

The Origins of Seewen's Welte-Philharmonie

David Rumsey and Christoph E. Hänggi

Background

The Welte Company was a German firm, first established in 1832 at Vöhrenbach (in the Black Forest) by *automata* manufacturer Michael Welte (1807–1880). About 1865 he moved to Freiburg im Breisgau and registered there as *M. Welte & Söhne*. During the remainder of the 19th century, the firm expanded considerably and became particularly noted for its orchestrions. In 1904 Edwin Welte (1876–1958, grandson of the founder) invented the *Vorsetzer*, and from that the famous Welte-Mignon player-piano was developed, appearing on the market in 1905. This rather arcane piano technology was adapted to the “Welte-Philharmonie-Orgel” (known as the “Philharmonie” in the USA). By 1909 a recording organ had been built for Welte’s studios in Freiburg. The Philharmonie was displayed in November 1911 at the Turin Exhibition in Italy. Welte successfully went on to market player organs, cinema organs, cinema player organs and, later, when that market contracted during the 1930s, church organs. They issued punched paper roll recordings dated between 1912 and 1930 of performances by the great organists of the day, and sold them with considerable commercial success. From 1865–1917 they also ran a branch in New York (*M. Welte & Sons*) under Emil Welte (1841–1923, eldest son of the founder), but it was closed during World War I as an “alien enterprise.” Edwin Welte’s sister, Frieda, married Karl Bockisch (1874–1952), who was active in the firm from 1893 onwards. He later assumed a leading role and became a partner.

Player organs became status symbols of the rich. They were the epitome of home entertainment in their day and, along with orchestrions, were manufactured in both Europe and the USA by a number of specialist firms. Welte instruments were installed in homes, palaces, schools, department stores and one was apparently even in a luxurious “house of pleasure” (the Atlantic Garden orchestra). Apart from Europe and the USA, Welte’s market is known to have extended to Turkey, Russia, China and Sumatra. The Sumatran instrument was broken up and lost in 1985.

Around 1926 Welte began to be threatened by a rapidly growing radio and recording industry. Business declined so much that in 1932 the firm only narrowly escaped bankruptcy. At this time they were also engaged in a collaboration with the Telefunken Company involving the development of electronic organs, using analog sampling, glass plates and photocells. It was a prophetic development for that time. The collaboration had to be terminated because Edwin Welte’s first wife, Betty Dreyfuss, was Jewish. Had Welte been successful, they might well have eliminated the Hammond organ from the pages of history.

World War II finally precipitated the total demise of the firm. Apart from being blacklisted by the Nazis, the Freiburg premises—all but a few scraps of stock, instruments and historical documents—were annihilated by Allied bombing in November 1944. The ruined Welte factory was something of a landmark next to the Freiburg railway station until the mid-1950s. No trace of it remains today—a housing estate replaced it.

Time lines

1902–3

Olympic and *Titanic* were first planned. Orchestrions and other mechanical musical instruments had long been available.

1908

December 16: *Olympic*’s keel was laid.



Michael Welte



One of the “Britannik” inscriptions found in the Seewen organ

1909

Welte’s first Philharmonie recording organ was built in their Freiburg studios.

March 31: *Titanic*’s keel was laid.

1910

October 20: *Olympic* was launched.

1911

May 31: *Titanic* was launched; *Olympic* was delivered to the White Star Line.

November: the Philharmonie was publicly demonstrated at the Turin exhibition and the company’s order book opened.

November 30: *Britannic*’s keel was laid.

1912

April 1: *Titanic*’s trials first were scheduled.

April 15: *Titanic*’s sinking.

Work ceased on *Britannic* pending the *Titanic* inquiry, after which some changes to design were made, mainly safety items.

Welte first made their Philharmonie available in a range of specific models.

1913

Welte consolidated their organ designs, including modifications to their 1909 Freiburg recording organ, possibly on advice from Edwin Lemare (Kurt Binniger, 1987). Variant models became available in the same year, including the largest, as represented by the Seewen instrument, whose specification well matches the Freiburg re-

just come out of their development stages in 1912, and the Seewen instrument was definitely known to have existed by 1920. Internal evidence such as specification, roll formats, pipe construction, comparison with similar instruments and known availability led us to moot a dating of about 1913 as most likely.

It is a variant of Welte’s “Grundmodell V–VI,” having a two-manual and pedal console with stop tabs and a roll-mechanism for automatic playing. From 1920 it is well documented. However, signposts to its pre-1920 history turned up in the course of restoration work during March 2007. In cleaning some normally unseen wooden beams around the original windchests, the word “Britannik” was found inscribed in four places. By late May 2007, more inscriptions were found, bringing the total to six.

The console is not, or not completely, original. An earlier console would naturally have been modified or even replaced in 1920 or 1937 when the organ was slightly enlarged. The present console, however, gives the impression of having re-utilized at least some of the earlier components.

Organs aboard ships

During the mid-19th century, beginning with calliopes, keyboard musical instruments increasingly came to be featured on the river boats, yachts and ocean liners of Europe and North America. Jules Verne’s 1869–70 novel *Twenty Thousand Leagues under the Sea* contains a reference to Captain Nemo playing a pipe organ installed on his ship *Nautilus*. From fiction to fact took a little time. Harmoniums and grand pianos were featured in such vessels as the Cunard line’s *Campania* and *Lucania* (both 1893). *Campania* even had false pipes arranged, as was sometimes the custom with harmoniums, to make it look like a pipe organ. The race for luxurious on-board musical entertainment was gradually intensified. It became a serious pursuit in the greatest luxury liners of the early 20th century. In their catalogue of c1913–14, Welte identified and illustrated a number of piano and organ installations, including player pianos such as the Welte-Mignon, aboard yachts and ships. Their New York branch installed at least one orchestrion, “operated by electric motor,” aboard the *Pocahontas*, an American river boat.

But the largest of ships’ organs was destined to be the *Britannic*’s organ. Others, mainly on vessels of the White Star Line or Lloyds, but including some private yachts such as Howard Gould’s steam yacht, “Niagara,” which also featured a Philharmonie, are well chronicled in these catalogues. The Aeolian company was also involved in ships’ organs. Documents exist showing that the *Britannic* was originally intended to have a player organ from Aeolian.

Of the White Star Line’s three great “Olympic” class ships—*Olympic*, *Titanic* and *Britannic*—there is neither evidence nor suggestion that *Olympic* ever had an organ. With the later ships, however, there are different stories to be told.

Titanic

On-board entertainment was an important item in the inventory of luxuries aboard these ocean liners. *Titanic* had no less than four uprights and one grand piano. In the light of this, oft-repeated suggestions that “an organ” was planned, built, or even installed aboard *Titanic*, cannot be ignored. There are said to be survivors’ reports of an organ that “played” (Internet Site 1—see below). The detail is vague and the report is seriously questioned. If it has any credibility at all, then we might extract from it that “played” might suggest an orchestrion aboard. It does not discredit

ording organ of 1909. Manufacture began in earnest. This gave ample time to build *Britannic*’s organ. Since work on the ship was delayed, even more time became available.

1914

February 26: *Britannic* was launched and her fitting-out begun.

July 28: beginning of World War I.

August: the ship became subject to requisitioning by the Admiralty; work was again “slowed.”

1915

May: mooring trials were undertaken; *Britannic* was on standby for military service.

November 13: *Britannic* was officially requisitioned as a hospital ship and fitted out accordingly.

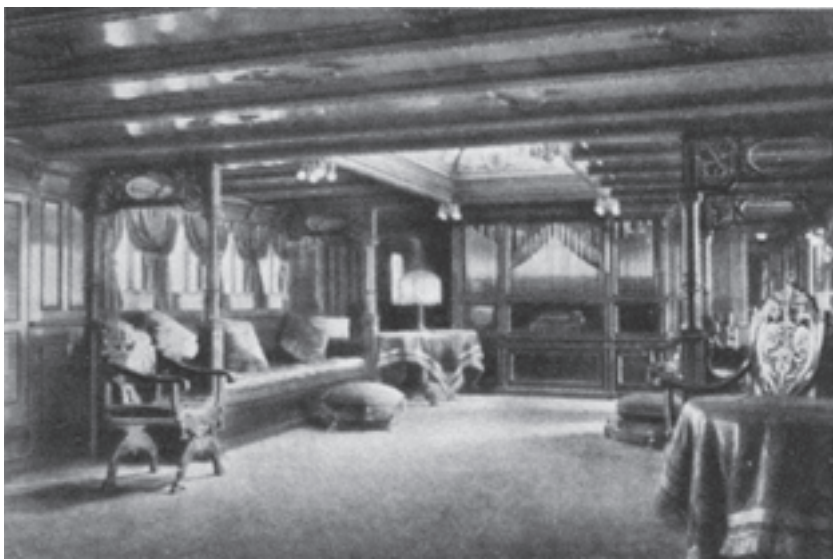
December 11: *Britannic* sailed to England and entered service on the 23rd.

1916

November 21: *Britannic* hit a German mine and sank off the Greek island of Kea (Tzia) in the Aegean Sea.

The Seewen Britannic organ

Until recently it was unclear exactly when the organ now preserved at the *Museum für Musikautomaten* was originally built. The museum contains a major collection dedicated to mechanical musical instruments and musical automata, and is located at Seewen, Switzerland (<http://www.landesmuseen.ch/e/seewen/index.php>). 1912–1920 were the considered limits since such instruments had only



Welte-Philharmonie aboard the "Niagara," a luxury yacht belonging to Howard Gould

other reports, although a second instrument aboard is highly unlikely and has never been suggested. If an organ was installed, then it now lies with the wreck and all claims of a surviving instrument "built too late" are completely errant.

There is an interesting consistency in perpetuation of a belief that the *Titanic's* organ was not completed in time for the voyage. A number of collections in North America and Europe possess orchestrions claimed to be "built too late to share the ship's fate." Certainly, if there is any element of truth in this, then it was probably an orchestrion. These were available for decades before *Titanic* was conceived. The *Deutsches Musikautomatenmuseum* at Bruchsal in Germany has one. It is sometimes claimed that an undated letter from Ilse Bockisch (widow of Karl, his second wife, married in 1932) associates it with *Titanic*. The letter leaves many unanswered questions.

Suggestions have been made (Internet Site 1) that a Philharmonie was originally intended for *Titanic*. Welte's Philharmonie was not offered for sale until some eight months after *Titanic's* launching. A specific model was further out of the question until immediately prior to *Titanic's* sea trials. The idea that Welte catalogue illustrations (see later) were of a Philharmonie organ aboard *Titanic* is thus ruled out by the time lines. The earliest known illustration is from 1913-14, well after *Titanic's* sinking. If there is any credibility at all here, then the only possibility was an installation after the maiden voyage.

Most evidence points against an organ or orchestrion ever belonging to *Titanic*. Expert researchers, such as Günter Bähler and Mark Chirside, have looked into this matter exhaustively. Both are emphatically of that opinion.

Britannic

By contrast, evidence for an organ intended for *Britannic* is overwhelming. There is an interesting existing reference to an Aeolian organ with two chests for music rolls in the *Britannic's* specification book. There is no evidence that these plans ever proceeded. Illustrations in Welte's catalogues are renderings that are so accurate that they appear to be or have been made from photographs. The firm variously identifies them as "Welte-Philharmonie aboard a large English steam ship" and "Welte-Philharmonie aboard S. S. Britannic." Surviving architects' sketches, now preserved in the Ulster Folk and Transport Museum, show exactly the same organ case in the stairwell area of *Britannic*. The ship's plans allocate this space as "ORGAN." Seewen's organ has "Britanik" inscribed in at least six places.

The dimensions of the original Seewen organ have been carefully checked against the ship's plans. It fits exactly into the space allocated.

Time and space considerations

What was possible? Plans survive for all three ships showing their main stairwell areas. These are virtually identical, except that on *Britannic* a rectangular space identified with the word "ORGAN"

was added, jutting out into the stair area. Any of these three ships could easily have had this modification, but only plans for *Britannic* include it. A Philharmonie Grundmodell V-VI could have fitted into this space on any of them.

Orchestrions generally take little more ground space than an upright piano. They typically had about 260 pipes, whereas a Philharmonie V-VI could have over 2,000 pipes. Orchestrions and salon organs the size of Bruchsal's (and the other *Titanic* claimants seem to be of commensurate size) could have been placed almost anywhere aboard these ships. These would not have required identification in architects' plans; detailed accommodation plans show nothing of this kind.

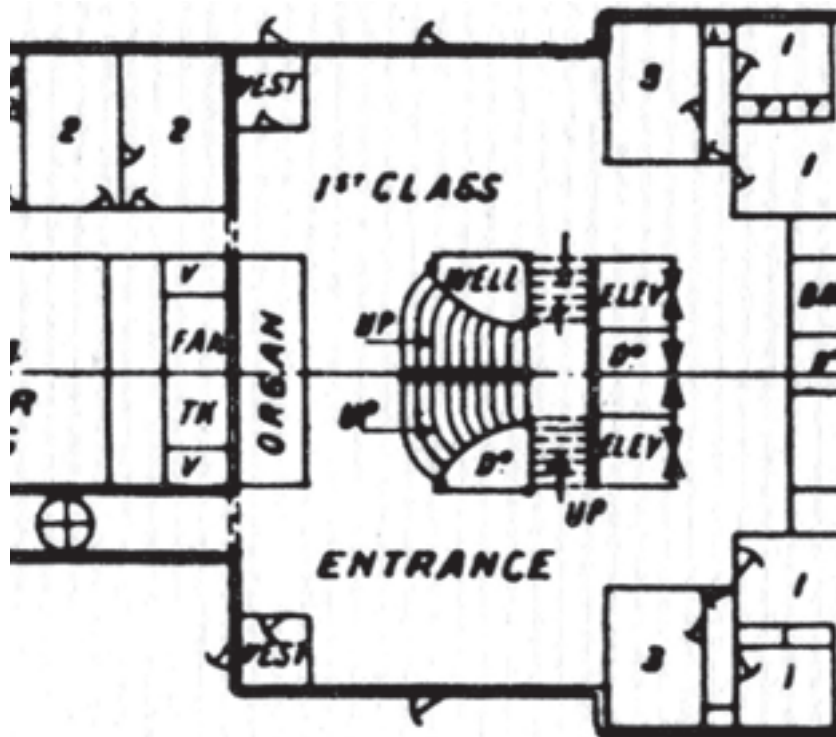
Even assuming for a moment that the reports of a Welte *Titanic* organ were true, which organ was too late? Certainly not one of their mass-produced instruments. Orchestrions, having been in production for years, should either have been in stock or available on very short notice. This meant that delivery of such a salon organ should have been easily achievable. It could not be entirely ruled out that delays in development of the Philharmonie might be the issue here. For what it is worth, Ilse Bockisch's letter describes a failed attempt to deliver "an organ" to *Titanic* at Southampton. Her letter leaves open too many questions to be trusted as a basis for firm conclusions in this context.

We must conclude that Jules Verne's idea was best going to be realized with *Britannic*.

Discussion points

A Welte catalogue of around 1914 has an illustration captioned "Welte-Philharmonie-Orgel an Bord eines grossen engl.[ischen] Dampfers" ("Welte-Philharmonie aboard a large English steamer"). The vessel is not identified by name. The illustration is very lifelike, although some background detail differs from the known architecture of the ship. Another Welte catalogue from about this time reproduces this but now unequivocally identifies it as "WELTE-PHILHARMONIE-ORGEL auf S. S. Britannic der White Star Line" ("Welte-Philharmonie on the White Star Line's steam ship Britannic"). (See page 26.) The architect's sketch in the Ulster Folk and Transport Museum and the Welte illustrations show identical organ casework. These all clearly identify ship, organ, size and placement. They show the casework fully in place. Both captions expressly state that the organ was "aboard." This suggests its presence behind the case. Since a responsible and proud firm repeated this in at least two catalogues, it can leave no doubt that the organ was a Philharmonie and that it probably was installed. No final proof either way is yet to hand.

Time lines easily allow this. By February 1914 there was ample time to build and transport the organ. By the end of July there was also time to install and remove it. The illustrations appear to have been the property of Welte themselves, so all evidence points to the instrument being at least in preparation for, or process of, installation by summer 1914.



Britannic's plan with organ shown (provided by Simon Mills)

The two-story space near the stairs offered ideal dimensions for an organ the original size of Seewen's. *Britannic's* Philharmonie could easily have been finished in Freiburg by late 1913 and moved to Belfast, arriving sometime between March and July 1914. We do not know whether the main staircase was installed before then. The portrayed roll player hints at a console and possibly the wind apparatus being located underneath, with windchests and pipes on top. The apparent width of the roll in the illustration lines up well with the dimensions of Welte's Philharmonie V-VI rolls: the paper was 390mm wide and there were flanges on either side.

Welte may well have used a hybrid pneumatic-electric action. The company is reported (Binninger 1987) to have

used electric actions in "larger organs" and "where consoles were detached." Welte had developed electro-pneumatic actions as early as 1885, one of the first firms ever to master this technology. Arguments in favor of a fully pneumatic original action also exist. The two main manuals of the almost contemporary three-manual organ at Tunbridge Wells (see Appendix) are pneumatic. Although it is unclear until 1937, the Seewen organ does appear to have always had a hybrid action. Experts such as Peter Hagmann fully acknowledge this possibility and, having searched, can find nothing to disprove it.

Another photograph, from 1916, shows *Britannic* fitted out for wartime service. Explanations accompanying this photograph refer to a very basic state of

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From a Welte catalog about 1914 (provided by the Augustinermuseum, Freiburg)

furnishing—just white-painted metallic walls. Woodwork from the stairwell later appeared as collectors' items. Stored items from the ship were publicly auctioned in Belfast in 1919, and many are still preserved in private ownership. This indicates that the internal outfitting of the ship was probably advancing at the time that possible requisitioning became an issue during August 1914.

Although the Welte catalogues show the roll-playing mechanism, no keyboard is apparent. This might lead to a belief that this instrument was a large orchestrion. However, Welte calls it a Philharmonie. This

specifically meant that it had a keyboard. The ship's plans unequivocally identify its space as "organ." It is instructive to compare the design with the Welte-Philharmonie at the Salomons Centre, Tunbridge Wells, England. This has pipes above and console below, flanked by pillars. The console is on the inside, screened off from the auditor. It is exactly the arrangement with Welte's organ for *Britannic*, only decorative details differ and the specifications are very similar.

Installation aboard *Britannic* 1914

The overall period during which the



Wolfgang Rehn (Orgelbau Kuhn), Heinrich Weiss, Christoph E. Hänggi, and David Rumsey

organ could logically have been installed was February 26 to late summer 1914. This is far more time than an installation would have required. *Britannic*'s final requisitioning theoretically allowed until November 1915 for de-installation, although Welte staff could hardly have remained or returned then. We do not yet know if anybody from Welte was in Belfast, so we simply cannot say if installation was proceeding or completed before late July 1914. Welte's illustrations and captions *prima facie* support the notion that it was.

If Karl Bockisch was in Ireland for the installation, then he may have had to return quickly to Germany with the imminent outbreak of war. Edwin Welte was pursuing an extremely busy traveling schedule, especially across the Atlantic, although he was known to be "in England" (which could include Northern Ireland) at about this time. In 2005 some missing documentation that might clarify the firm's travel arrangements came into the possession of Gerhard Dangel of the Augustiner Museum, Freiburg, but it has so far proven inconclusive. There is evidence that the Welte family traveled on the German steamer, the *Kronprinzessin Cecilie*, in September 1912 (this ship also had a Welte-Mignon piano aboard), but no records have yet been found clarifying the movements of Welte employees. Since they were quite itinerant, we must assume these records are now missing. Further clarification as to whether Bockisch or his team were ever in Ireland seems now dependent on finding something of this kind or from dives to the wreck planned for 2008.

Welte staff would rapidly have found themselves behind enemy lines by July 28, 1914. The inscriptions "Britannik" and "Salomoons" in the Salomons Centre organ at Tunbridge Wells make it clear that Welte identified their clients and organs in this way, a practice already established for their pianos and pneumatic roll player devices.

1917–19

There is a lack of surviving documentation that might indicate the fate of the organ between 1914 and 1919. Since *Britannic* sank in 1916, the organ could not be returned to her. After the war, in the natural course of events, ownership and other details had to be sorted out. White Star Line—no doubt in some disarray with the loss of two of its three most prestigious ships—had no further use for it. So the instrument (with or without casework) would have been available for sale, presumably around 1919, allowing for decisions, communications and paperwork (and possibly transportation back from Belfast).

There were negotiations between shipping company, state and insurance brokers that lasted until 1919 when final damages were paid and an auction of remaining items took place. The organ, being a part of this, would not have been available for sale until all was finalized. It probably elucidates the timing of its sale in 1920. As far as we can currently ascertain the organ was not mentioned in the inventory of items for auction in Belfast

mid-1919. A Steinway piano thought to have been lost with the ship, was found after government compensation for the ship's loss had been agreed in 1917. It was then offered for sale "as Admiralty property," after which all traces of it disappear. An organ would have been even more obvious. We can only assume that the organ was not part of the compensation negotiations and therefore was either still or once again in Welte's possession in Freiburg in 1919.

From 1920 onwards

Around 1920, an organ was sold by Welte to Dr. August Nagel (1882–1943) for his residence. Nagel began a highly successful camera manufacturing business in 1908 that later became the "Contessa" brand. He was a great music lover and lived in a magnificent villa in Stuttgart. In 1926 his business went to the Zeiss-Ikon concern. In 1928, he founded another camera manufacturing company that flourished in spite of hard times. This was taken over by Kodak in 1932. No photographs have yet been located of the instrument in Nagel's possession. Indeed, the apparent absence of even one photograph of this organ is curious for a camera manufacturer: one reason could be that the organ simply was not visible and had no casework to photograph (see later). It seems that the new owner had two small supplementary windchests built to accommodate some additional stops.

Nagel returned the organ to Welte in 1935 for reasons that are now unclear. In 1937, after work on it in their Freiburg workshop, Welte sold it on to Dr. Eugen Kersting (1888–1958), owner of "Radium GmbH," an electrical manufacturer. Werner Bosch (1916–92), German organ builder, worked on it as a young employee of Welte's at the time. It was installed in the Radium Company's Concert and Meeting Hall in Wipperfurth, Germany. Changes were made at Kersting's request—mainly two reed ranks added and some interesting but small concessions made to organ reform movement principles. Once again modifications to suit a client were a normal part of Welte's operation. The original Wienerflöte was replaced by a Harmonieflöte (also by Welte), and somewhat miraculously all pipes of both stops have survived. The Wienerflöte can now be returned to its proper (and original "*Britannic*") configuration. There was again no sign of earlier original casework: a simple but elegant wooden grille appeared in Wipperfurth.

Towards the end of World War II, in 1945, water damage occurred as a result of bombing. The instrument survived this quite well and was offered for sale through Werner Bosch during the 1960s. No buyers were forthcoming. In 1961 it was used to make an important LP recording, issued in English-speaking circles as *Reger plays Reger*. The organ was selected as the best available for this purpose, having a specification capable of closely reproducing organists' registrations on the original Freiburg recording organ.

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The restored organ in its new environment at Seewen

By 1969, after the meeting room had been turned into a storeroom and the organ had become an encumbrance, it was to be sold for scrap. Heinrich Weiss-Stauffacher (*1920), who owned a collection of automatic musical instruments that later formed the basis of the Seewen collection, was informed. He acquired the organ at the last minute and, in somewhat dramatic circumstances, packed and moved it carefully to its present home. There, after renovation, its re-inauguration was celebrated on May 30, 1970.

During its removal to Switzerland, Bosch's experience was critical in ensuring its preservation and proper functioning. He and Basel organ builder Bernhard Fleig helped Weiss with the re-installation and subsequently also its maintenance. Apart from normal wear and tear, the organ has remained in good original condition, with few losses or changes.

The restoration

Years of investigation into these instruments (and submissions from experts and organ builders) began in 1998 with the Seewen organ's removal and storage while the museum prepared for extensions. These created much needed additional space, partly to properly accommodate and display the organ.

The restoration contract was awarded to Orgelbau Kuhn, Männedorf, in 2006. In early 2007, in the course of restoration, the "Britannik" inscriptions began to show up around the original windchests. The beams were carefully checked to see if they might have belonged to another organ. However, all experts—two highly experienced organ builders, the museum director, its conservator and the organ consultant—independently concluded that the beams and the organ were part of the same original instrument.

Very few relevant Harland and Wolff (shipbuilders of Belfast, Ireland) and essentially no Welte records have survived. However, all evidence overwhelmingly points to the *Britannic* and Seewen organs being one and the same instrument, little changed in its 90 years of existence. The *Britannic's* pipework, windchests, console and possibly the action are all either fully original or have been only slightly modified, overwhelmingly by Welte themselves. The organ's 1920 and 1937 forms are fully valid Welte configurations, developed out of their Grundmodell V-VI. In the few cases of missing or damaged pipework, replacement has been arranged with surviving original Welte pipework or pipes carefully reconstructed to the firm's manufacturing methods and standards.

The Seewen/*Britannic* organ is today probably the most typical, intact and best preserved of its size and kind. So far as is currently known, there is only one other Philharmonie of comparable size, Freiburg manufacture and with tonal resources capable of doing justice to the full-sized rolls (Tunbridge Wells, see Appendix below). The collection of rolls at Seewen—nearly 1,300 of them—is well in excess of any other existing collection currently known.

The fate of the organ's original casework

Welte's case designs are not noted for standardization, although stylistically they are mostly consistent with their epoch. Cases and organs are sometimes sold separately. No surviving organs or photos show other Welte instruments with casework in the style of *Britannic's*.

Welte also specialized in installations in basements, attics and "adjacent rooms," the organs speaking through holes in walls or floors. This may well have been the reality with Nagel's residence and might explain a lot in this connection—e.g., the suitability of an organ on offer without a case and the absence of case photographs. Since the Philharmonie was totally enclosed in a swell-box, façade pipes, where they existed, were always "dummies."

Was the casework removed with the refit to a hospital ship? The photo of the bare-walled area can but indirectly suggest that it was not there. Simon Mills's *Britannic* Foundation, now owners of the wreck, believe that whatever was installed—probably not much—was simply covered up and left in place. Reports of Jacques Cousteau's divers who went down there in 1976 could point to the organ case still being present. They identified "an organ" and reported "metal organ pipes." The value of these reports has been questioned—indeed the rendering published by Welte in their catalogues hints at wooden pipes or just simple slats of wood, "pipe look-alikes." If the Cousteau report turns out to be true, then that could hint that the organ was at least partially installed when hostilities began.

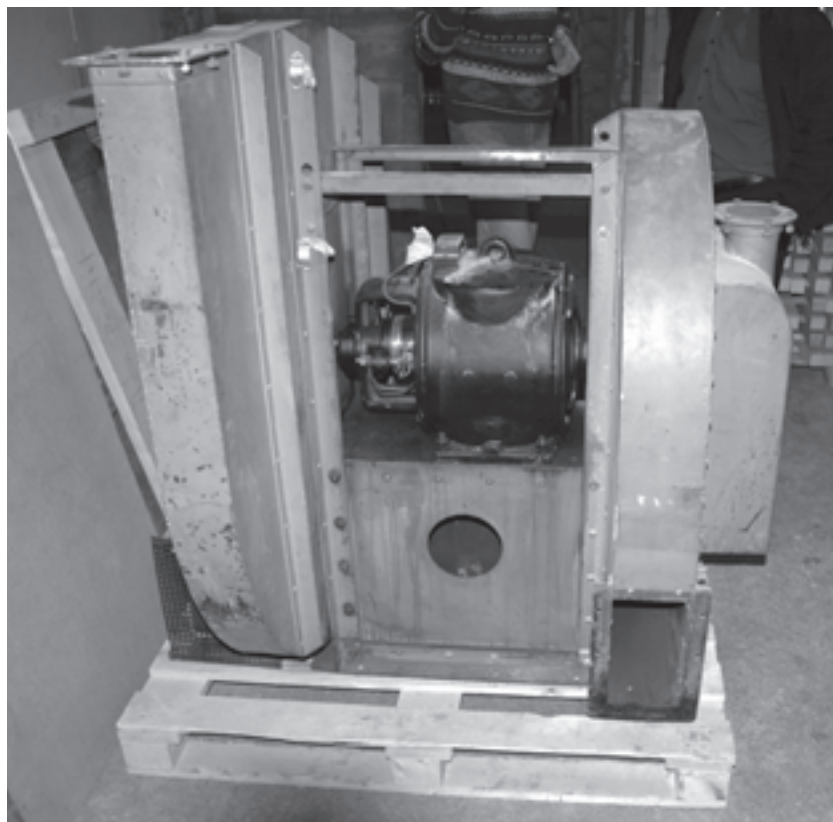
An exhibition in Kiel, Germany in mid-2007 reconstructed the *Titanic's* stairwell. Given that the three ships' designs were essentially identical here, it was clear that the organ could be installed or removed with its façade in place. Being a totally enclosed instrument, the façade was purely decorative. The *Britannic* Foundation has undertaken more recent dives to the *Britannic* wreck and is currently planning another for about mid-2008 when currents are favorable. The area where the organ was to be placed will then be very closely investigated.

Effectively, *Britannic's* casework has now completely disappeared. It is either, as per the Cousteau hint, barnacle-encrusted some fathoms under the Aegean Sea, or it was destroyed, saved in an unknown location, or broken up for use in other organ façades.

The motor and blower

Speculation of wind-raising using *Britannic's* steam power sometimes arises (Internet Site 3). The availability of electric power, and potential evidence of a possibly original blower and electric action argue very strongly against steam. In fact, steam was rarely used as motive power for organ blowing. Even then it was associated more within the period of 1812–85 than the early 20th century.

An old motor and blower has survived with the organ. No dates are evident. The motor is rated at 220 volts DC and was made by Meidinger of Basel. The firm was established in the late 19th



Motor and blower awaiting restoration

century and located not far from Welte in Freiburg. Their records only date back to about the 1960s. From its serial number, we only know that it was certainly made before then. Both motor and blower are being restored as part of the historically conscious approach to the project. It is interesting to observe that it is rated at 220 volts DC and the ship's electric supply came from four 400 kW steam generators, each providing 100 volts DC. Expert opinion informs us that the voltage difference from running two generators in parallel—sensible electrical engineering with two in parallel and two in series—to provide 200 volts is not critical to the operation of this motor.

The organ's wind supply is designed as a regulated system and virtually never needs the full amount of wind (over-) supplied by the blower. Two experts also independently estimated that the motor itself is "probably early 20th century." Thus, it is just possible that this motor and/or blower could have come down from the original *Britannic* installation.

From about 1885, a growing preference for power reticulation using alternating current was beginning to overtake that of direct current. By 1913–1914, AC might normally have been the prime choice for such a motor, but the fact that the ship's supply was DC must have determined a DC motor. This further

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Harrison's style, including a relatively mild Great division without reeds; several mixtures with each providing a different texture; a powerful Swell division with French-inspired reeds; and a general emphasis on tonal clarity over density.

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supports the possibility that the surviving blowing installation at Seewen could have been that of *Britannic*. ■

Appendix

Seewen and similar known surviving Welte-Philharmonie player organs

Full 150-note functioning Welte player mechanisms appear to survive in no more than ten organs worldwide. Details are scarce, so only tentative information can be offered as set out below. In the September 2006 issue of *Mechanical Music*, Durward R. Center published an article entitled "Welte Orchestrions / The Age of Opulence." In it he reports that only two "fully pneumatic" organs (of an equivalent type to Seewen) still exist. Some of Welte's organs originally had hybrid pneumatic-electric actions, so the field might be extended slightly in this direction without conflict to the general notion of a "Welte-Philharmonie." (The term "pneumatic organ" is sometimes used to indicate that a player mechanism was attached; cf. "pneumatic" when used to differentiate action types, e.g., electric, electro-pneumatic, mechanical.) Welte's Grundmodell V-VI had a basic specification of about 23/II+P (23 stops, two keyboards and pedals). The Freiburg recording organ after 1912-13 was about 28/II+P. A degree of discreet borrowing and extension was normal practice in all of these instruments (and less "discreet" in smaller organs and orchestrions). As far as we are aware, however, of Welte's full-sized (with 150-note tracker bars) roll-playing organs left in the world today, only about eight seem to be of original Freiburg manufacture.

Seewen

The Seewen basic specification after 1937 is 37/II+P. (With retention of both Harmonieflöte and Wienerflöte, the 2007 specification became 38/II+P.) This includes extended and borrowed ranks normal to Welte practice. Stop nomenclature is German; the stop-tabs are uniform and fit comfortably across the top of the keys, although some of the new stops added have been placed out of sequence to the right of the earlier stop-tabs. This suggests that the basic console dates from earlier and was only modified in 1937. A collection of about 1,300 rolls is associated with this organ. Organists include Harry Goss-Custard (150 rolls), Edwin Lemare (87), J. J. Nater (84), Paul Mania (76), Kurt Grosse (58), Alfred Hollins (47), Joseph Bonnet (44), William Wolstenholme (39), Walter Fischer (37), Eugène Gigout (35), Thadäus Hofmiller (31), Herbert Walton (30), William Faulkes (29), Samuel A. Baldwin (26), Clarence Eddy (20), Karl Matthaei (17), Franz Joseph Breitenbach (16), Alfred Sittard (15), Paul Hindermann (13), Marco Enrico Bossi (12), Max Reger (11), Marie-Joseph Erb (11), Günter Ramin (8), Karl Straube (7), and Marcel Dupré (7), among others.

Tunbridge Wells

Residence of David Salomons, Salomons Centre, Tunbridge Wells, England. This organ also dates from c1913-14 and is virtually a twin to that at Seewen. The basic specification is 27/II+P, pneumatic player, pneumatic action. It has, however, a third manual, an Echo division of five stops (remotely placed with electric action), bringing it to 32/III+P. Extended and borrowed ranks normal to Welte practice also exist here. A most valuable

survivor, its basic specification includes the full Philharmonie Grundmodell V-VI stops, with resources that sometimes differ slightly from Seewen's. Apart from the Echo-division, the percussion accessories in particular show some variance, e.g., "tubular bells" in place of Seewen's "Harfe" and "Glocke" registers. The console was required, as per the contract, to be modeled on English systems—pistons rather than fixed combinations, manual compasses reaching to 61 notes instead of 58, stop-knobs rather than rocker-tabs, and the stop nomenclature is entirely English. There is no crescendo pedal. Even so, the general size and layout is remarkably similar to Seewen's. It plays rolls of two sizes, accepting also the Welte #10 orchestrion rolls, the largest orchestrion rolls Welte ever made, and is apparently the only player for them still functioning. A collection of about 150 full-sized Philharmonie rolls is associated with this organ. See website: <<http://www.maestro.com/US/welteinstruments.html>>.

Other instruments

- a 25/II+P Welte-Philharmonie, from a collection that belonged to Jens Carlson, is now in the Mechanical Musical Instrument Museum at Elm, Germany (Stiftung Museum mechanischer Musikinstrumente Königslutter am Elm).

- formerly at Linz am Rhein, Germany. Also a smaller Philharmonie organ than Seewen, 21/II+P, recently moved to the USA. This organ was used for an EMI CD recording set issued as 7243 5 74866 2 0. It was built in 1925 for the Villa of Lady Burton of England in Cap de Antibes, southern France. Horst King und Sohn restored it for the Linz Museum in 1984/85. Laukhuff of Weikersheim delivered a purely decorative case for it.

- *Siegfrieds Mechanisches Musik-kabinett*, Rüdeshheim, Deutschland. The console has the Freiburg firm's nameplate attached. Two of Wendel's publications give "around 1922" as its date of construction. 21/II+P with "Harfe und Glocken." Currently "partially restored."
- *Deutsches Musikautomatenmuseum* at Bruchsal (in the "Welte-Saal.") As well as the so-called *Titanic* organ, there is a 20/II+P Welte-Philharmonie dating from 1924 in this collection. See their website: <<http://www.landesmuseum.de/website/>>.

- The Schloss Meggenhorn instrument near Luzern in Switzerland. 19/II+P (with borrowing and extension) probably built 1915-20. An associated roll collection of 104 items features Max Reger, Karl Matthaei, Eugène Gigout, Marcel Dupré and others. The instrument was restored by Orgelbau Kuhn.

<http://www.orgelbau.ch/site/index.cfm?fuseaction=orgelbau.orgelportrait&laufnummer=800780&id_art=1193&actMenuItemID=10441&vsprache=DE>

- Tuxedo Park, New York (also made in the USA), at the Spedden residence. Members of the Spedden family were survivors of the *Titanic*. The organ is still in its original location. It was recently restored by the Kegg Organ Company. 15/II+P of Freiburg manufacture. Year of manufacture is not known at this stage.

Other, related installations (excluding cinema organs):

- An interesting player organ exists at the former Krupp Residence in Essen, Germany at Villa Hügel (now a museum and concert venue). It began as an American Aeolian organ with 9/II+P. In 1914 an Aeolian player mechanism was added.

1921 and 1928 saw the instrument enlarged to 14 stops by Welte, with one of their player mechanisms substituted for that of Aeolian. It was restored in 2003 by Orgelbau Klais of Bonn. Associated with it is a collection of about 110 usable rolls recorded by Ramin, Straube, Sittard, Mania, Lemare and Reger—a repertoire surveying Bach, Beethoven, Brahms, Chopin, Gluck, Händel, Haydn, Liszt, Mozart, Mendelssohn, Reger, Schubert and Wagner. Five rolls are of popular music. These appear to duplicate many rolls in the Seewen collection, as would be expected, bearing in mind the Welte catalogue marketing system. The Orgelbau Klais website has details: <<http://www.orgelbau-klais.com/m.php?tx=52>>.

- A Welte player mechanism—also a 150-note tracker bar—was added in 1931 to the Willis organ at Blenheim, England. There appears to be an associated collection of some 80 remaining rolls, said to be by English organists.

- *Technik Museum*, Speyer, Germany. 36/III+P manufactured in the USA. Dating from 1916, it must have been one of the last instruments, and the largest, built there before Welte's New York branch in Poughkeepsie was closed down. Renovated in 2001. A collection of over 600 rolls is associated with it. See <<http://www.museumspeyer.de/>>.

- An organ under restoration (2006) for the Swiss dealer Hanspeter Kyburz by organ-builder Remi Steis of Germany. It is also of U.S. manufacture. It additionally bears a "W. W. Kimball" company reference underneath Welte's on its nameplate. It is a II+P organ with much extension and borrowing somewhat reminiscent of cinema organ practice.

- A Welte-Philharmonie of nine ranks built pre-1926 in the studio of Barker Bros.' department store in Los Angeles, then variously in the possession of Anita Baldwin, South Pasadena Masonic Lodge (1930) and Kyle B. Irwin (1999). Apparently of U.S. manufacture with much extension and borrowing. Barker Bros. eventually owned a total of four Weltes.

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