Siemens & Halske

by Bob Estreich

Werner Siemens (*1816 - 1892*) was an inventor in the right place at the right time. The electric telegraph caught his attention. Telegraphy was still based on the Morse code and needed highly trained operators. Siemens designed a mechanical system that moved a pointer to indicate the letter being received. This allowed a less trained operator to be used, who simply read off the letters and wrote them down. In October 1847 he established Telegraphen-Bauenstalt von Siemens & Halske to repair telegraphs and to manufacture the pointer telegraph. Johann Georg Halske was a competent mechanic whom Siemens had met at the Association of Physics. Both men were of poor origins, so the capital for the business came from Siemen's cousin, Johann Siemens, who must have come to be very satisfied with his investment. The pointer telegraph was a success and the business prospered.

The company branched out into cable manufacture and heavy electrical engineering. It built Germany's first coal-fired power station in 1885. Interestingly, over 100 years later it built three generator turbines and other equipment for Australia's Loy Yang power station complex, and in 1999 it built the Kogan Creek power station in Queensland.

Meanwhile, another new invention was creating interest. In 1877 Mr Bell honeymooned in Europe and demonstrated his Telephone. Although he did not visit Germany, two of his telephones were taken to Germany by Henry Fischer, chief of the London Telegraph Office. He showed them to Heinrich von Stephan, who was the German Imperial Telegraph Administrator. Von Stephan was a forward-thinking man who had trouble keeping his telegraph system up to the demand. He saw in the telephone a simple way to extend the telegraph without the need for more trained operators. He quickly ordered trials of the Telephone. They were successful, so he asked German manufacturers to produce telephones for him. Siemens & Halske responded and produced its first telephones in November 1877. Mix and Genest followed two years later. Siemens improved Bell's phone by using a horseshoe-shaped magnet instead of Bell's single bar magnet. He added a whistle or a hand-cranked rattle for signaling. His telephone was a major improvement over Bell's it could carry a signal for up to 75 kilometres.

1878 butterstamp

Von Stephan equipped 9,789 Post Offices with the telephone by 1900, and opened the system to public subscribers in Berlin in 1881, using a Siemens & Halske-built exchange . By 1891 the telephone was so popular that a coinbox had to be added to some telephones to make the system usable by the general. public. This is an interesting contrast to the British system, where the Post Office first tried to ignore the telephone, then tried to take control by licensing it, then finally had to take it over by buyout.

The patent issue did not arise, as Bell had not patented the telephone in Germany. Patent law was fairly new (*the first German patents had only been issued in July 1877*) and international patent law was still a long way in the future. Siemens therefore patented the telephone in Germany on 14 December 1877.

Bell found out about this and wrote to Siemens & Halske :"*Gentlemen, it is rumored that you are manufacturing and selling telephones in Germany. As the inventor of the articulating Telephone I write to ascertain the facts of the matter*". Siemens replied *"As you have failed to*

1882 Wall phone

patent your lovely invention in Germany, we will continue production. But please inform us in which countries you have a patent so we can refuse orders from those countries. We have already declined orders from England, Austria and Belgium."

The telephones steadily improved as inventors sorted out the problems. By the early 1900s Germany had many other builders of phones, but Siemens & Halske, with its early start, was able to keep its place as a market leader. A distinctive German style of telephone was developing. The mechanical parts were compact and rugged, the cases plain or with only a basic attempt at decoration. Some cases had a similar style to the popular Ericsson phones but were never as flamboyant or elaborately finished.


1899 Wall Set

1905 Wall Set

Although Halske retired from the firm in the late 1860s, the company retained his name. Werner Siemens was honoured by a doctorate from the University of Berlin in 1860, and he was made a member of the Royal Prussian Academy of Sciences in 1873. He was knighted in 1886, and was raised to the nobility by Emperor Friedrich III in 1888. This allowed him to add "von" to his name. By the time of his death in 1892 Werner von Siemens was a wealthy, respected man.

Siemens & Halske was still a major producer of heavy industrial equipment, and telephones were only a small part of their range. The highly competitive and nationalistic European market of the late 1800s forced Siemens & Halske to establish overseas branches to market their products and continue their growth. It supplied its full range to newly-industrialising Japan in the early 1900s. Sales were so successful that a local joint venture company was established, Siemens-Schueckert Denki Kabushiki Kaisha. This company continued through two World Wars and in 1967 was renamed Fujitsu. In this respect Siemens & Halske was one of the few firms to invest in foreign countries rather than just reselling to them.
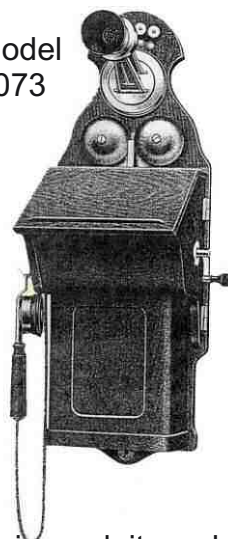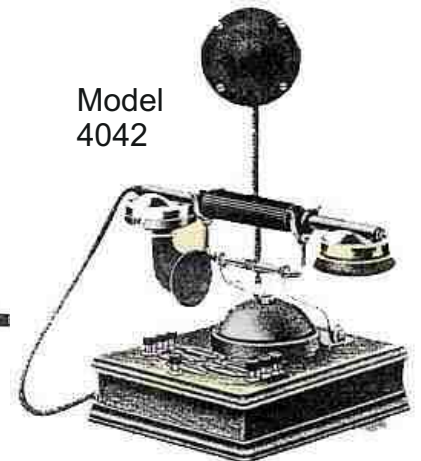

1910 Wall Phone
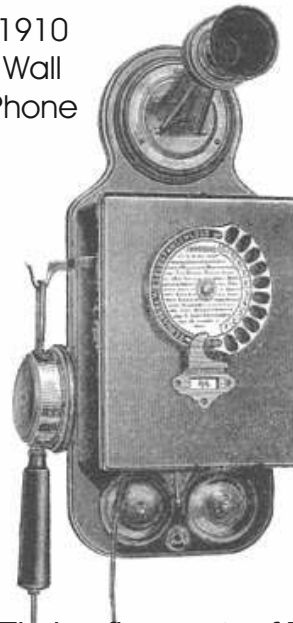
1920 Wall Intercom

Their refinements of Pupin's loading coil allowed them to lead the world in long-distance cables, and submarine cables had also become a specialty area.
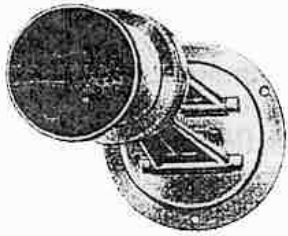

Model 4073

Model 4042

Britain and its colonies were seen as major markets. Wilhelm Siemens, Werner's brother, moved to Britain in 1843 to arrange patents and agencies for their gold-plating process. As the parent company grew, he developed a full

agency whose main business at the time was selling S&H water meters. By 1858 it had become a separate company, Siemens, Halske & Co. with its own repair workshops. A cable workshop was built at Woolwich in 1863 and in 1865 the British company was renamed Siemens Brothers.


Early Siemens Transmitter

In 1892 the London company opened a sales office in Australia, again selling water meters and telegraph equipment, but also offering the full range of products. In 1872 they had supplied the South Australian Government with all the equipment to build the 2,700 km Overland Telegraph from Adelaide to Darwin. The first electric streetcar in the southern hemisphere was installed in Hobart in 1909. They constructed and operated the 11,000 km Indo-European Telegraph between London and Calcutta in 1870.


Model 4088

Model 4093

Siemens & Halske had noticed the increasing use of automatic exchanges, but had not taken much interest. That changed when the German government decided to automate the telephone network. S&H obtained the German rights to Automatic Electric's Strowger system in 1909 and joined the Government-led consortium. They went on to make a range of telephones that featured the unusual Strowger 11-hole "knuckleduster" dial. Eventually the Strowger system was adopted over Standard Electric's Rotary system, and Siemens & Halske set about improving it for large-scale production. They did

not have the market to themselves, as the Government wanted the technology to be shared between a number of joint-venture companies. In spite of this they developed it enthusiastically to the point that STD was introduced in Germany by 1925, and the first STD public telephone in 1929.
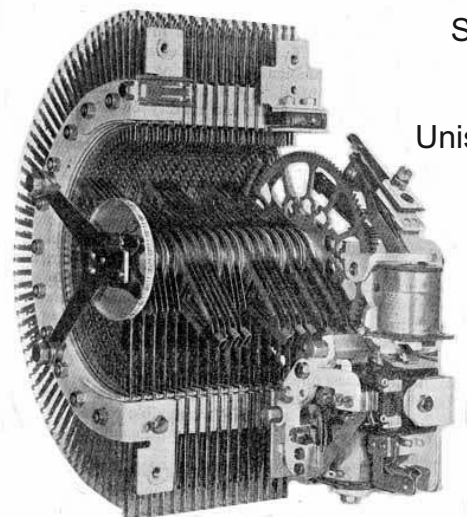

Siemens Strowger Type Dial 1911
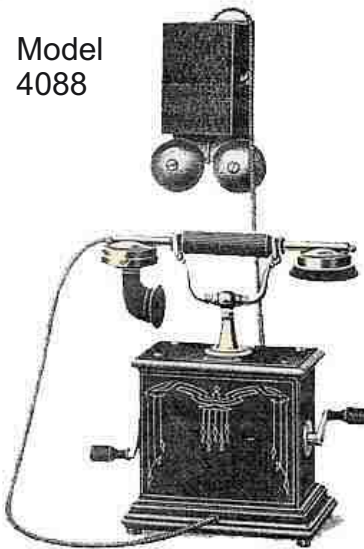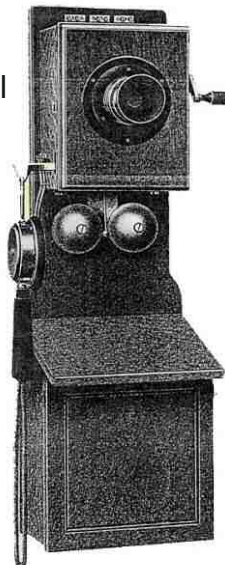
Siemens marketed their first PABXs and auto exchanges as early as 1912. Poole mentions in his 1912 book "*They have equipped some six or more large exchanges on the Continent, and one for 17,000 lines is at present in process of construction for Dresden*". Their No. 16 system was evaluated by the British Post Office in installations at Edinburgh, Sheffield, Brighton and Leicester. It may also have been the model that equipped the new central Brisbane exchange in 1929. The No. 17 system, developed from this model during the 1930s, featured a high-speed motor-driven uniselector capable of 200 steps per second. A single compact switch allowed 200 four-wire circuits.

Siemens No. 17 Motor Uniselector

After World War 1 the company's overseas firms were their lifesaver. Restrictions were put on Germany's industrial production, but these did not apply to the overseas ventures. The overseas firms not only retained their market share, but Siemens & Halske increased manufacturing overseas to meet post-War demand.

1928
Auto
Table
Set

S&H also kept up with new technologies. The first telex and fax machines were produced in 1931. The introduction of bakelite sent the old wooden telephones out of production very quickly. The Model W28 of 1928 was their first German bakelite phone, in both desk and wall versions. It became a standard Reichspost (*German Post Office*) design. The W38 telephone began production in 1938, but serious production was interrupted by World War 2.

1932
Neophone

A redesigned version, the W49, did not enter production in large numbers until 1958. It was then ordered by the German Post Office to feed post-War reconstruction. It could also be used as a desk or wall telephone, a useful economy in these times. The German Post Office contracted the design to many German firms to produce the

numbers required. It was even brought back into limited production in the 1990s.

1938
Auto
Table Set

The Siemens Model 100 teleprinter was a worldwide seller and was used in many countries including Australia.

1959 Siemens
Wall Set

1960's Siemens
Grillo SIT Italian
Flip Phone

Siemens
Masterset

During the 1950s and 1960s Siemens entered the consumer electronics area with washing machines and television sets. They also started making semiconductor devices and produced computers.

Siemens Table Set as used in Argentina (*similar in appearance to the Australian 800 series*)

Euroset 805

In 1966 the company's name changed to Siemens AG. They still produce automatic exchanges, mobile phones, and computer communications equipment. The computer that this was written on is connected to the broadband network by a Siemens modem.

Siemens AG website.......
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1990's Profiset

Transicourier

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Our thanks to Bob Estriech for yet another great article on the history of the telecommunications industry.

SIEMENS