, the licences for Scotland and Dublin have reverted to the corporation, and on the other hand, the shares held by the corporation in the Scottish Company have been surrendered.

30. The next item "To liquidation of accounts £31,069 19s. 1d.," is the result of the liquidation and part relinquishment of sundry claims; the item also includes a large amount written off in respect of bad debts, and ample provision against loss in the remaining litigation and any possible contingencies.

31. The item "To amount written off book value of stocks, £16,058 3s. 7d." represents the deficiency between the value of the stock as per survey, and the value according to the ledgers, which is to be attributed to the former absence of proper factory books, and to the diminished value of certain electrical apparatus, of which a very large stock was manufactured in 1882. The directors propose that stocks be further reduced by 50 per cent., the extent to which this asset is considered at present unavailable.

32. The directors after consultation with the firm of accountants already mentioned, have set aside the amount of £99,200 as provision against the shares held by the corporation in the subsidiary "Brush" companies, and any variation that may hereafter occur in the value of these shares will not affect the amount rendered available for dividends as the result of the manufacturing operations.

33. Profit and Loss Account II. represents the net result of the year's operations. The directors regret that the great depression in electric lighting enterprise should have been of so long and unexpected duration. It is to be attributed to this unforeseen and uncontrollable state of affairs, and to the fact that the establishment charges during the early part of the year were unduly high that the account shows so large a loss. It includes, however, 10 per cent. for depreciation of plant and buildings.

34. The heavy loss shown is, however, no indication of the present position and future prospects of the corporation, to arrive at which it is necessary to compare the position of the corporation at the beginning of the year (when the charges and expenses were extremely high, and the business was from various causes much disorganised) with its position now. It affords the directors much satisfaction that their efforts to reduce the expenses and reorganise the business have been in the highest degree successful. The general charges are 50 per cent. less in the last quarter than they were in the first, and the economy effected in other departments is equally considerable;—*ex. gr.* while the volume of business during the last half-year has exceeded that of the first half by about 70 per cent., the amount of wages paid, and quantity of material consumed in manufacture have been relatively reduced.

35. In connection with this, the directors would mention that the removal of the incandescence lamp department, from Portpool Lane to the Victoria Works, is now on the point of being completed. The directors rely on this concentration of departments to effect a large saving, and inasmuch as the vacated building is situated in a very rising locality, the directors have every reason to believe that they will be able to dispose of the lease at a profit.

36. The deficit shown in the accounts is, as already explained, chiefly due to the manner in which the directors have deemed it advisable to deal with the shares in the subsidiary companies, to adjustments of accounts consequent upon the settlements that have been effected with Mr. Lane Fox and others, bad debts written off, and special reductions of stocks and patents accounts.

37. It will be impossible so long as this large balance remains to the debit of profit and loss account for the corporation to distribute as dividends, the profits which result from its manufacturing business: and the directors recommend, after a most anxious consideration of the position, that the shares of the corporation be reduced by £5 each. A resolution to this effect will be submitted to the general meeting.

38. If this arrangement is sanctioned, the corporation would be enabled to apply to the payment of dividends any profits, earned during the current and future years, in excess of the amount of £1,616 3s. 2d. to which the adverse balance would then be reduced; and the position of the corporation would, after the reduction of capital proposed, be briefly as follows:

Dr.	£	s.	d.	*Cr.*	£	s.	d.
Capital, viz. 13,701 shares £5 each fully paid	£68,505			Patents..	25,000	0	0
26,999 shares at £5 each, £3 paid	80,997			Plant and buildings ..	57,082	19	10
	149,502			Stock	47,190	1	3
Less calls unpaid ..	1,225			Debtors	21,043	3	9
	148,277	0	0	Cash	4,232	12	1
Creditors	7,888	0	1	Shares	99,200	0	0
Provision against shares	99,200	0	0	Balance	1.616	3	2
	£255,365	0	1		£255,365	0	1

39. The Board trust that this arrangement will, on reflection, meet with the approval of the shareholders, and in view of the profits which the Board confidently believe the corporation would then be able to distribute, they venture to express the opinion that the reduction of capital recommended would, if adopted, operate to the entire satisfaction of the shareholders. In the event of this recommendation being accepted by the shareholders, the Board propose that the holders of the shares, upon which £8 only have been paid, should have the option of placing themselves in a position of equality with the holders of the fully paid shares by paying off the remaining liability upon their shares in advance of calls, and thus enable them to participate fully in the future prosperity of the corporation.

40. The Board see every reason to anticipate a good and profitable manufacturing business in the future, and in support of this it may be pointed out that even if the present rate of business should not increase during the current year, the profits may fairly be estimated as sufficient to provide for a satisfactory dividend upon the reduced capital. In making this estimate the Board have taken the establishment expenses at the figure at which they now stand, although they rely upon being able to effect still further reductions.

BALANCE SHEET, 31ST DECEMBER, 1883.

Dr.	£	s.	d.	£	s.	d.
To CAPITAL:						
13,701 shares of £10 each, fully paid	137,010	0	0			
26,999 shares of £10 each, £8 called up	215,992	0	0			
40,700	353,002	0	0			
Less calls in arrear	1,225	0	0			
				351,777	0	0
To CREDITORS:						
Amounts due to sundry creditors, and provision for disputed claims	6,562	15	11			
Bills payable	1,325	4	2			
				7,888	0	1
To PROVISION against amount of shares in subsidiary Companies, per contra				99,200	0	0
				£458,865	0	1

Cr.	£	s.	d.	£	s.	d.
By PATENTS.						
Purchase price of patents, patent rights, &c., as per last balance-sheet	179,466	7	9			
Less amount written off December, 1882	132,950	0	0			
	46,516	7	9			
Add payments during 1883 ...	758	16	10			
	47,275	4	7			
Less proposed reduction (see report)	22,275	4	7			
				25,000	0	0
By PROPERTY.						
Value of plant and buildings, 31st December, 1882	66,491	1	10			
Less amount written off December, 1882	6,649	2	2			
	59,841	19	8			
Add payments during 1883 ...	3,583	11	3			
	63,425	10	11			
Less 10 per cent written off for depreciation	6,342	11	1			
				57,082	19	10
By STOCK.						
Goods manufactured, in process of manufacture, and materials at Works	94,380	2	6			
Less proposed further reduction (see report)	47,190	1	3			
				47,190	1	3
By DEBTORS.						
Amounts owing to corporation by sundry debtors, after deducting all bad and doubtful debts ...	16,373	7	7			
Goods on sale or return	3,473	16	3			
Bills receivable	1,195	19	11			
				21,043	3	9
By CASH at bankers and in hand ...				4,232	12	1
By SHARES in subsidiary companies (*See Provision, per contra*) ...				99,200	0	0
By BALANCE of profit and loss account, No. 1	179,949	15	6			
By BALANCE of profit and loss account, No. 2	25,166	7	8			
				205,116	3	2
				£458,865	0	1

The corporation have a claim to 20 per cent., to the extent of £20,000, of any profits made by Mr. Lane-Fox in respect of the sale or working of his electrical patents.

The corporation have also a claim to one-third of the profits made under the Brush patents for France.

Certificates of shares in subsidiary companies to the nominal amount of £38,500 have not yet been received.

PROFIT AND LOSS ACCOUNT (No. 1) 31ST DECEMBER, 1883.

	£ s. d.	£ s. d.
Dr.		
To Liquidation of accounts with Mr. St. George Lane-Fox, including £14,000 in shares of the International Electric Light Co. transferred to him		51,632 10 0
„ Relinquishment of shares in the Scottish Electric Light Co., less cash and shares received in respect of the corporation's claim as preferential shareholders	11,362 10 0	
„ Relinquishment of shares in the Dublin Electric Light Co. ...	9,000 0 0	
		20,362 10 0
„ Re-purchase of Foreign patents		1,500 0 0
„ Liquidation of accounts with subsidiary companies and others, bad debts written off, and provision for doubtful debts and other contingencies .		31,069 19 1
„ Amount written off book value of stocks		16,058 3 7
„ Provision for shares still held in subsidiary companies... ...		99,200 0 0
„ Proposed further reduction of stocks		47,190 1 3
„ Proposed reduction of patent account		22,275 4 7
		£289,288 8 6
Cr.		£ s. d.
By balance of profit and loss account, 1882 (covering the sum of £50,000, then taken as payable by Mr. St. George Lane-Fox, part of the amount written off on the other side		109,338 13 0
„ Balance		179,949 15 6
		£289,288 8 6

PROFIT AND LOSS ACCOUNT (No. 2) FOR THE YEAR ENDED DECEMBER 31ST, 1883.

	£ s. d.	£ s. d.
Dr.		
To GENERAL CHARGES, viz:—		
Directors' fees, covering the period from 1st July, 1882, to 31st December, 1883	941 1 11	
Salaries	6,308 17 5	
*Law charges	3,794 17 1	
Rent	1,661 16 11	
Insurance	224 11 3	
Rates and taxes	546 3 8	
Gas and water	518 15 2	
Postage and telegrams	102 15 7	
Stationery, printing, &c.	947 9 11	
Travelling and other expenses, and petty disbursements	1,833 2 2	
Carriage and freight	1,010 3 2	
Fuel	2,336 18 0	
Probationary and public installations	642 9 0	
Experimental work	264 11 6	
†Discounts	4,798 5 5	
Interest	601 3 11	
		26,533 2 1
To 10 per cent. depreciation of plant, buildings, &c.		6,342 11 1
		£32,875 13 2

* Law charges include retainers to scientific witnesses' notaries' and Parliamentary and other agents' charges, printing, stamps, translations, shorthand writers' notes, and other disbursements.

† This item arises from the system of bookkeeping during the first half of the year, and consists of discounts allowed to subsidiary companies under their licences.

	£ s. d.
Cr.	
By Manufacturing account	7,709 5 6
„ Balance	25,166 7 8
	£32,875 13 2

The third ordinary general meeting of the Anglo-American Brush Electric Light Corporation, Limited, will be held at the Cannon Street Hotel, London, E.C.. on Wednesday, the 6th day of February, 1884, at three o'clock in the afternoon, for the purposes of receiving the report of the directors, and accounts for the year 1883, and of transacting the ordinary business of the corporation.

Immediately after the ordinary business is transacted the subjoined resolution will be proposed as special business :—

"That the capital of the corporation, which now consists of £800,000, divided into 80,000 shares of £10 each, of which 13,701 shares have been issued, and are fully paid, and 26,999 shares have been issued and have £8 per share paid, or called up thereon, be reduced to £400,000, divided into 80,000 shares of £5 each, and that such reduction be effected by cancelling paid-up capital which has been lost or is unrepresented by available assets, to the extent of £5 per share, upon each of the 40,700 shares which have been issued, and by reducing the nominal amount of all the unissued shares from £10 to £5."

Should the resolution be passed, either with or without modification, by the required majority, it will be submitted for confirmation, as a special resolution, to an extraordinary meeting, which will be subsequently convened.

The Jablochkoff Electric Light and Power Company, Limited.

IN a circular of January 24th, the Secretary, Mr. Francis R. Reeves, says :—"To the Shareholders,—I am instructed by my directors to forward you the accompanying notice of a special meeting, convened for the purpose of passing resolutions for the voluntary liquidation of the company.

"Since the meeting held on the 24th October last, every effort has been made by the directors to carry on the business, but, in the face of hostile petitions for liquidation, and without support from the shareholders, it has been found impossible to do this without entirely reconstructing the company.

"It is, therefore, proposed to submit to the meeting a scheme for the formation of a new company, to purchase and work the business of the present company. The terms of the arrangement will, it is believed, be such as will commend themselves to the approval of the members.

"There are petitions now down for hearing for the compulsory winding-up of the company, and it need scarcely be pointed out that the value of the property consists in its being kept as a going concern ; consequently, if the company is stopped and a forced sale be effected, the assets will be so greatly depreciated that the shareholders will probably lose everything.

"There appears no alternative, therefore, but to adopt and pass the resolutions in the notice herewith, and I am to ask you to fill up and return me, on or before Monday, the 28th inst., the accompanying form of proxy, in case you should be unable to attend."

The resolutions referred to, are as follows :—

"1. That this company be wound up voluntarily.

"2. That William Augustine Spain, of 76, Coleman-street, London, chartered accountant, be and is hereby appointed liquidator of the company.

"3. That a general authority be and is hereby conferred on the said liquidator to transfer the business and property of this company to a proposed new company when incorporated, and to be named the Jablochkoff and General Electric Company, Limited, or such other name as shall be decided upon, and to receive in compensation for such transfer, shares or other like interests in the said company, as contemplated by the 161st Section of the Companies' Act, 1862. And for that purpose to enter into an agreement with the said new company for the sale to that company of this company's business and property upon the terms of the draft agreement in that behalf to be submitted to the meeting."

Anglo-American Telegraph Company, Limited.

AT a meeting of the board of directors of the Anglo-American Telegraph Company Limited, held on the 25th ult., it was resolved (after placing £37,500 to the credit of the renewal fund for the quarter ending 31st December, 1883), to recommend to the proprietors at the next half-yearly general meeting of the company, to be held on the 8th February next, the declaration of the following dividends, all free of income tax.

1. A balance dividend of 20s. per cent. upon the ordinary consolidated stock for the year ending 31st December, 1883.

2. A balance dividend of 30s. per cent. upon the preferred stock for the year ending 31st December, 1883.

3. A first and final dividend of 10s. per cent. upon the deferred stock for the year ending 31st December, 1883, all payable on 9th February next.

After paying the foregoing dividends, there will be a balance of about £600 to be carried forward to the next account. The above dividends, together with those already paid, will amount to 3¼ per cent. on the ordinary consolidated stock, 6 per cent. on the preferred stock, and ½ per cent. on the deferred stock, for the year 1883.

The register of transfers will be closed from 25th January to the 8th February, both days inclusive.

Swan United Electric Light Company, Limited.

AN extraordinary general meeting of the shareholders of this company was held at the Guildhall Tavern, on Tuesday, Mr. J. S. Forbes presiding. The meeting was called to approve of the bill which is to be introduced into Parliament in the ensuing Session.

The Chairman moved, "That the bill which is proposed to be introduced into Parliament in the ensuing session, intituled 'A bill to transfer to the Edison and Swan United Electric Light Company (Limited), certain rights, powers, and obligations of the Edison Electric Light Company (Limited), and of the Swan United Electric Light Company (Limited), and for other purposes,' is approved, subject to such additions, alterations, and variations, as Parliament may think fit to make therein."

Mr. Stevenson, M.P., seconded the motion, which was carried unanimously.

A vote of thanks to the chairman closed the proceedings.

were very old, and in miserable condition. With regard to their concession, if he had anything to say, he thought it would be very unwise, in the interests of the shareholders, to say it. As to the securities, which one gentleman had suggested should be given up, in order that they might invest in more profitable ones, even if they could realise those alluded to at a profit, they would have to pay very much dearer for others to replace them; consequently he saw no advantage in making any alteration.

The resolution was put and carried unanimously.

The Chairman then moved, in accordance with the recommendation of the directors, that a dividend for the half-year to the 31st December, 1883, of 15½ per cent. be declared, and become payable on the 1st March next.

This was seconded and unanimously agreed to, the usual vote of thanks terminating the proceedings.

Anglo-American Brush Electric Light Corporation, Limited.

THE third ordinary general meeting of this corporation was held at the Cannon Street Hotel on Wednesday afternoon, for the purpose of receiving the report of the directors, and the accounts for the year 1883, a *resumé* of which was given in our last issue. Lord Thurlow presided.

The Secretary (M. Emile Garcke) having read the notice convening the meeting,

The Chairman said the report and accounts had been laid before the shareholders in an unusually extensive and exhaustive manner, as it was the wish of the board to conceal nothing whatever from them, but to place before them in a true and impartial light as clear and complete a statement as it was in their power to do. An almost complete change of management had taken place since last spring. Sir Henry Tyler, their former chairman, who, he was bound to submit, rendered most important and conspicuous service to the corporation in its earliest stages, but who, unfortunately, by the policy he pursued in distributing the solid fruits of his success, lost the confidence of the great body of the shareholders, had necessarily retired from office, and several of the directors who had identified themselves with his policy had naturally followed. To fill the vacancies thus caused, Mr. Gibbs and Mr. Woods had been appointed, and he could say, without hesitation or fear of contradiction, that their selection was singularly happy. Mr. Gibbs brought to the board not only eminent business qualifications and a very great commercial connection, but real administrative power, and took, moreover, an interest which was as practical as it was earnest and deep in the science of electric lighting. Mr. Woods, as Vice-President of the Institution of Civil Engineers, perhaps better than anyone else in that room, could pierce the future of electric lighting, and appreciate the part which that corporation was likely to play in its development, and he thought his presence that day afforded the best index to what were his convictions on that important point. As regarded himself, he could assure them that it was only after he felt satisfied that it was hopeless to think of persuading Mr. Sellon—the one man pre-eminently fitted for the post—to undertake the duties of chairman, and after satisfying himself of the present position of the corporation, and of the hopeful and honourable foundation on which it rested, that he finally made up his mind to endeavour to serve them to the best of his ability. The board, thus reconstituted, entered at once upon its labours, with the fixed determination of probing the accounts of the corporation to the bottom, and of introducing economies and reforms in all departments wherever consistent with efficiency. They were fortunate in securing the services of Mr. Frank Wynne as general manager and engineer, and M. Emile Garcke as secretary, to carry out their instructions. Those gentlemen had thrown themselves heart and soul into the business of the corporation, and had laid the directors and the shareholders under considerable obligation. Passing to the accounts, his Lordship said the mode of bookkeeping which had previously been employed was found to be in many respects unsatisfactory, and in all respects very cumbrous, and such was the difficulty experienced that it was thought desirable to call in the services of an eminent firm of chartered accountants, Messrs. Cooper Bros. & Co., who had gone most carefully into the accounts, and to them they were indebted for the valuable report and the much more simple method of bookkeeping which had been introduced. The basis of the balance-sheet was necessarily to be found in the figures of the balance-sheet for the preceding year, and those figures had to be discounted not only by the actual business transactions during the last twelve months, but by the adjustment of various heavy outstanding and indefinite claims, for which no adequate provision had been made. It had been the aim of the board to make this balance-sheet as clear and comprehensive a document as possible. They had concealed done of their difficulties, and, notwithstanding that there was a heavy adverse balance, there was nothing, in their opinion, in the present position to cause uneasiness, or to interfere with the prospect of a good dividend in the future, and possibly an interim dividend in June, if only the recommendation they would make were carried out in its entirety. He thought it was desirable that they should disabuse their minds of the idea that large sums set out on both sides of the account represented hard cash completely lost; he held that they represented assets in many cases of great, although undoubtedly fluctuating, value—assets which remained their property, although in the meantime difficult of appreciation or realisation. The corporation had been engaged in expensive litigation; but he could, without hesitation, congratulate them upon the results. They had adjusted matters with Mr. Lane-Fox; had arranged their difficulties with the Hammond Company; and had received judgment in their favour in one of the cases pending at the time the report was issued, the other having been satisfactorily settled out of court; while, as a result of certain negociations skilfully and energetically conducted by Mr. Sellon, a satisfactory arrangement had been arrived at with the British Electric Light Company in regard to the litigation respecting the Gramme patents. That Company admitted that the Brush machine was no infringement of their patent and that they had no claim in respect of it on the corporation; and the corporation, on their part, agreed to pay a royalty to the owners of the Gramme patent upon all machines in which that patent was used. The directors, therefore, came before the meeting absolutely free from all litigation. They had also arrived at satisfactory working agreements with their subsidiary companies; and here he desired to say that for such agreements to work well it was necessary that they should be satisfactory to the subsidiary companies as well as to themselves; no one-sided agreement would have been of avail. The board realised that the subsidiary companies had their difficulties to contend against as much as they had, and that they were entitled to every assistance it was in their power to give them. With regard to one of those companies—the Metropolitan—they deeply deplored the difficulties that had arisen between the board and the shareholders, but for his (the chairman's) own part, he was not quite without hope that they might yet be arranged; they had done all in their power to render assistance to the Metropolitan Company, and should continue to do so. As regarded the Scottish and Dublin Companies, which had gone into liquidation, he maintained that the policy of this board was quite sound. The great body of both those companies desired to go into liquidation, and this company rendered it easy for them to do so by waiving their shares and in exchange taking back their licenses and the power to enter their territories. The Scottish Company, whether from over caution or from supineness he could not say, did little or nothing; but since the liquidation of that company, the directors of this, the parent company, had entered upon an active canvas, and had already seen enough to justify them in the conviction that they had a very large field for doing an important and lucrative business. The board had also been successful in obtaining several large cash payments that were contested, and he might say that at present they owed no man anything; they owed their creditors a sum under £8,000, while on the other hand their trade debtors owed them £17,000; then, as regarded the banking account, they had a balance in their favour of £4,000, whereas at the time he joined the board eight months ago they owed the bank £25,000, and the debt had previously been £40,000. They were in negociation with the view of completing heavy contracts, not only with leading commercial houses, but with foreign and colonial governments, and they had a largely increasing business of private installations. It was an old saying that nothing succeeds like success, and in their case the corner seemed to have been fairly turned. Their general charges had been reduced by one half during the last six months, while on the other hand the volume of their business had increased by over 70 per cent.; the only thing, therefore, that seemed necessary now, was to find the means of placing the shareholders in a position to profit by this welcome change. Their law advisers had informed them that that could only be legally done by reducing their capital. Of course, a proposal of that kind was one that was not to be lightly made; nor would it be unless it appeared, firstly, absolutely necessary to enable them to reap the benefits of the future, and secondly, that it was justified by reasonable prospects of such benefits accruing. They held that the report showed that those two conditions were fulfilled. Their shares, at half their present nominal value, would shortly rise in the market to a much larger figure than they now stood at, and they would also have the consciousness that they were entering upon a period of accruing dividends. Their proposal was to reduce the capital by one-half. The effect would be to enable them to participate in the profits they were now earning, and which, otherwise would have to be applied to reducing the large adverse balance. One point in this connection he wished to remark upon. Under Article 56 of the Articles of Association the directors were entitled, when paying a dividend of over 10 per cent., to a sum equal to one-tenth of all profits beyond that 10 per cent. It was proposed to bring forward at the next general meeting a resolution "that in Article 56, line 5, on page 21 of the printed Articles of Association the words one-twentieth be inserted in place of the words one-tenth." This point had escaped the notice of the board until after the report was issued, otherwise they would have come before them that day for permission to alter the article. In the meantime, however, the directors would act in regard to this matter as if the alteration had already been made. The board were unanimously of opinion that the application of the remedy they proposed, by reducing the capital, would at once place the corporation in a brilliant financial position, and they therefore desired to press its adoption as strongly as they could; at the same time they fully recognised that it was a matter which should not be pressed unduly against the judgments of the shareholders, and if, after giving mature and serious consideration, they did not agree with the board in the expediency of adopting that course, they would then, although with the greatest reluctance, be compelled to withdraw the resolution, at all events for the present. His lordship, whose remarks were frequently applauded, concluded by moving the adoption of the report and accounts.

Mr. J. S. Sellon, vice-chairman, seconded the resolution, and said the board desired to impress the shareholders with the necessity of showing, as partners in this property, a united front, and

a determination to live down and put to shame the machinations from which they had suffered so greatly hitherto. He did not believe the most sanguine of them could realise at present the immense applications which must emanate from this new industrial science, and he expressed his unvaried belief in the unassailable value of their patents, and that they possessed a very firm foundation for successful and economical electric lighting. He would repeat what he said last year as to the absolute proof they could give of the great efficiency of the Brush machine. They had at that time carried on the City lighting for two years over a circuit of three and a-half miles with a single wire of small diameter, at less than £100 per mile, and one machine which had not given a moment's trouble. They were still working under the same advantages, a state of things, he ventured to say, that was unparalleled, and as yet unattained with equal facility, certainty, and economy by any other system. Very great and important improvements had been made upon the original and excellent type of Brush machine, which removed it even further out of the range of competition.

Mr. Sutherland said, that although he contended that very great blunders had been committed in the financial administration of the affairs of the corporation, he thought they ought not to judge too hardly those who had had the management of an affair which had turned out unfortunately, as he believed for them all. In the somewhat gloomy aspect of affairs, there was a certain glimmering of hope; he alluded to the undoubted and exquisite quality of the Brush machine, of which he had had opportunities of obtaining personal testimony of the most extensive character. The progress of electric lighting was as absolutely certain as anything could possibly be; it might be delayed, it might be hampered, it might be opposed by the great interest of gas, and on account of its weakness, and the folly and quarrels among the promoters of the electric light itself; but it could not fail to be seen that the progress of electric lighting was becoming day by day, and night by night more general and more real. One thing he saw clearly, and that was that the various inventors who had been opposing each other hitherto, in order to carry out the work they were destined to achieve, must sooner or later come together and amalgamate, and they would not only require all the capital they had, but a great deal of fresh capital in order to carry out the work that was quite open before them. He could not but feel that this re-adjustment of their capital was a most painful and sad necessity, but at the same time a very wise and prudential measure.

A Shareholder inquired whether the sum put down as by manufacturing account, £7,700, was for the whole twelve months.

The Chairman said that sum, no doubt, represented the manufacturing profit as shown on the twelve months, but for a great part of the twelve months, notably the first six, and even to some extent for a longer period, they had been engaged in a great deal of work which was not of a remunerative character, such as exhibition work, and that item represented really the profits realised within the last few months.

Mr. Hammond alluded to the Articles of Association, by which the directors were empowered to divide among themselves one-tenth of the profits beyond 10 per cent., and said if the directors, under that article, divided amongst themselves eighteen months ago the sum of £230,000, ought they not now to refund that amount? It was admitted that it ought not to have been divided, and if there had been a mistake, surely those gentlemen ought to refund the money.

Mr. Nettlefold said he had hoped the distribution which took place eighteen months ago would not have occupied the time of this meeting. There was no report that the division was wrongly made. Of course, they all had their opinions as to the wisdom of that distribution, but it was very easy to be wise after the event. At the time the assets in the hands of the company were imagined to be very valuable; those assets were shares of the subcompanies, which afterwards proved of very little value. He had gone very carefully into figures, and if the directors were able to carry their resolution, they would soon see their shares at par; they would not only pay off the adverse balance, but would be able to pay a dividend of 5½ per cent.

The Chairman said they must look at things as they were now; it could be of no avail to wrangle over what took place eighteen months ago. What was done then—he had it on high legal authority—by Sir Henry Tyler was perfectly legal, and he must remind shareholders that it received their approval at the time. Having expressed the opinion that the shares in the subsidiary companies might yet turn out of considerable value, his lordship, referring to the remarks of Mr. Sutherland, the chairman of the Peninsular and Oriental Company, observed that he was informed that that company were considering whether they should not have their whole fleet lighted by electricity.

The motion was then put to the meeting, and carried unanimously.

Mr. Sellon moved the re-election of Lord Thurlow, Colonel Steuart, and Mr. Woods, as directors, and paid high tribute to the worth of each of those gentlemen.

Mr. Brooksbank having seconded, their re-election was unanimously agreed to.

Mr. Ash moved the re-election of Messrs. Cooper Brothers & Co., as auditors, which was seconded by Mr. Braithwaite, and carried.

The Chairman then moved the following resolution:—"That the capital of the corporation, which now consists of £800,000, divided into 80,000 shares of £10 each, of which 13,701 shares have been issued, and are fully paid, and 26,999 shares have been issued and have £8 per share paid, or called up thereon, be reduced to £400,000, divided into 80,000 shares of £5 each, and that such reduction be effected by cancelling paid-up capital which has been lost or is unrepresented by available assets, to the extent of £5 per share, upon each of the 40,700 shares which had been issued, and by reducing the nominal amount of all the unissued shares from £10 to £5." His opinion was that if they pursued this course it would have the effect, not of halving, but of doubling the value of their property, for it would open up the road at present closed against the declaration of dividends. He could assure them that the incidence of the proposal to deal with the £8 shares in precisely the same manner as with the £10, or fully-paid shares, had been carefully considered, and the conclusion arrived at was that it was impossible to do otherwise, with justice to the whole body of the shareholders. They had carefully worked out figures, and they found that, if the sum of £35,300—which would represent 10 per cent. on the present paid capital—were available for dividend, the fully-paid shareholders would receive, in the event of the proposed reduction of the capital taking place, about 17s. 4d. instead of the £1 which they would at present receive, while the present partly paid up shareholders would receive 17s. 4d. instead of 16s. as now. If the course recommended were pursued it would be in the power of the £8 paid-up shareholders, by paying the remaining £2 in advance of call, to place themselves in a better financial position than that now occupied by the £10 shareholders. It was important that that resolution should be passed, and in its present shape. It rested with the shareholders to further strengthen the hands of the directors in the battle they had to conduct.

Mr. Sellon seconded the resolution, and said, the fullest consideration and utmost solicitude had been given to arrive at an equitable and agreeable solution of a very difficult problem.

Mr. Hall said, supposing the £8 shareholders should choose to remain as they were, he did not imagine there was any intention on the part of the directors to call up the remaining £2, and that they would receive dividend *pro rata* with the other shareholders.

The Chairman said that was the view taken by the board.

The resolution was carried unanimously, and a vote of thanks to the Chairman having been accorded, the meeting terminated.

Jablochkoff Electric Light and Power Company.

An extraordinary general meeting of the shareholders of this company was held at the City Terminus Hotel, Cannon Street, on Friday, the 1st inst., Mr. James Wilson presiding.

Mr. F. R. Reeves read the notice convening the meeting, which was held to pass the following resolutions:—1. That this company be wound up voluntarily. 2. That William Augustine Spain, of 76, Coleman Street, London, chartered accountant, be and is hereby appointed liquidator of the company. 3. That a general authority be and is hereby conferred on the said liquidator to transfer the business and property of this company to a proposed new company when incorporated, and to be named the Jablochkoff and General Electric Company, Limited, or such other name as shall be decided upon, and to receive in compensation for such transfer, shares or other like interests in the said company, as contemplated by the 161st Section of the Companies' Act, 1862. And for that purpose to enter into an agreement with the said new company for the sale to that company of this company's business and property upon the terms of the draft agreement in that behalf to be submitted to the meeting.

The Chairman said:—Ladies and Gentlemen,—As stated in the circular sent to you, since our meeting last October we have done our best to hold this property for your benefit, and we have only been enabled to do so under the greatest difficulties. Petition after petition has been lodged against us by creditors whom we have not been able to pay, in consequence of shareholders not paying their calls. The foundation of the whole of our difficulties has been caused by this; shareholders withholding their money as soon as they saw we were embarassed, while we have been unable to recover payment, in many cases, of our just claims, and where we have received anything, we have been compelled to accept very reduced amounts in order to procure cash to carry on our business. Notwithstanding the petitions, we have held our own, and proved that all the statements made against us were entirely false, as to the formation of the company, and other matters. All the verdicts were given in our favour; but, unfortunately, those who have proceeded against us having no money, the costs fall upon us just as much as if the cases went against us. The company is intact, the works are proceeding as usual, and, of course, we have the patents we purchased. Finding we could not go on for ever paying money to those who seek to gain an undue advantage over us, we thought it better to call you together and get your approval of the reconstruction of the company altogether, upon terms that will be read to you by-and-bye. In a reconstruction of the company, we consider, with our reduced capital, and with our works in a more prosperous condition, that is, full of work—for at present people, knowing that we are in a difficult position, and not knowing whether we are likely to live or not, refrain from giving us contracts, while the expense is just as great as if there was a large amount of work being done—we feel perfectly certain that an amount of orders for lighting from private persons and public bodies will flow in very quickly. I therefore beg to move the first resolution, that this company be wound up voluntarily.

Mr. Marten seconded the resolution.

Mr. Percival Smith thought an opportunity should have been