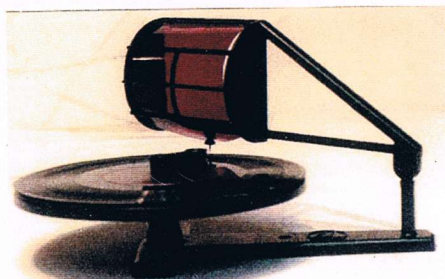




The Phonographic Record

Journal of the Vintage Phonograph Society of New Zealand
 A Society formed for the preservation of Recorded Sound
 Volume 46, Issue 2. February/April 2011

50 CENT PHONOGRAPH



CHARLIE HUMMEL



LARGE RECORD

THE PHONOGRAPHIC RECORD

VOLUME 46, ISSUE 2

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For your information

Phonograph Society members in the Christchurch area are shocked and saddened by the disastrous earthquake on the 22nd February.

Some of our members were affected, with damaged property and one of our members had a considerable loss of his collection.

At our Annual General Meeting in September it was agreed to increase our subscription from twenty dollars to twenty five dollars NZ\$25.00.

We continue the Berliner Story in this issue.

Walter Norris
Editor

ILLUSTRATIONS

Front cover

50 cent Phonograph

Three photographs of a little talking machine owned by Larry Schlick who sent us the information and the photographs. See article.

Charlie Hummel

Charlie is the left hand person showing his Edison Faradic Batteries "Inducteron". This is known as a quack medicine machine. It gave mild shock treatment. These are rare in U.S.A. Circa 1870.

Large Record

Michael Laven with a six foot Columbia Red Seal metal record. It turns slowly and came from a shop, was a store display. The Label reads, great music by the world's greatest artists, use Columbia needles. Very rare.

Plate 2

These illustrations are a replica of a tower that stands in Menlo Park.
Is 10½ inches high and 4½ inches wide.

Cuff Music Box

This box is most unusual. We do not know of one in New Zealand. The Capital self playing music box is most attractive, will hold eight cuffs, with one in the play position. Is owned by Michael Laven. See information taken from an English Magazine - "The Music Box".

Case of Cuff Music Box

This is a plain case, some have a carved exterior, but all have a picture inside the lid.

Columbia Disc Label

This one was copied from one of Kurt Nauck's excellent catalogues.

Edison Triumph phonographs

Four of them. Bill Dunn photo

Plate 3

H.M.V. Monarch Intermediate

An attractive H.M.V. owned by David Peterson who purchased it without the horn. The Editor was able to supply the Green horn to fit this model. Note Black long playing Diamond Disc in background.

Record Player

This was found as it appears in top photograph, was restored, and a case made to make a complete unit as seen in centre photo.

Edison Furniture

One of Thomas A Edison industries 48 inches by 23 inches

Stock Ticker

Edison invented stock tickers in 1870. These were used for receiving stock quotations from the Nations leading exchanges for over 80 years.

Motor Demonstration Machine

There is one thing I just learned about a machine. It is the bright shiny silver aluminum suit case style machine. I just assumed it was portable machine in Art Deco style from the late 30s into the 50s. It was NEVER sold to the public, it was owned by dealers to demonstrate Victor records at exhibitions and dealer conventions. It is both wind up and electric and has a little "clip" on the top of the cover to display a record. It is a very showy machine in red and silver.

Brunswick Ultona

See Article by Don Lock headed "Diamond Disc Discovery"

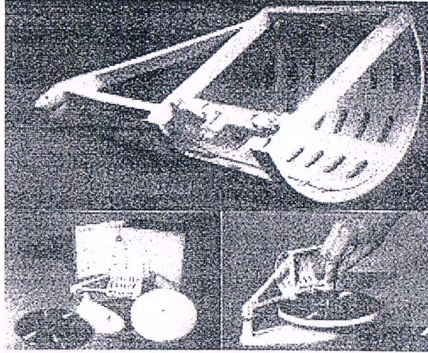
We have an illustration of an E.M.G. which is placed next to Don Lock's Illustration.
See article.

Montgomery Ward Disc Record

Another label from Kurt Nauck's catalogue

Victor demonstration Machine

Owned by Larry Schlick, see article



FIFTY-CENT PHONOGRAPH MAY PIERCE IRON CURTAIN

(See photo on front page)

A new weapon for sending messages behind the Iron Curtain without danger of radio jamming has been offered to the U. S. by RCA. It's a refinement of the basic hand phonograph and could be mass-produced for 50 cents each.

The little machine is in three unbreakable plastic parts - base, turntable and tone arm - and can be packed to drop by parachute.

Heart of the design is a clear-plastic semi-circular vibrator screwed inside the top end of a guard. A plastic cube cemented on takes the needle in a force fit. RCA designers say that they get best results from a common steel needle of the long-playing kind. A metal crank spins the table.

Records are 78-r.p.m. unbreakable-plastic seven-inchers costing five cents, but the arm can take a 10-inch record. The speed, common in Europe, is easy for hand turning.

TEXT OF ADVERTISING MESSAGE ON PLASTIC PHONOGRAPH

Testing ... Testing ... Testing

You are now testing one of the most unusual products ever developed by R.C.A. and possibly the most important.

This tiny and ingenious phonograph first appeared at the Overseas Press Club. The date, Nov. 10th 1955. The speaker announcing this invention is Brig. Gen. David Saarnof (Sarnoff?). The reason for its introduction ... to take the truth behind the Iron Curtain.

As you turn this record, look at the phonograph carefully. You can see how it will represent hope for the near-starved people of Communist countries. Note how small it is, a mere 7 ounces easy to carry ... easy to conceal. Note the non-breakable plastic, shatterproof ... when dropped by air. See how easy it is to assemble ... almost instantly ready to speak the universal language of truth ... And how easy to operate, even by the hand of a child.

RCA has given the government all the details necessary to produce these phonographs. All other manufacturers also share this discovery ... and on a non-royalty basis.

What will RCA sound engineers think of next?

We can't tell you yet ... But here is a hint ... It is something BIG and it is something as sensational and as history making as this famous phonograph. But, we will tell you this ... It is from the RCA Victor Radio and Victrola Division - and you know what that means!!!

SALES SENSATIONAL SALES

You will see and hear all about it later. Until then Over and Out.

I assume that this is NOT the record that will accompany the machine when and if it ever gets dropped. You might want to contact a friend in Russia to see if they ever found one.

Larry says - I have no idea of its collectible value and the few "experts" I called are equally in the dark. I put an orange record on it to make the picture more "colourful". I show a 7 inch record on it, but it will play up to a 12 inch record. One played the record with a small plastic piece which locks down on the turntable spindle, then you turn the record on the turntable with your finger. This shows up very clearly on the orange record picture. The box is 7 ¾ high by 78 rpm ... but with a little practice you can play a 33 1/3. I don't know if they were ever used by the military or not .. but it makes an interesting tale.

G. OTTO
SPRING MOTOR FOR MUSIC BOXES

No. 525,717

Patented Sept 11, 1894

Fig. 1

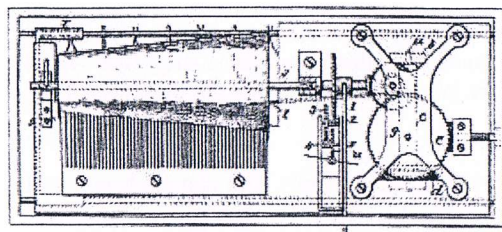
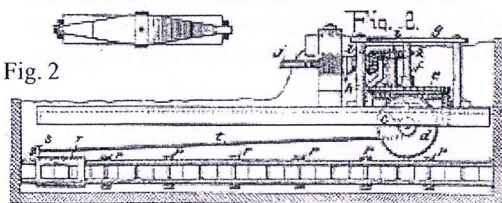


Fig. 2



FIRST 'CUFF BOX'

See page 2 of photos

Employed by the Otto company as a pattern-maker was Henry Langfelder, a resident of Jersey City, who had already invented a variety of mechanical items. During the fall and winter of 1893-4 Langfelder was put to work by the firm on this new project, and by February 1894, he had filed patent application No. 519,816, which was granted on May 15, 1894, for a music box with a conical-shaped note-barrel, the original, rather crude cuff note-disc and comb mechanism. Langfelder assigned half the patent rights to F.G. Otto and Sons and reserved half for himself. Note

here that the patent attorney for the Cuff Box was the same Briessen Knauth who had handled the Regina patents for Brachhausen.

Langfelder's patent shows a fairly conventional spring-barrel. In April of 1894, Gustav Otto himself patented a spring-motor for music boxes based on a series of elliptical springs. This patent, No. 525,717, (Fig. 1) shows the cuff note-disc in place, as well as his novel drive mechanism, which resembles in a most elementary fashion the fuse drive used on the earliest musical movements. The elliptical springs were fastened to a chain drive, which in turn ran to the drum of the main drive gear and thus provided the motive power. It is logical to assume that this was not an economical or practical power arrangement, for we have seen only one Cuff Box with this particular spring-drive; all others have had the conventional round spring-barrel with direct drive to the disc-shaft.

The head bookkeeper for F.G. Otto and Sons was Adolph Schaub and in the family business tradition of that time, his son Ferdinand had been brought into the business and by 1894 had risen to the position of shop foreman. He, also, was put to work on the new project and by the autumn of 1894 Ferdinand Schaub had patented a vastly improved cuff note-disc, or cuff, as it is familiarly known, illustrated in Fig. 2. His patent No. 532,290, was assigned to F.G. Otto and Sons and was the prototype for all cuffs that were manufactured

DIAMOND DISC DISCOVERY

Fron Don Lock

See photos page 4 (Brunswick Ultona)

A different dimension in sound

While in the UK last year, I visited a long time enthusiast of the E.M.G. gramophones and was treated to the experience of hearing Edison Diamond Discs played through an E.M.G. MK 10B oversize horn which has a diameter out the bell mouth of thirty four inches.

The reproducer used was from the Brunswick "Ultona" model which is designed to play all records via diamond point Sapphire ball and standard needle mounted on a double diaphragm assembly and the whole attached to the tone arm through an adapter. To say that I was impressed with the sound is putting it mildly and my first reaction was in noticing a reduction of about 30% in surface noise and a level of sound flooding the room rather than the projected singular sound source of even the largest Edison horn.

The quieter surface also allowed more detail and a closer facsimile of the original sounds of instruments compared with the traditional reproduction which can be rather harsh at times and the voice had a more integrated and special sound and not so 'up front' which I believe to be the rapid dissipation of sound waves from a horn of this size.

Suffice to say, it is the music and the artists you really enjoy listening to rather than the novelty factor of a demonstration, only then this combination of Brunswick/E M G reproduction is a whole new listening experience.

After absorbing the contents of several D.Ds my friend agreed to make an adapter for me so now I am able to enjoy my own collection with renewed interest after I found it necessary to modify my turntable position slightly on the motor board to accommodate the diamond stylus playing position and so minimise tracking error in the process.

So now this Edison/Brunswick/EMG combination is providing me with a renewed approach in playing Mr Edison's re - creations the sound of which I thought I knew so well but have re - discovered.

REPORTS OF MEETINGS

June 2010 - January 2011

By Gavin East

Wilf Boon has been doing a splendid job of writing up the meeting reports for several years but has asked me to step in and take over for a while. I'll try to bring the reports up to date though it will be a bit of a rushed job this time as everything seems a bit strange just now. I am writing this on 6 March as we all come to terms with the shattering changes to dear old Christchurch after the earthquake of 22 February. Here at Lincoln my bits and pieces escaped unharmed this time but it was shocking as news came through of the devastation and deaths in the central city, eastern suburbs, Port Hills and Lyttelton. I haven't caught up with everyone but can report that Robert Sleeman's very extensive collection has suffered significant damage. David Peterson and I have been sorting it out and finding some very lucky survivors among the wooden horns! Tony Airs has also lost many very good wax cylinders and has been working through the turmoil in his (normally very tidy) garage. The 1911 two seater FN (in which we had just driven home from the National Veteran Rally in Ashburton) was unhurt but Tony's unique 1922 Alvis 10/30 ducksback suffered radiator damage.

So, looking back through the minutes to carry on from Wilf's May 101 report, let's see what I can do to emphasise the positive.

On Monday 28 June 2010 we met in the architecturally distinctive home of Bob and Nu Wright in Aylesford Street in the Christchurch suburb of Shirley (I think I have heard that Bob and Nu have a lot of books etc. to sort out but are otherwise OK). We finalised the order for printing the calendar, agreed to buy new stock of steel needles from Bill Clark in the UK (thanks to Wellington member John Daniels for this information) and passed payment for two lots of new parts, sixty pairs of Gem lid screws and another fifteen brass-belled witch's hat horns. Walter Norris had received from Australian member Peter Bowler a copy of the book Peter has written based on the mystery of the lost Fonotipia records made by the great tenor Jean de Reszke. Robert Sleeman showed some unusual label 78s recently acquired and mentioned a website offering a wide range of replica Edison grilles at reasonable prices.

For the July 2010 meeting we gathered at Lyndsey and Bill Drummond's home in Colwyn Street, Bryndwr, Christchurch. The new stock of steel needles had arrived so we should have plenty of loud tone as well as the medium tone needles from the previous stock. A new batch of fourteen cygnet crane back brackets was well under way and we passed payment for the castings. As always Walter was forging ahead with the next issue of the magazine and acknowledged the great help with photos and correspondence from US member Larry Schlick.

In August 2010 we met in Cephas Close, Upper Riccarton, Christchurch at David Peterson's home. After the routine business closed David played several Edison dia-

mond discs with "blue" or "blues" in their titles on his superbly restored L-19 Laboratory Model (if ever a machine can be transformed from an ugly duckling into a swan, this is it). David then showed on DVD a fascinating film shot from the front of a cablecar as it trundled along Market Street in San Francisco just before the earthquake in 1906, followed by a feature on the assembly of the Ford Model T. After supper we trooped upstairs to view the second collection room which David has had built in the roof space above his garage. Needless to say it already holds an impressive range of machines in fine condition.

On 27 September 2010 we met at John and Anne Hastilow's fine old wooden home in Bristol Street, St Albans, Christchurch for the 45th Annual General Meeting. The house had suffered chimney destruction in the September quake and at the time of writing I haven't caught up with John and Anne about the recent one.

Joffe Marshall was happy to continue as Patron, as was Shirley McGuigan as Secretary. Roger Brown's two year term as President having come to an end, David Peterson was elected to succeed him. Robert Sleeman agreed to continue as Vice President, as I did in the role of Treasurer. John Hastilow, Wilf Boon and Walter Norris are the Committee along with Roger Brown as immediate past President. We thanked Roger for his sterling service as President and hoped he would keep coming up with interesting ideas for places to visit. After discussing expenses and the decline in parts sales we reluctantly agreed to raise the subscription to \$25.00 from next year.

Immediately after the AGM we held the normal monthly meeting for September and dealt with routine accounts etc. Robert Sleeman had come to the meeting straight from Watson's Auctions where he had been the top bidder on a handsome 19 5/8 inch table model Polyphon with more than fifty tidy discs. Robert was optimistic that he could negotiate with the auctioneer to buy the machine. Much of the conversation during and after the meeting was about the earthquake of 4 September and its after-shocks - little did we know it was only the rehearsal!

As the fourth Monday in October was Labour Day, we held the meeting a week later on 1 November. This time we paid a most enjoyable return visit to Ian and Bev Fisher at their private cinema in Maryhill Avenue in the Christchurch suburb of Hoon Hay. It was good to see Alan Brehaut who had driven up from Timaru. Robert was happy to report that he had bought the Polyphon for a very reasonable price. After the routine business we settled into real cinema seats and enjoyed an entertaining selection from Ian's huge film and video collection including a DVD of Keith Harding's mechanical music collection in Northleach in England.

The last monthly meeting for 2010 was held on Monday 29 November at "Waipapa", the home of Walter and Hilda Norris at Swannanoa near Christchurch. Among the accounts passed was the final payment for fourteen completed cygnet crane back brackets which, although they will have to sell for \$145.00 each, are of excellent

quality and very welcome additions to the parts stores.

In the early days of the Society we didn't schedule meetings for December and January. These days we have a dinner before Christmas and a meeting at my place in January. The December dinner at the Sequoia 88 buffet restaurant was enjoyed by all. I'm always glad to have meetings at my home in Lincoln as, for one thing, everybody takes home some of the dust on the chairs. It was a good gathering though we had to give the chequebook a bit of a hiding what with the annual insurance and post box payments plus \$1,500.00 for a new supply of Edison cast slotted winding handles for Model A Standards and Homes.

I handed round some New Zealand record dusters brought back from my Christmas trip to Hamilton, during which I enjoyed the company of former member Don MacKenzie and member Derek Finlay who, with his wife Clair, made me very welcome and eager to get back up there soon. Naturally the C-19 diamond disc machine had to be fired up, especially as I had just been fortunate enough to find another 98 diamond discs including many electrical recordings by B.A. Rolfe, Vaughn de Leath and other Edison starts of the last years. The EMG was feeling left out so it joined in with a 12 inch plum label HMV of a singsong by Gracie Fields with her father, mother, sister and brother.

For the February meeting on the 28th, Roger Brown had arranged another visit to Ray and Nancy Drury's organ and car collection in Whincops Road, Halswell. Most of the regulars could have come and we thought hard but, with the news of death and destruction in the city along with the daily round of unnerving aftershocks, it just didn't feel right so, for as far as I know the first time in nearly half a century, we cancelled a meeting. Assuming the shocks taper off and no new quakes occur, we may meet at Lincoln some time later in March.

Emile Berliner and the Birth of the Recording Industry



Emile Berliner and the Birth of the Recording Industry is a selection of more than 400 items from the Emile Berliner Papers and 108 Berliner sound recordings from the Library of Congress's Motion Picture, Broadcasting and Recorded Sound Division. Berliner (1851-1929), an immigrant and a largely self-educated man, was responsible for the

development of the microphone and the flat recoding disc and gramophone player. Although the focus of this online collection is on the gramophone and its recordings, it includes much evidence of Berliner's other interests, such as information on his

businesses, his crusades for the pasturisation of milk and other public-health issues, his philanthropy, his musical composition, and even his poetry. Spanning the years 1870 to 1956, the collection comprises correspondence, articles, lectures, speeches, scrapbooks, photographs, catalogues, clippings, experiment notes and rare sound recordings.



Emile Berliner is not known to have had any testy relations with his inventor colleagues; he appears to have been a man of remarkably even temperament. When certain slights came his way it was

not Berliner but some of his admirers who took up arms in defense of his reputation. For instance, in the early years of the century some writers took it upon themselves to declare that it was Thomas A. Edison who had invented the loose-contact telephone transmitter. Theodore Vail, president of the American Telephone and Telegraph Company, wrote a letter declaring that to his certain knowledge it was Emile Berliner who invented that type of microphone. Again, when Edison was presented with a statue of "Orpheus Discovering the Gramophone Record," it was not Berliner but a host of his friends who complained, as they also did when Congress was considering awarding Edison a medal for the development of the gramophone, in addition to his numerous authentic inventions.



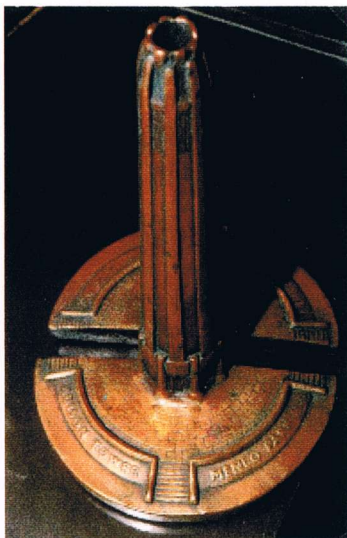
Still, that Berliner was concerned about his reputation and noted the dubious claims of others is evident from the Library of Congress's collections. The Library has a scrapbook apparently compiled by Berliner with articles and letters relating to Thomas Edison's receiving credit for Berliner's invention of the gramophone. Likewise, Berliner wrote in the front cover of a volume of telephone litigation that it might be necessary to preserve this book in order to protect his reputation.

Emile Berliner, Charles S. Tainter (the fatehr of the talking macine), September 1919

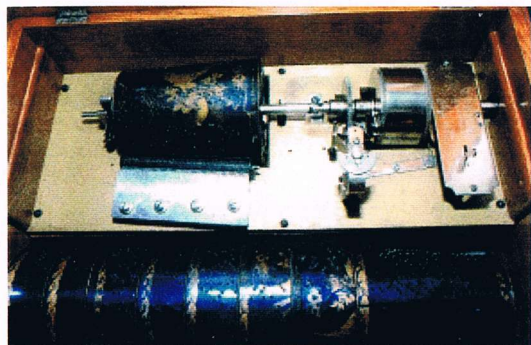
Among his other inventions were:

As early as 1883, while still working for the telephone company, Berliner obtained Patent 284,268 for a new type of floor covering which he termed Parquet Carpet. From time to time he returned to this work and he obtained additional Patents 621,316 in 1899 and 656,162 in 1900.

As one who frequently attended orchestral concerts, operas, and other musical events,



EDISON TOWERS



CUFF MUSIC BOX



COLUMBIA DISC



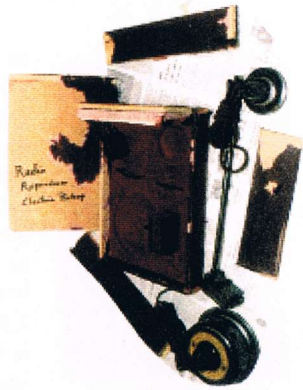
CASE OF CUFF MUSIC BOX



EDISON TRIUMPH PHONOGRAPHS



H.M.V. MONARCH INTERMEDIATE

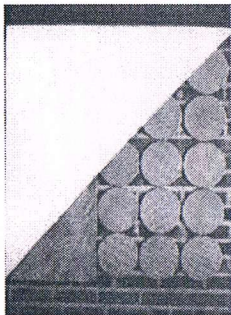


RECORD PLAYER



STOCK TICKER

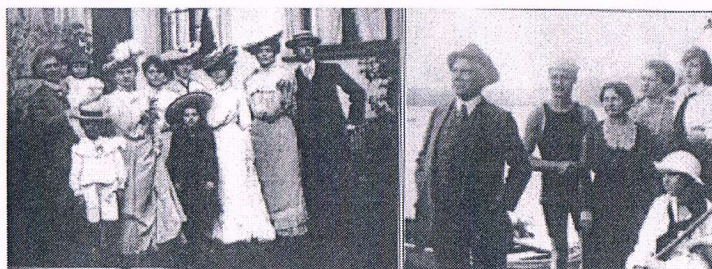




Acoustic Tile

as well as lectures, plays and sermons, Berliner was well aware of the poor acoustics of many halls, theatres, churches and synagogues. Having studied for many years, he decided to do something about the situation. He soon came up with a new type of tile that could be affixed to the existing walls of rooms. Acoustic tiles were, in the inventor's words, "...composed of porous cement, are as hard as stone and yet have the resonance of wood when vibrated by a tuning fork." In 1926 he obtained Patent 1,573,475 for these tiles. They were eminently successful in the days before public address systems. Among the buildings that added these tiles were the auditorium of Drexel University in Philadelphia, Stanley Theater in Jersey City, the Church of the Messiah in Montreal, Leicester Theatre

Pictures of Berliner family



Emile Berliner, Composer

in London, Uptown Theatre in Philadelphia, the Second Presbyterian Church in Pittsburgh and the board room of the Karachi Port Trust in what is now Pakistan.

Emil Berliner's fascination with sound doubtless began in his teens when he was taking piano and violin lessons. Clearly the love of music never left Berliner. He joined the New York Oratorio Society, founded by Leopold Damrosch in the 1870's and sang baritone roles in he Messiah, Elijah, and in Samson.

Berliner also turned his genius to composing. He expressed his love for America and the opportunities it had afforded him in a patriotic song which became a smash hit of its day: The Columbian Anthem. The song debuted in Washington on Washington's birthday

DEDICATED TO THE DAUGHTERS OF THE AMERICAN REVOLUTION.

COLUMBIAN ANTHEM.

Words by
W. J. NEWTON.

Mus. by
E. BERLINER.

Sheet music for the Columbian Anthem written
by E. Berliner with words by W. J. Newton

at the 1897 national council of the Daughters of the American Revolution. The song immediately took hold. It was next presented on Flag Day with a full chorus and orchestra at the Lafayette Square Opera House in Washington. Schools in the National Capitol and New York made the singing of the anthem part of their curriculum. The United States Marine Band featured it in their programmes. The Columbian Anthem opened the programme under the famous conductor Professor Fanciulli at a White House garden party of President and Mrs McKinley.

Berliner's composition may well have become the new National Anthem. Commenting on its presentation at the White House concert, the Baltimore American wrote: "Considering that this country has not a national melody other than those borrowed from Europe, the Columbian Anthem of Emile Berliner has a good chance some day to be selected as our national melody. It is remarkable for its stately dignity, and has within it that patriotic stir and catchiness bound to make it popular.... As a composition [it] ranks easily with the best national hymns ever written."

Berliner turned his attention to the violin. It is well known that antique violins are consistently more brilliant over their entire range than new instruments. Berliner determined that the new instrument did not vibrate freely because the fibers of the wood under the bridge took much time to adjust to the uneven pressures transmitted by the strings through the bridge to the instrument's body.

As a violin is played upon and ages, the wood fibers gradually adjust to these uneven pressures. Berliner therefore developed a new method of stringing directly to the body. Several instrumentalists, among whom were Leopold Damrosch and the then well-known violinist Camilla Urso adopted Berliner's instrument. But the Berliner violin never became popular because "violinists were inclined to look upon any radical departure in the stringing of the violin as heresy."

Berliner did succeed, however, in improving the acoustics of concert halls and indeed, of all architectural spaces, including the home. He was an inveterate theatergoer, and the acoustical inadequacies of various halls disturbed him. He refused to accept the current architectural philosophy of the day, expressed to him by an architect on one occasion:

"Acoustics has always been a gamble." argued the architect.

"You're right." Berliner replied, "and as I am against gambling, I want to stop this!"

Busy with his other activities, Berliner nonetheless launched into a twenty-years-long study of hall acoustics. The "acoustic tiles" and "acoustic cement" he developed were, once more, groundbreaking innovations. He presented his solution for the baffling problem of hall acoustics at a meeting of the American Institute of Architects in Washington on October 8, 1925.



Berliner employed the radio and distributed free educational literature on "scalding" milk to reduce the scourge of deadly diseases that killed one third of all children. Berliner persisted in his campaign despite the opposition of medical societies over a quarter of a century. In between his fight for public health and women's rights Berliner found time to invent the helicopter and made a series of inventions and innovations in aeronautics.

Emile Berliner broadcasting over his invention, the microphone.

Emile Berliner and public health



Emile Berliner among children of a public health class, which contained pupils in the early stages of tuberculosis

Berliner's genius was not confined to acoustics. When his daughter Alice died in 1890 of gastrointestinal disorder, he turned his talents to medical research. In the nineteenth century, infants were suffering a devastating 30% mortality rate. Berliner, convinced that many infant's diseases were caused by the indigestion of raw milk, founded the "Society for the Prevention of Sickness" in 1891 and launched a widespread campaign for "scalding" milk before its ingestion. The first of a weekly series of "health bulletins" promoting the "scalding of milk" was published in the Washington Post of June 15, 1901.

Berliner's intensive campaign was opposed by the medical profession over many years! The American Pediatric Society was the most strident about its opposition to scalding milk, claiming that children who drink it would contract scurvy and rickets! Berliner persisted in his campaign. Every bulletin he issued ended with a slogan "Scald the milk, and keep it cool and covered thereafter."

"In addition to stigmatising pure milk, the bulletins of the Society for the Prevention of Sickness pointed out the dangers of icecream, butter, and dairy products made from non-pasteurized milk and cream. This voluntary, popularised propaganda, systematically and efficiently conducted under Berliner's personal direction, supplied the people of the National Capitol with a liberal education in the science of health.

The persistent propaganda, and emerging facts about pasteurisation stirred some doctors to take notice. In 1906, a former surgeon-general of the U.S Army, Brigadier-



Emile Berliner with the Health Committee including Dr. Harvey W. Wiley and Dr. M. Kober at a class of children.

General George M. Sternberg created a milk committee and made Emile Berliner its chairman. Berliner wasted no time. In 1907 he organised the first milk conference in Washington, D.C. about pasteurisation and quality controls over the production of milk. The issue of the contamination of milk by traces of dung from tubercular cows was ascribed a significant cause of tuberculosis in people. The conference resulted in the adoption of milk standards by the Federal Government.

The American Pediatric Society opposed the measure! Another milk conference initiated by New York City's health department adopted similar standards to those set in Washington. "When Professor von Pirquet, the renowned child-hygienist of the University of Vienna, visited Washington, Berliner was told that his gospel of safe milk for healthy children had spread to Europe and was universally acclaimed.



Resistance to "scalding" milk persisted. Emile Berliner also persisted. He published "Twelve Rules for Health", and distributed free twenty-five thousand copies to schools. The Rules were written in single syllable words, and Berliner also converted them into nursery rhymes. One of his most effective nursery rhymes was widely recited by children in their games:



"When milk is raw just from the farm
It's full of germs which may do harm;
But safe it is and highly prized
When it is boiled or pasteurised.
Ice-cream, cheese, and butter-fat
Come from milk - you all know that.
Made from raw milk, we can see
They might harm both you and me."

In 1909 he donated funds for an infirmary building at the Starmont Tuberculosis Sanitarium in Washington Grove, Maryland, dedicated to the memory of his father. Berliner was president of the Washington Tuberculosis Association for some years. In 1920 Berliner endowed a silver cup as an annual award by the Tuberculosis Association to the city whose school children were most engaged in his health crusade. President Harding presented the award in 1921 to the school children of Washington D.C. That same year, together with Doctor Alfred J. Steinberg, Berliner wrote and

published *The Bottle Fed Baby*, a guide for young mothers on the healthy rearing of their babies. Every new mother was entitled to a free copy, and in the next five years, over fifty thousand copies of the guide were distributed.

"The Medical Society protested Berliner's gratis circulation of the guide, on the ground that it gave young mothers so much and so sound advice on the rearing of infants that it was as potent as an apple a day - it kept the doctor away." Undeterred by the Medical Society's opposition, Berliner wrote, published and distributed a dozen more works on children's health.

Finally, in 1925, Berliner was instrumental in securing the passage of a milk law standards bill for the District of Columbia. It was the beginning of a nation-wide series of laws applying the principles Berliner had first proposed in 1901. It had taken the medical profession a quarter of a century to recognize the validity of Berliner's health rules.

"Had Berliner never touched the telephone or the talking machine," Wile concludes, "his health work should secure his claim to the gratitude of his era and of eras to come. It is no exaggeration to state that hundreds of thousands of children's lives were saved by Berliner's heroic, steadfast, and selfless campaign. In 1924, he inaugurated the Bureau of Health Education to promote public hygiene and health education for mothers and children.

Crusader for womens rights

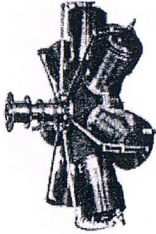
Emile Berliner long held, in contrast to the supercilious opinions of the bulk of scientists of his time, that erudite and creative women like Madame Curie were no exception. He argued that women, given the opportunities for education equal to men, would equal them in the sciences. In 1908 he founded and subsidized the "Sarah Berliner Research Fellowship." Mrs. Christine Ladd Franklin, the first woman to earn a doctor's degree at John Hopkins University, was a charter member and Berliner also obtained the cooperation of the American Association of University Women. The fellowship was made available for research in physics, chemistry or biology. From 1909 to 1926 awards were given to women each year in those fields as well as in psychology, physiology, paleontology, geology, nutrition, zoology and related subjects.

In 1926 Professor Agnes L. Rogers of Bryn Mawr College lauded Emile Berliner for his devotion to women's equality in the sciences: "Mr. Berliner's foundation was one of the first, if not the first, fellowships for women in the United States and the very first designated for science.... It should be remembered that Mr. Berliner made this fellowship available when women's position in colleges and universities was far from being so assured as now." Emile Berliner's interests and philanthropies extended to his support of the rebuilding of Palestine and his very active support of Hebrew University.

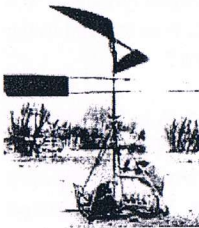
Emile Berliner and the helicopter



Emile Berliner with his son Herbert, c.1915



Revolving cylinder motor



Berliner-Williams helicopter, 1908

In 1906 or 1907 Emile Berliner became fascinated with the possibilities of the flying machine. This led to his involvement in the development of the helicopter which, as he himself said, was one of the earliest forms of heavier-than-air machines conceived, going back at least as far as the time of Leonardo da Vinci. Between 1919 and 1926, he built three helicopters, which he tested in flight. In 1907 Emile Berliner built a prototype of the helicopter. Berliner's unique rotary-engined mechanism likewise flew a few meters that same year. The flight took place August 1, 1907. The successful launching that took place is but one of the significant advances in aeronautics made by Berliner that day.

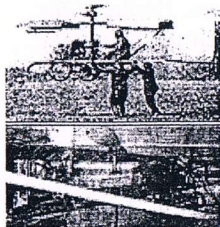
It was the first time rotary motors were used on an aircraft. Berliner went on experimenting with new designs and new mechanisms in model after model and year after year. Berliner next produced a two-engine, two bladed machine. On June 26, 1909 the mechanism lifted an associate, Williams, off the ground in a tethered flight. The two machines, were, therefore, the true precursors of the helicopter.

The first manned US vertical flight machine appears to have been developed by Emile Berliner and John Newton Williams. Berliner designed what may be the first production rotary aircraft engine, the 36hp Adams-Farwell engine. In 1908, Williams constructed a coaxial machine for Berliner using two of these rotary engines. It reportedly lifted both Williams and the machine - a total of 277kg - but was probably steadied from the ground. In May, 1908, Williams built another stand in Hammondsport, New York, as a member of the famed

Aerial Experiment Association (which included Alexander Bell and Glenn Curtiss), using a 40hp Curtiss engine. It made hovers around 1 m, again steadied from the ground.

Emile Berliner continued to experiment until a viable result was successfully achieved. At first he proceeded alone, and later he was joined by son, Henry. On June 10, 1920, a platform, outfitted with two rotors above the pilots's seat, not only soared straight

up, but traveled forward for a measurable distance. Thus, after a dozen years of experimental gestation, the first true helicopter was born. Emile and Henry Berliner were its creators.



Emile Berliner's experimental helicopter. 1920.

Emile Berliner's "Helicoplane," featuring a number of inventions and innovations: Twin counter-rotating main rotors controlled by differential braking; A radial engine; A tilting tail rotor.

A triplane version followed. On February 23, 1923, it demonstrated its ability to fly. It rose fifteen feet and remained aloft for fifteen minutes. The unwieldy craft, although fraught with limitations, did, however, employ yet another Berliner innovation: tiltable propellor shafts. Thus all the elements for a universally controllable helicopter were developed and installed by Emile Berliner in his aircraft. The evolution of helicopter design thereafter became merely a matter of reducing the helicopter to its essential elements. The Berliners set about immediately to do just that.

At this time several other inventors entered the field. Sikorsky is most notable among those who took full advantage of the principles and devices pioneered by Emile Berliner, and went on to construct new and larger models.

A biplane "helicopter" succeeded the Berliner triplane of 1922. "This machine was flown out of ground effect at 30' height, maneuvered laterally 400 yards, and attained a forward speed of 40mph." The Berliner triplane and biplane designs gave way to a monoplane. "A Berliner helicoplane, of monoplane configuration, was entered in the British helicopter competitions of 1925-26, it had a lifting tail rotor."

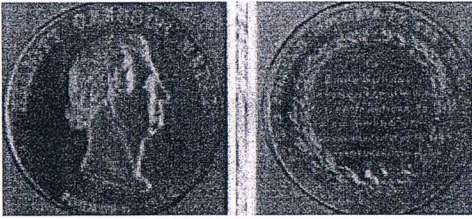
A Berliner helicopter of that period was put on permanent exhibition in the National Air and Space Museum in Washington. It is designated: "1924 Berliner Helicopter No. 5." It is described as "a Berliner 1924 "helicopter" with two propellers on a horizontal wing and a third near the tail. Also on view is a Berliner 1932 monocoque that was popular in the air shows..."

In 1899, Berliner wrote a book, *Conclusions*, that speaks of his agnostic ideas on religion and philosophy.



At this point Emile Berliner was in his seventies, and was deeply involved in his philanthropies and concern with public health. His son, Henry, became a pioneering inventor in his own right, at first with the help and guidance of his father and then, when his father passed away in 1929, he followed in his father's footsteps to break new ground in aeronautics. Albeit this monograph is concerned with his father, a brief

summary of Henry's considerable accomplishments is in order. They can surely be considered an extension of Emile Berliner's pioneering in aeronautics.



Front and back view of Elliott Cresson Medal presented to Emile Berliner by the Franklin Institute

Emile Berliner, through his innovations and inventions, left invaluable legacies in communications, acoustics, and aeronautics to America and to the world. His activity in the field of public health saved hundreds of thousands of lives. His philanthropies helped to boost women to new levels of equality in science. Elliot Cresson gold medal was presented to Emile

Berliner by the Franklin Institute in 1913 in recognition of his scientific contributions to telephony and acoustics.

Zionism was another cause that involved Emile Berliner deeply. Between 1913 and 1918, Berliner wrote four articles on the subject: "The Social Status of the Jews," "Zionism and the American Spirit," "Americanism and Zionism," and "Thoughts on Zionism." In 1919 Berliner was named chairman of the Committee on Arrangements for a reception for the celebrated rabbi Stephen S. Wise. During the same year he wrote a letter to the editors of both the Washington Star and the Washington Post concerning the second commemoration of the 1917 declaration by British statesman Arthur Balfour that "His Majesty's Government favors establishment of a national home for the Jews in Palestine." In 1919, Berliner wrote another article on "A Study Towards the Solution of Industrial Problems in the New Zionist Commonwealth." His support for Israel and the Hebrew University was considerable.

In a May 9, 1928, letter to his wife concerning the type of funeral he would want, Berliner expressed both his humanitarian and patriotic feelings: "When I go I do not want an expensive funeral. Elaborate funerals are almost a criminal waste of money. I should like Alice to play the first part of the Moonlight Sonata and at the close maybe Josephine will play Chopin's Funeral March. Give some money to some poor mothers with babies and bury me about sunset. I am grateful for having lived in the United States and I say to my children and grandchildren that peace of mind is what they should strive for."



Emile Berliner died on August 3, 1929, after a heart attack in his seventy-ninth year. He was buried on the Rock Creek Cemetery, Washington, District Of Columbia. U.S.A.

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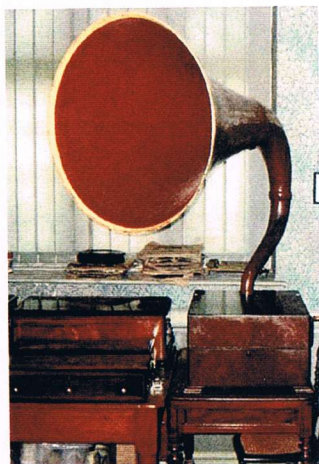
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Peter Bowler, educationalist and author, spent many years in management before retiring to subtropical Queensland, where he continues to write and to pursue his special interest in old recordings of the great singers of yesteryear. His published books include the 'Superior Person's' series about weird and wonderful words, the murder mystery novel Human Remains, The True Believers, What a Way to Go, The Annotated Onomasticon, The Creepy-Crawly and The Superior Person's field Guide to Deceitful, Deceptive and Downright Dangerous Language.
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