

The Phonographic Record

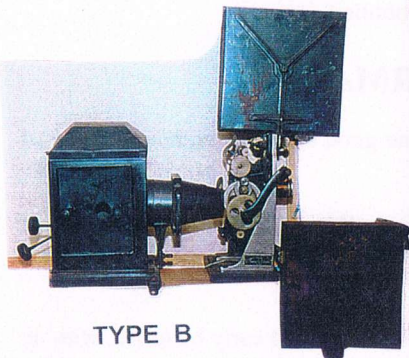
Journal of the Vintage Phonograph Society of New Zealand

A Society formed for the preservation of Recorded Sound

Volume 44, Issue, 1

October/December, 2008

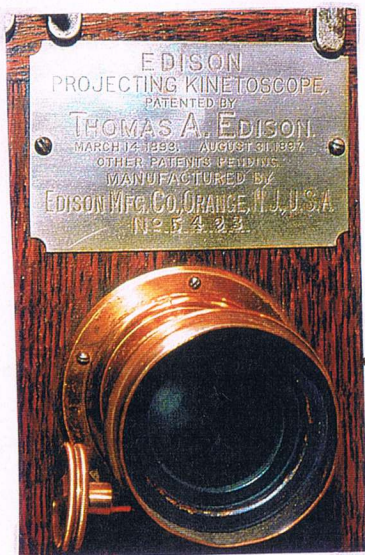
EDISON KINETOSCOPE



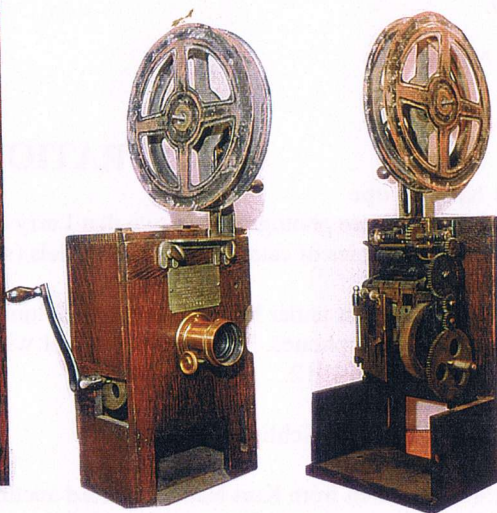
TYPE B



TYPE A



TYPE A



THE PHONOGRAPHIC RECORD

VOLUME 44, ISSUE 1

OCTOBER/DECEMBER 2008

EDITOR: W.T. Norris
650 Two Chain Road
Swannanoa 7476
Rangiora RD 6
NEW ZEALAND

SECRETARY: Mrs S McGuigan
P.O. Box 19839
Woolston
Christchurch 8241
NEW ZEALAND

e-mail: nzphonosociety@hotmail.com

FOR YOUR INFORMATION

Another year will soon be over. We have had some good meetings with something of interest always turning up.

A surprise this year was a number of five inch Berliners which turned up in Christchurch. These are some of the oldest records in the world. Gavin East who discovered them will tell us more in this issue.

We are going to endeavour to include more on telephones and early batteries, with an article on the first Gem and Edison Projectors. We are very happy to receive from members anything of interest, pictures or prose, which we can include in future issues.

Our secretary Shirley, and I, wish you all a Happy Christmas and enjoyable collecting in 2009.

Walter Norris
Editor

ILLUSTRATIONS

Edison Kinetoscope

On the front cover are photographs of two that Larry Schlick has. He has also sent copies of catalogues of the models (see elsewhere).

Columbia Marvel

This model is the first under horn models that Columbia produced. These were known as "Hornless" gramophones. This one was small with a single spring, very cheap in design, introduced in 1912.

Edison Kinetoscope

Illustrations taken from Schlick's Catalogue.

Record Labels

These three are taken from Kurt Nauck's record auction-.

Emile Berliners Gramophones and Records

See Article

Emile Berliners Transmitter

ILLUSTRATIONS

continued

Parts you would like to buy

All parts illustrated in a catalogue.

Cylinder Box Label

This label was discovered under a different label, interesting.

This was done with Herald and Minstrel label which were stuck over Bell records.

The First Edison Gem

Very good pictures which we think were sent to us by William Dunn.

See article taken from "The Phonograph and How to Use It".

A copy of a Canadian stamp of Graham Bell.

THE FIRST EDISON GEM

An interesting little machine. A very interesting article in The Antique Phonograph News' on the Gem by Domenic Dibernardo.

He tells us the first Model A was introduced in February 1899. The Reproducer is held in by small screws and has a very light weight and a glass diaphragm.

No wood case was provided but a drip tray was screwed to the bottom to catch the oil drips off the cogs. Domenic tells us there are six models and 29 variations of the Model A. This model was designed to play early soft brown wax cylinders, hence the reason for the light weight.

It would play two minute cylinders only and could not be wound while running. It had a long shank clock key to wind it with and speed control and stop-start levers in the front. The horn was a simple one - black with a painted gold band.

To start with it was sold for \$7.50 and was the cheapest Edison ever manufactured. Was, and is, noisy in the gears. Not seen in New Zealand.

GRAFHONOLA

1912 Columbia Marvel

Number 21

This is possibly the first common under horn machine Columbia made. This was a small simple single spring model built to a cost. Baumbach says it does appear in regular Columbia catalogues of the period.

The mentor which the model which came later was much more popular.

President's Report 2008

As I bring my report to this, the 43rd Annual General Meeting of The Vintage Phonograph Society of New Zealand, it seems hard to believe that another year has passed, and that my two year term as President is complete.

The Society continues to operate smoothly, all thanks to the small, but committed, team of local members who meet monthly in a relaxed atmosphere to discuss the Society business of parts, financial matters, correspondence, and other items that come up from time to time.

We have been reminded on occasion throughout the year that there are still surprises waiting to be found by those of us who collect. It is always great to receive correspondence from members around New Zealand and other parts of the world, telling of an interesting, and sometimes very rare, find that they have either discovered, or heard about from another collector. Even locally we have been excited about some of the great things that have come to light in the past few months.

Our Parts continue to be in good demand from members in various countries and we are always pleased to receive feedback on the great quality and value they represent. Unfortunately some items are running low or are out of stock, however these are being replaced over time, and we hope we can continue to fill most, if not all, parts orders.

In December of last year we were greatly saddened by the loss of Pam Rogers. Pam was one of the three founders of this Society and served for many years as Secretary. She had a real enthusiasm for collecting, and was always on hand to offer assistance or advice to new and seasoned collectors of all ages. Pam passed away on December 19th after a short illness.

I am grateful to each of the local members for their input and assistance with Society matters. Many generously make their homes available for our monthly meetings, and we have enjoyed plenty of warm conversation over a great supper afterwards. I would like to thank Shirley for taking good care of all of the Secretarial responsibilities, and Walter for the work he does in putting together material for the magazine that so many members enjoy. Particular thanks go to Gavin who fills the many roles of Treasurer, Minute Taker, Parts Storage and Parts Packer. The efforts of all who assist are greatly appreciated and have made my term as President a smooth and enjoyable one.

As we move in to another year, I personally look forward to the friendship and conversation we share around this interesting hobby, and trust that the incoming President will enjoy the role as much as I have.

David Peterson

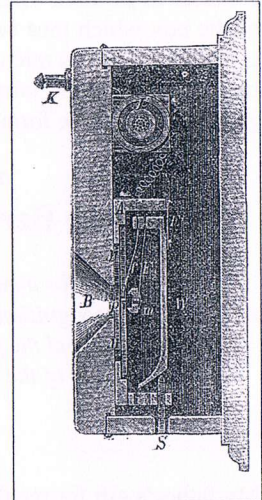
BLAKE MICROPHONE AND CROSSLEY TRANSMITTER

One of the best known forms of transmitter is that known as the Blake microphone, a section of which is shown in Fig. 131.

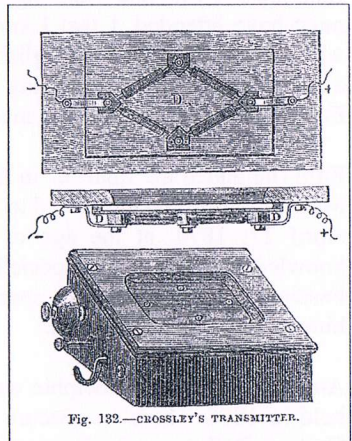
Opposite the mouthpiece, B, is the iron disc, M M, which collects and transmits the sonorous vibrations to the loose contact behind it: this disc is fixed in position by an india-rubber band passing right round its edge. The loose contact is made between a platinum point marked *p*, mounted on a spring, *f*, and a carbon button marked *m*, mounted on a spring F, the two springs being carefully insulated from each other:

The adjustment of the initial pressure between the carbon and the spring, F. If the plate, *w*, be made to approach the diaphragm, the contact between the carbon and platinum will be compressed, whilst movement in the opposite direction will produce a loosening of the contact. Both of these movements can be produced by means of the screw, *s*; if this be screwed in, the contact will be tightened, whilst if it be withdrawn, the contact will be loosened; the required pressure can be easily and quickly obtained by a few minutes' trial.

The primary current is in this instrument purely local, that is to say, it is passed through the loose contact, and the primary coil of a transformer or induction coil, and then returns to the battery where it was generated. The current which is generated in the secondary circuit of the transformer is the one which flows along the line and gives rise to the sound-waves in the receiving telephone. The course of the primary current through the telephone is as follows: - Entering at the terminal, K, it flows through the primary circuit on the transformer, J, to the platinum point, *p*, by means of the spring, *f*, then it flows across the loose contact to the carbon button, *m*, through the spring, F, to the plate, *w*, and then through the adjusting-screw, *s*, to the other pole of the battery. The secondary circuit is wound on the transformer, and has one end connected to earth and the other to the line.



*Fig 131
Blake's Microphone*



*Fig. 132 illustrates the
Crossley transmitter.*

The feature of the Crossley transmitter is the fact that it contains four carbon pencils fixed loosely in carbon blocks, diamond-shaped, as shown at D. The primary current enters at one corner and leaves at the opposite, thus flowing through two pairs of contacts in parallel. These microphone contacts are fixed on the lower side of the lid of the box which thus acts as the diaphragm, and communicates the vibrations to the contacts. In Ader's microphone there are ten carbon pencils arranged in loose carbon-holders. Both these telephones contain transformers like the Blake transmitter, and generally use some form of the Bell telephone as receiver.

The origin of the dog named "Nipper"
Emile Berliner: inventor of the gramophone

It is all too easy for a man to contribute something of importance to society, and, yet achieve little recognition for it. Such is the case with Emile Berliner. The microphone, the disc record and the gramophone, some of today's record industry giants, and the worldwide fame of the dog named Nipper all owe their origins to this little-known inventor and audio pioneer.

by **OLIVER BERLINER**

My father's gift for recollection is responsible for my lifetime illusion that I knew my grandfather, Emile Berliner, who invented the microphone and gramophone - that is, as the disc record - and the first practical system for mass producing it. It is a fantasy that is very real to me even though Gran'pa died when I was but two months old. Like the son who had heard so many details of his parents' wedding that he knows he must have attended, I feel I know this formal-looking gentleman of middle height whose German-accented English and pince-nez imparted a tutorial mien. He affected a stiff starched collar and string bow tie all his life, the natural accoutrements of any European American who had made his mark in life and upon society.

Emil (he added the final "e" in America) Berliner was born in Hanover, Germany, on May 20, 1851, and emigrated to a new life in the New World via the "Hammonia" on April 27, 1870, at the age of nineteen. He had little in his pockets and scant knowledge of English - especially as articulated in New York where the ship docked. Fascinated by electricity, he spent his evenings studying at Cooper Union, supporting himself as a dry goods clerk.

An exposition in Philadelphia was one of the highlights of US centennial celebrations held in 1876. There an obscure Nova Scotian born Scot by the name of Alexander Graham Bell was experiencing great disappointment at the lack of public interest in his invention, which he called the telephone. Then came the day the president of Brazil, though weary from wandering through the endless exhibits, insisted to his aides that he be permitted to examine the telephone. His exclamation "My God, it talks!", and the ensuing hullabaloo got Bell the attention he had been praying for. The telephone was launched.

The instantaneous acceptance of telephony kindled the interest of other inventors of the era, most famous of whom was Thomas Alva Edison. He recognised that the major defect in the telephone was what Bell referred to as the transmitter - the piece into which one spoke - since it could transmit only short distances. Edison was not alone. Emile Berliner already was attempting to build an improved telephone that would eliminate this inherent flaw.

On April 14, 1877, when he was not yet twenty-six years old, Emile Berliner filed with the patent office his "caveat" - a device by which the patent office allowed inventors to stake out claims to the areas they were working on in advance of a formal patent application - covering a battery-operated loose-contact transmitter. It used a principle that passed the limits of scientific credibility at the time - electrical contacts that don't actually make contact yet carry the necessary current.

Being penniless, Emile Berliner prepared his own caveat, but its accuracy and completeness permitted it to withstand subsequent legal attacks from powerful forces. Later the Bell System purchased my grandfather's invention.

Stumbling Across Seven of the World's Oldest Records Thanks to Sam Morgan by Gavin East

At a quarter past five on the afternoon of Thursday the fifth of June, 2008, my most astonishing find in over forty years of record collecting leapt out of the blue computer screen. Work (loosely speaking) done for the day, I was having a mooch around TradeMe with my usual keyword searches. Having checked that "pianola" was still obstinately refusing to lead me to an electric Duo Art, I had a glance over the day's listings under "gramophone" and "gramophone". There wasn't a duster or much else that stood out from the so-so 78s, table models and a sample of the several million surviving HMV 101 portables.

Bearing in mind that New Zealand's public education system has not regarded the teaching of spelling as desirable for about thirty years, I then had a look at "grammo*" to see any listings including words beginning with those six letters. As usual, up came a new fake HMV brass horn "grammophone" and a string of Deutsche Grammophon CDs. Then - WHAM! In the middle of the list, "Berliner's Grammophon records (7). A collection of seven different century-old Grammophon records, measuring 125mm diameter, some have paper labels on thweir [sic] backs. "The titles were listed as, "16. A little ship was on the sea. 25. The Lord's prayer. 28. Morning hymn. 42. Auld Lang Syne. 50. Blue bells of Scotland. 150. Foreign title. 377. Foreign title." The listing ended with, "We have not tried to have these played as we do not have any equipment suitable." The seller was located in Christchurch, the starting bid was \$10 and the auction was to close in three days.

I sat there thunderstruck, my brain starting to feel like a fully-wound musical box with the governor suddenly disconnected as I took in, "Berliner's Grammophon – Lord's prayer - paper labels - 125 mm." 125 mm? I reached with trembling hand for the ruler souvenired from Library School thirty years ago. Yes, in real measurements that's FIVE INCHES! Seven inch Berliners are scarce enough but five inch ones, the discs made in Germany c. 1889-1892 for the handcrank Kammer & Reinhardt gramophones, tiny relics from the misty dawn of commercial recording? Those babes are like chook's choppers, even in Europe.

So what to do? Ring David Peterson. Why, you ask? Well, for one thing, I have yet to register on TradeMe. It is not all that often that I want to buy something and several friends are kind enough to bid on my behalf when I do. I was sure David had not seen the Berliners or he would have entered the starting bid. I knew he would be as gobsmacked as I was and would be more than happy to help. So David, tootling home along Hansons Lane, was surprised to get a cellphone call from a slightly hysterical me, babbling about Tradeliners on Berl Me. Once I had calmed down enough to tell him how to find the listing, he observed that the seller was a dealer with a variety of items finishing at the same time. This suggested that he regarded the Berliners as "some old records". David was struck by how few people had viewed the auction. How long would it stay a sleeper?

Partly because I thought there could be a fair amount of money involved, I asked David if he wanted to go halves with me. As making a neat cut halfway through each disc might be tricky, we settled on four for me, three for him if, as we scarcely dared hope, we got them. Now to bidding tactics. On TradeMe you can ask a seller for a "buy now" price if an auction has had no bids. We decided against this as it might spook the Berliner merchant into thinking there must be something special about the discs. Besides, there is no knowing when a seller might respond to a "buy now" request. The fixed price could appear when David wasn't looking, someone else could pounce and bye bye Berliners. David entered the starting bid of \$10 and we left it for a couple of days to see what happened.

That was on the Thursday evening. Come Saturday and nothing had changed, apart from my having to pretend to be deaf than usual when Robert Sleeman remarked, "There's nothing interesting on TradeMe at the moment." I said to David, "There are seven discs and I have a feeling they have to be worth at least \$200 each. I suggest we put in a maximum bid of \$1,550. If someone who knows what they are comes in, at least they'll have to pay more than that for them." We left it at that and I gave the auction scarcely another thought as the circular track in the living room carpet deepened. At seven o'clock on Sunday evening David rang to report in a slightly dazed tone. "This must be the TradeMe sleeper of all time. You've got them for ten dollars the lot."

David collected the discs and of course asked the seller if there was any trace of a tiny

handcranked machine. We had the wild hope that he might say, "Oh, that thing? I thought it was some sort of coffee grinder." But no, the records had just turned up "in the bottom of a box of stuff from an estate". Who knows how long they had been in New Zealand and whether they had a machine with them when they came? So, to my place where we spread the little darlings out on the table. Now to divvy them up. How many had surviving labels on the back? Three, with a fragment on a fourth. Okay, I wasn't going to try to hog all the ones with labels. I chose no. 16 as it is the lowest number; no. 25 The Lord's prayer as it has a label and is supposed to be Berliner's voice; no. 50, complete with label; and no. 42 Auld Lang Syne, a short recording which I have on CD. David was happy with no. 28, Morning hymn, a low number with label, and the two German title discs with higher numbers.

NOW THAT WE HAVE THE DISCS

Now that we had the discs I was very keen to find out as much as possible about them - and it's not all on the Internet either! I am grateful to Tony Airs for supplying an extremely interesting piece of research by Chris Long, published in *The Sound Record*, Journal of the Phonograph Society of New South Wales Inc., vol. 16, no. 3, June 2000. The article, titled 'Australia's oldest collection of sound recordings' deals with the handcrank machine and discs in the Tasmanian Museum in Hobart. Chris argues that five inch Berliners were the first records made for sale to the public (as opposed to the first pre-recorded Edison wax cylinders, beginning earlier in 1889 but supplied only to leasehold operators). He notes that "all references consulted so far have been vague and contradictory as to the exact dates of manufacture of both the toy gramophone and its records". I didn't have to look at many websites before concurring!

It seems that the five inch discs were pressed in vulcanised rubber, celluloid and zinc between late 1889 and about 1892. I would love to think that David and I have some records made in the 1880s! Our ones are black, opaque, very thin and slightly flexible. I had assumed they were celluloid but am wondering if they might be hard rubber. They don't appear to have undergone any change beyond normal wear and tear. I presume they were recorded in Waltershausen by Kammer & Reinhardt under licence from Emile Berliner but could some, or all, have been made in Berliner's Washington laboratory? There are so few hard, precise, documented facts about these records. It seems (that word again) that the German-accented voice reciting in English on some of the discs is that of Berliner himself. Oliver Berliner has stated that no. 25, The Lord's prayer, is his grandfather's voice and he ought to know.

Perhaps you are wondering what they sound like? Well if you think a seven inch Berliner sounds primitive... One of my discs, Auld Lang Syne, is among a few five inch ones included on a 1989 Symposium CD devoted to Berliners. There is an impressive website put up by a French outfit called Archeophone (Google "archeophone berliner").

It lists all the known five inch discs with photos (front and back) and sound transfers of many survivors contributed by various collectors. Last time I looked, the lowest numbered reported disc (and possibly the earliest, though I wouldn't take that for granted) was no. 16, a copy of which turned up in our lot. Chris Long notes that the discs have a coarse groove, play much faster than later Berliners (some of the Hobart ones sounding right at over 90 r.p.m.), have virtually no treble but surprisingly strong bass and are ferociously noisy because of the ragged groove edges produced by the acid etching process. Fi doesn't come much less hi but then it had to start somewhere. Of course I'm not about to subject my discs to a steel needle! I did take them to a 78 collector friend who has a Lenco variable-speed turntable and Shure cartridge. Even with the standard 78 stylus crashing around in the wide grooves, we could tell that the Berliners have an intact "signal" which specialised equipment would reveal.

After we had got the Berliners I had the horrible thought, "Surely these aren't the last of several lots from the same seller and we missed the rest?" "No," David assured me BUT, "You won't believe this - our ones have been listed before and closed without any bids!" It is hard to believe that this could have happened, especially when (as at time of writing) a Google search "berliner's grammophon records" still brings up the TradeMe listing. The seller's description was careful and mostly accurate but the key was the absence of the word "gramophone". Unlike eBay, TradeMe searches titles and descriptions automatically. With that magic word somewhere in the listing the discs would have been spotted by several collectors who recognised their significance and we would have been blown out of the water. A single later very unusual Berliner, which appeared on TradeMe shortly afterwards, illustrates this - but that's not my tale to tell.

The other day in the Staff Room a colleague asked me if I had ever found anything interesting on TradeMe. I mentioned the Berliners. How much did I pay? Ten dollars. What would they be worth? I hazarded a guess at a figure somewhat greater. Didn't I feel sorry for the seller? There seemed a slight chill in the air as I started to explain that it was not a poor old lady hoping to finance a new hip but a dealer, at which point the room erupted into a jolly chorus of, "Oh, a dealer? That's fine, good on you if it was a dealer!" A reminder of an attitude that is still out there.

At around \$1.40 each our discs were not unduly expensive but that's just how it happened. David and I are happy to have them in our collections. Knowing my business sense, if I did try to sell one or two it would probably be just after someone unlocked a store room door in an old warehouse in Germany and found ten thousand of the things.

And the bit about Sam Morgan in the title? Sam was the whizzkid who thought up TradeMe in 1999, has made zillions and has seen the site become the vehicle for just about every sort of (legal) commerce in New Zealand. Without Sam, our Berliner dispenser might have turned to eBay and none of us would have wanted that, now would we?

April Meeting Notes

by Wilf Boon

The April meeting on Monday 28th was held at David Peterson's home at 10 Cephas Close. Members present were David Peterson, Wilf Boon, Roger Brown, Derek Cockburn, Lyndsey and Bill Drummond, Gavin East, Joffrey Marshall and Walter and Hilda Norris. Unfortunately Robert Sleeman, with his usual and interesting input, was unable to attend this month.

The meeting started at 8.05pm with David keeping us up to date with the previous minutes and happily reporting that we will still be able to post the magazine unfolded for a dollar within New Zealand despite highly unpopular NZ Post price increases and also the HMV Monarch Senior Elbows made by Ken Jane, with input from Tony Airs, have now been costed and will be included in the next sales list.

In Matters Arising regarding the supply of parts—it was decided that because of the steady demand for both the all-brass, and steel and brass, witches hat horns, and, order for a dozen of each should be placed with maker, Ken Jane.

Later, David handed around for everyone to browse through, a most attractive, coloured German-published book, titled 'Gramophone Needle Tins' he had recently acquired from a Taupo, North Island, collector and dealer.

The meeting closed at 9pm after which David showed a very interesting DVD on the life of Edison. Supper concluded an enjoyable evening.

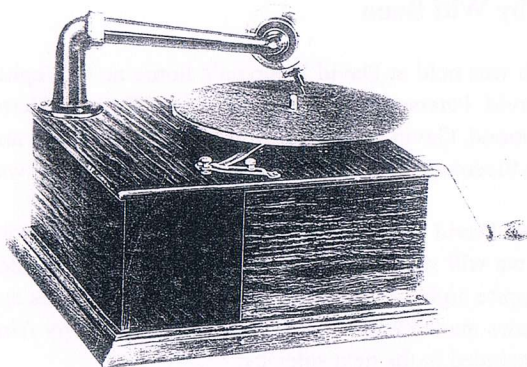
May Meeting Notes

by Wilf Boon

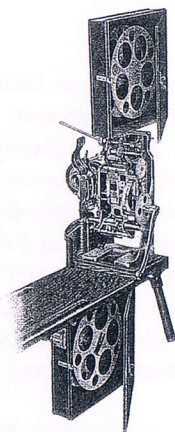
Thank you once again to Walter and Hilda Norris for inviting and hosting the Society's May 26th meeting. Those present were David Peterson (chair), Wilf Boon, Roger Brown, Lyndsey and Bill Drummond, Gavin East, Joffrey Marshall and Walter and Hilda Norris. The meeting started at 8.25pm.

Once again a very pleasant evening was enjoyed in comfort around a lovely open fire, a feature in Walter's very spacious lounge, and adorned with one or two desirable collectables.

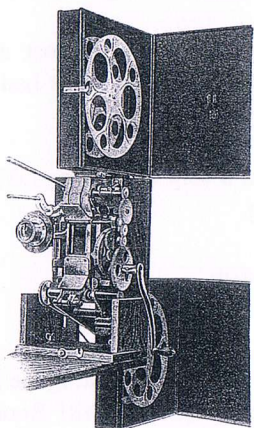
Not too much to report, apart from Walter receiving a letter from the Dutch collector whose machine was featured on the front of the last magazine and an email from Peter Bowler (Australia) seeking a diamond disc reproducer to complete one of his machines.



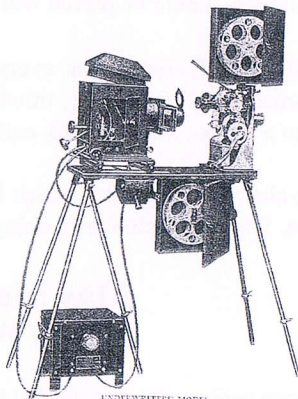
COLUMBIA MARVEL



Mechanism of Underwriters' Model, Type "B"

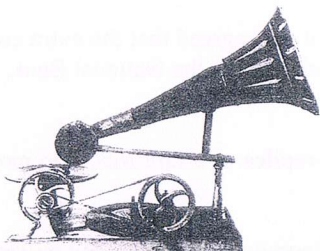


EDISON KINETOSCOPE



TYPE B



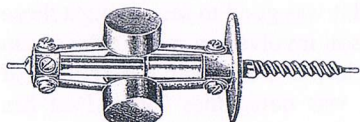


Above, an early model of Emile Berliner's invention, the gramophone. This hand-cranked machine was the first to use discs. At right is one of the first records pressed in the Deutsche Gramophon factory. Recordings were made on one side of the disc only.

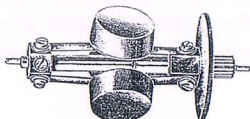
EMILE BERLINER'S GRAMOPHONE AND RECORD

PARTS YOU WOULD LIKE

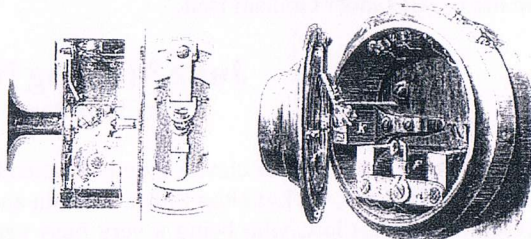
GOVERNOR PARTS



COMPLETE GOVERNORS.
For worm governed motors.
11 Sizes. Price 4/6 each.



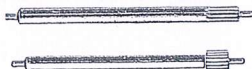
COMPLETE GOVERNORS.
For pinion drive motors.
11 Sizes. Price 3/6 each.



BERLINER'S TRANSMITTER



WORM GOVERNOR SPINDLE.
Stocked in 21 sizes and patterns.
Price 2/9 each.

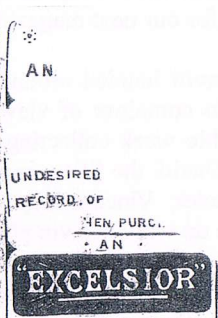
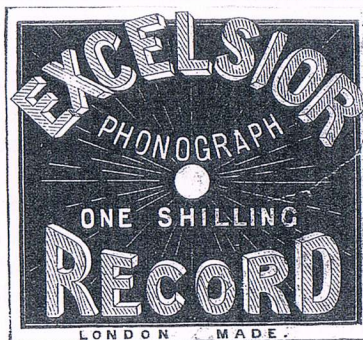


PINION GOVERNOR SPINDLES.
Stocked in 19 sizes and patterns.
1/3 each 14/- dozen assorted



GOVERNOR WEIGHTS.
Complete with Screws and Washers
1/3 dozen 12/6 gross assorted

CYLINDER BOX LABEL



For overseas members who pay by cheque, it was agreed that the extra cost of the \$5 charge required on the deposit of a foreign cheque by the National Bank, would now need to be passed on.

Joffre Marshall showed his latest project, a replica of a rare Meccano model circular saw bench which he has almost completed.

Finally, Gavin generously donated a box of commercially recorded cassette tapes for members to sort out what they were interested in.

The meeting closed with supper at 9.15pm followed by the screening of a DVD on the life of Alexander Graham Bell.

June Meeting Notes

by Wilf Boon

Quite a good gathering of eleven members attended the June 23rd meeting held at Gavin East's home, 4A Lyttelton Street, Lincoln and it was good to see amongst those present John Hastilow, who being a very busy person involved in many things, can still find the time to retain his interest with the Society. Starting with the minutes of the previous meeting read by David Peterson, it was noted that Gavin East has emailed Peter Bowler with advice about obtaining a diamond disc reproducer.

In Correspondence it was reported by Shirley McGuigan that we have a new member, Bruce Leask of Palmerston North, New Zealand. And, for those interested in parts, we now have an ample supply of HMV portable carrying handles which arrived recently.

In General Business Walter Norris and Gavin East spoke of their trip to Wellington on Saturday 21 June as guests of the 50th anniversary celebrations of the 'Scratchy Record Group'. Despite the delayed flight from Christchurch airport they both commented on the trip as being a very enjoyable occasion. Gavin is to write more about it for our next magazine.

Later David handed around a 35mm vintage film strip complete with its original round tin container of views of an HMV pressing plant. Lastly, Gavin spoke of a remarkable week collecting, with three additions to his collection with the acquired help of David. the first was a sought after OKeh record duster with a portrait of 1920s band leader, Vincent Lopez. Next was an Edison London upright diamond disc machine on which Gavin played an electrically recorded disc by Walter Scanlan. And, finally four five-inch German Berliner discs of c.1889 - 1892 from a collection recently offered on TradeMe. This very enjoyable and interesting evening closed around 9.30pm with supper and more extended conversation.

EDISON PROJECTING KINETOSCOPES

We are fortunate to have illustrated on the cover of this issue two photos of the Edison Projector which Larry Schlick owns.

He supplied the illustrations and copy of catalogues included in this issue.

Edison Projecting Kinetoscopes UNDERWRITERS' TYPE "B" (IMPROVED MODEL)

The greatest success in a Motion Picture Theatre *is* gained only by the use of the *Best Machine*. Install one of our new *Models*.

Important and New Features

- | | |
|--|---|
| 1. Nickel-Plated Metal Support. | 16. Improved Automatic Shutter |
| 2. Nickel-Plated Exposed Gears | 17. Improved Revolving Shutter |
| 3. Nickel-Plated Crank | 18. Improved Film Protectors or Guards |
| 4. Nickel-Plated Adjusting Lever | 19. Improved Interchangeable Takeup Attachment |
| 5. Nickel-Plated Stereo Attachment | 20. Highest grade Motion Picture Lens |
| 6. Polished Steel Flanged Upper Sprocket | 21. Highest grade Stereopticon Lens |
| 7. Polished Steel Flanged Takeup Sprocket | 22. Highest grade Condensing Lenses |
| 8. Polished Steel Intermittent Sprocket | 23. Improved 12" Upper Magazine |
| 9. Polished Steel Three-piece Tension Rollers | 24. Improved 12" Lower |
| 10. Hardened Steel Cam (one pin) | 25. Improved Film Rewinding Attachment |
| 11. Hardened Steel Star Wheel | 26. Large, Well-ventilated Lamp House |
| 12. Hardened Steel Picture Gauge | 27. Improved Arc Lamp (Heavy Construction) |
| 13. Hardened Steel Bearings | 28. Improved Metal Double Slide Carrier |
| 14. Hardened Steel Ends on Star and Cam Shafts | 29. Latest Grid Type Rheostat, 25-40 Amp |
| 15. Quartered Oak Mechanism Cabinet | 30. Five Polished Nickel Plated Adjustable Legs |

MECHANISIM - The latest improvements in our Underwriters' Type "B" model have entirely eliminated any features which heretofore may not have been as durable as the balance of the machine. We have the most artistic, as well as the most perfect, projecting machine on the market today.

We added to its attractiveness by nickel-plating and polishing 'the metal mechanism support, the crank, adjusting lever and rack with pinion, stereopticon attachment, mechanism thumb screws, and all gears and pinions on right frame side.

Its durability is increased by the use of hardened and tempered tool steel for the star wheel, one-pin cam picture gauge, all bearings and ends of star wheel shaft and cam shaft. The cam is accurately ground and of massive construction, The three sprockets are now made of polished steel, the upper and take-up ones being flanged, thus preventing the film running off. We guarantee these steel sprockets to be absolutely accurate and mechanically perfect. The old style rubber rollers have been replaced by polished tension rollers for all sprockets. The new rollers are made of case hardened

steel, in three parts, the flanges of which revolve independently of each other as well as of the roller between, preventing all drag on the film. With all these improvements the mechanism cannot cause scratches or "rainstorms", the only part of the film in actual contact with the machine being the margin outside of the picture.

AUTOMATIC SHUTTER - This shutter is a great improvement over every similar device. Under no possible conditions can the light be thrown upon the film except when the film is in motion. When the shutter is wide open it automatically locks so that no power is required to keep it open, thus eliminating any undue wear on the gearing and causing easier operation of mechanism. When the speed of machine falls below a certain point, however, it automatically unlocks and closes.

TAKE-UP ATTACHMENT - This device automatically winds up the film, and is a great improvement over any similar device heretofore offered on the market. The idea of being able to place this attachment either in *front* of the mechanism or *under* the baseboard is entirely new. An Automatic Belt Tightener is provided which insures an equal tension on the belt under all conditions. This belt tightening feature is a most efficient one, and prevents the loss of the lower loop between intermittent and take-up sprockets. For rewinding film, an Improved Rewinder is supplied to accommodate reels up to twelve inches. This device is provided with a clamp and thumb-screw for instant adjustment to any baseboard, shelf or table.

MAGAZINES - Upper and lower magazines of Russia iron are supplied. They are made to receive reels up to twelve inches diameter. The aluminum rollers between which the film passes are designed to reduce the wear on the film to a minimum, as well as to prevent any flame from entering the magazines.

LENSES - We supply only the very highest grade of Motion Picture and Stereopticon Lenses, the regular equipment consisting of No. 5 M. P. and No. 2 A Stereo, both projecting pictures approximately three feet wide for every thirteen feet of distance. The Condensing Lenses are the very best, being made of imported French optical glass.

OTHER MECHANISM PARTS - The revolving shutter is specially designed to project the very best pictures. Film protectors or guards are placed between top of film gate and rollers on upper magazine, also between bottom of film gate and baseboard. A quartered oak cabinet is included for mechanism.

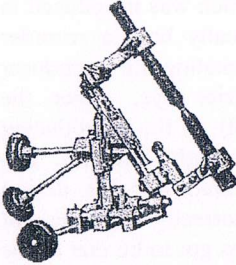
RHEOSTAT - The new Grid Type Rheostat as supplied with this outfit, may be used with satisfactory results on either Direct or Alternating Current circuits of 100-125 volts. It is particularly adapted to A. C. 25-40amperes on 100 to 125 volts.

ADJUSTABLE TABLE STAND - This consists of a substantial oak base, mounted on a set of five adjustable legs, the latter heavily nickel-plated and polished.

PRICE - This is the only item which remains unchanged, \$225.00.

Arc Lamp

This lamp is regularly furnished with both the Underwriters' (Type "B") and Improved Exhibition Model Machines. It is approved by the New York and Chicago Boards of



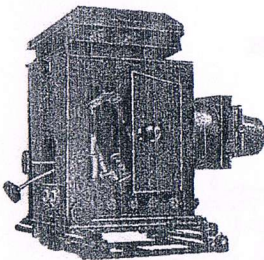
Fire Underwriters. It is of the rack and pinion type of construction with few parts and extremely simple. All adjustments are made by hand wheel movement. The adjusting rods are of extra length and fitted with heavy large diameter insulated handles with milled edges. The binding posts are adapted for either round or flat terminals.

This lamp is the most simple and complete of its kind, and is designed for either direct or alternating current. It has a vertical adjustment of $1\frac{3}{4}$ inches, which, with a lengthwise adjustment of the base, enables the operator to keep the light completely under control. The different adjustments are provided with stops to prevent short circuiting between the lamp and the sides of the lamp house.

The carbon holders accommodate carbons varying from $\frac{1}{4}$ to $\frac{5}{8}$ inches in diameter, but $\frac{5}{8}$ inch cored carbons give the best results in motion picture work and are more economical, and will burn one hour and a half (1 hr. 30 min.) without re-setting. The lower carbon holder is fitted with a stop which keeps the lower carbon always in place.

All adjusting levers are fitted with heavy fibre handles, and are operated through suitable openings, permitting all adjustments to be made while both lamp house doors are closed.

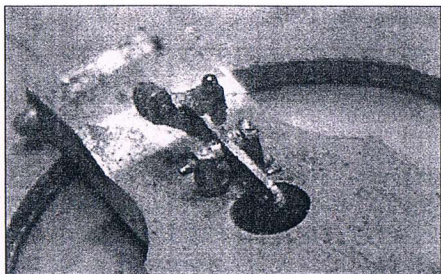
Lamp House



The Lamp House and Lamp House Bracket are furnished with all Underwriters' and Improved Exhibition Kinetoscopes, and embody many radical changes and improvements. Ample proportions give increased ventilation and heat radiation. Porcelain bushings protect the connecting cords where they enter the lamp house. A metal collar makes a perfect joint between the lamp house and cone, and prevents the emission of light. The ventilating holes at the bottom of the lamp house are protected by metallic gauze. The base of the lamp has been lowered by the Improved Lamp House Bracket, permitting the use of longer carbons.

(Meaning of the word "Kinetoscope" comes from the Greek words "Kineto" meaning 'movement' and 'scopos' meaning 'to watch'.)

STANDARD SPEAKER



*Left - recording cutter
Right - reproducing stylus*

The first improvement to the reproducer of the 'Perfect' phonograph of 1888 was the Standard Speaker which was introduced in 1889. This was actually both a recorder and reproducer. By rotating the reproducer slightly in the carrier eye, either the recording cutter (left) or the reproducing stylus (right) was brought into use. The rigid mounting required for this design made it difficult to correctly align the unit for playback. This has got to be one of the most difficult Edison reproducers to locate.

Expect to pay \$800.00 or better for a complete one. I am only aware of three that have been available for sale in the past ten years.

THE EDISON GEM PHONOGRAPH

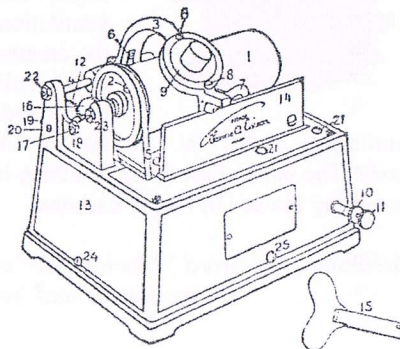
THE Edison Gem is the cheapest genuine Phonograph on the market. It is the best cheap talking machine. Its construction is solid and substantial. Its works are enclosed in enamelled iron base, tastefully decorated, and are well made.

Good gears, stiff spring, will run two records with one winding.

All studs and bearings are made of best steel. Its mechanism is the acme of simplicity. Weighs 7½ pounds. Size of base 7¾ x 5¾ inches. It is equipped with a 10-inch japanned horn. Re-produces only, but reproduces with wonderful loudness and clearness. Plays the 2¼ inch record.

THE EDISON GEM PHONOGRAPH INDEX OF PARTS

1. Mandrel (to hold Wax Cylinder), assembled with Cylinder Shaft.
2. Cylinder Pulley (assembled with gear).
3. Speaker Arm.
4. Back Rod.
5. Drive Belt.
6. Feed Nut Spring Screw.
7. Speaker Arm Lift Lever.
8. Speaker Clamp Screws.
9. Tube Plate, under which is the Speaker.
10. Speed Adjusting Screw.
11. Starting Knob.
12. Feed Screw Gear.
13. Body.



- | | |
|--------------------------------------|-----------------------------------|
| 14. Straight Edge. | 20. Feed Screw Center. |
| 15. Winding Key. | 21. Frame Holding Screws. |
| 16. Intermediate Gear. | 22. Back Rod Nut. |
| 17. Intermediate Gear Stud. | 23. Cylinder Rod 2Nut. |
| 18. Intermediate Gear Stud Nut. | 24. Drip Pan Screw. |
| 19. Cylinder Shaft Center Set Screw. | 25. Gov. Brake Augle-piece Screw. |

HANDBOOK OF THE PHONOGRAPH

INSTRUCTIONS FOR OPERATING THE GEM PHONOGRAPH

Before winding or starting, see that all working parts are free and clear from dirt and packing, particularly the gearwheels. See that all set screws are tight, as sometimes these screws work loose from the jars or knocks received in transportation. To get at the interior mechanism, remove the drip pan by taking out the round head screws (24) in each end of the iron base (13).

In moving the speaker arm (3) back and forth, *always use the lift lever* (7), so that the arm slides on the straight edge (14). Do not lift the entire arm, as the pin on back part of speaker arm will strike the feed screw and damage the thread.

The Gem Phonograph, like every other good mechanism, should be *kept clean*. This is absolutely essential as to the gearing. Any foreign substance in the gear teeth or bearings, (such as grit or packing or gummy oil), affects the regularity of the movement, and consequently the speed regulation. If the machine does not regulate perfectly, it shows in the varying pitch of the record when played.

Apply oil sparingly but thoroughly to the following parts: Back rod (4). Feed screw (not shown in cut). Feed screw centers (20). A *very* little on the straight edge (14) rubbed on with the finger. All motor shafts at their bearings. All gears, especially the fine-toothed gear which engages the governor pin-ion. Arbor on which main spring turns. Idler pulley, occasion-ally, where tension spring holds it. Governor disc, occasionally. No oil should be permitted to get on the belt (5), and oil must not be smeared on the machine, as it will catch dust and make trouble. When the oil on the gear teeth gets black and dirty, wash it off with benzine before putting on new oil, which apply sparingly. Use best Phonograph oil, to avoid gumming. Above all, keep the machine clean. No mechanism will work perfectly unless free from grit.

As a precautionary measure, it is well to look to the belt (5) and speaker arm (3) before starting the machine. All machines are completely adjusted before shipment from the factory, They will sometimes, though not often, become disarranged in transit. The tension of the belt should be moderate. The mandrel (1) should work freely. A simple test is to throw off the belt (5) and spin it gently with the fingers. The speaker arm (3) should also slide freely on the back rod (4).

To Adjust Cylinder

To adjust the wax cylinder, raise the lift lever (7) and slide it to the center of the straight edge (14), as shown in cut. **DON'T LIFT ENTIRE ARM.** Slip the wax cylinder, beveled end foremost, upon the tapering mandrel, handling it very carefully. Push it on the mandrel until it holds firmly; not too tight, or it may crack the record, nor yet too loose. If the latter happens, the cylinder revolves on the mandrel, making the record repeat.

The wax cylinder, which is somewhat brittle, should be handled gently at first, until the operator becomes practised. See *Chapter 13, Part II, BLANKS AND RECORDS*. Do not leave the cylinder upon the mandrel (1) of the Phonograph for any length of time when the machine is not in use.

To Start and Stop

To start the machine, push the starting knob (11). To stop, pull out this knob. To regulate the speed, turn thumb-screw (10). To increase speed, screw thumb-screw in, and to decrease it, unscrew same. Observe this carefully when reproducing music, as a different speed from that at which the music was recorded will reproduce an entirely different pitch. The standard speed at which musical records are taken is about 125 revolutions per minute.

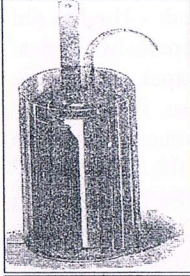
To Reproduce

Raise lift lever (7) to its highest point. Slip the wax cylinder, beveled end foremost, upon the tapering mandrel (1), and press it firmly, but not too forcibly, into place. Place the horn on the speaker plate tube, slide speaker arm (3) to point where record appears to begin, and drop lift lever gently (7), after having first pushed in starting the knob (11).

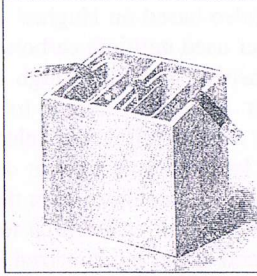
Although the reproducer ball usually adjusts itself to the track or groove made by the stylus, it sometimes occurs that clear reproduction is not at first obtained. To obviate this, jar the machine gently; which usually throws the reproducer ball into track, or raise lift lever and drop it again gently until the reproduction sounds clearer.

THE DANIELL CELL

This is one of the best known and most widely used forms of primary batteries. It is a double-fluid cell, and, as shown in fig. 14, is composed of an inner porous vessel containing an electrolyte of either dilute sulphuric acid or dilute zinc sulphate solution, and an outer vessel containing a saturated solution of copper sulphate. A zinc rod is placed in the inner electrolyte, and a thin plate of sheet copper in the outer electrolyte. Sometimes this arrangement of the elements is modified, the outer vessel being made of copper and serving as the copper plate. This would then contain the copper sulphate solution, while the zinc sulphate solution and the zinc rod would be contained in the porous pot as before. The chemical reactions which take place in a Daniell cell are as



*Fig 14
Daniell Cell*

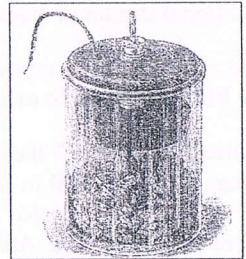


*Fig 15 Two-cell
Daniell Battery*

follows: The zinc dissolves in the dilute acid, thus producing zinc sulphate, and liberating hydrogen gas. The free hydrogen passes through the walls of the porous pot, but when it reaches the copper sulphate solution it displaces some of the copper therefrom, and combines with the solution, forming sulphuric acid.

The copper, which is thus set free, is deposited on the surface of the copper plate. In this way the trouble of polarisation is entirely obviated, and a practically constant current is obtained. Where the zinc sulphate solution is employed in place of dilute acid, a similar series of chemical reactions occur, except that zinc is liberated instead of hydrogen. Fig. 15 shows a two-cell Daniell battery made up in a rectangular vessel. Daniell cells are largely used for electro-plating, electro-typing and telegraphic work. The E.M.F. of a cell is 1.079 volts. Instructions for making up a Daniell cell are given in Chapter IV.

GRAVITY DANIELL CELL In this cell, shown in fig. 16, precisely the same elements are used, but the porous pot is dispensed with, the two solutions being separated naturally by the action of gravity. The copper-sulphate solution, being the heavier of the two, rests at the bottom of the battery jar, while the dilute sulphuric acid remains at the top. The crystals can be seen at the bottom of the jar in the engraving. To suit this arrangement the copper zinc plates are made in the form of circular discs, the copper zinc being at the bottom, and the zinc disc suspended at the top.



*Fig 16 Gravity
Daniell Cell*

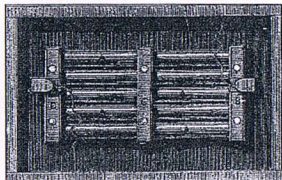
The absence of the porous pot, decreases the internal resistance, but the E.M.F. is the same as in the ordinary type of Daniell cell.



ANOTHER TELEPHONE MAN Clement Ader

Ader was born on February 4, 1841, in Muret in France. He grew up in the new world of scientific invention and he quickly showed a flair for engineering. His initial studies were in electrical engineering and in 1878 he patented a version of pencil transmitter that proved ideal for the newest scientific marvel, the telephone. Some writers assert that he invented this, but Hughes' work is well documented from at least six years before Ader's patent, and a similar transmitter

was patented in England by Frederic Gower (also based on Hughes' work - Hughes did not patent his "microphone"). Ader's transmitter used multiple carbon pencils in a series/parallel arrangement, which gave a very sensitive and fairly high output transmitter. Although this style of transmitter was rather large and clumsy to use, it neatly got around the Bell patents and allowed Ader's firm to offer full telephones. Ader also developed what later became known as the "watchcase" receiver, a version more compact than the Bell receivers in use elsewhere. In design it was similar to Gower's receiver, but Ader redesigned it and miniaturized it into a successful compact handheld receiver.



Left: Ten-pencil Ader carbon pencil transmitter, bottom view.

Thanks for the memories

Timaru Herald 25.9.08 - Contributed by Brian Blanchard

Just as vinyl once gave way to compact discs as the main physical medium for music, could CDs be replaced now by a fingernail-sized memory card? Perhaps not entirely, but SanDisk, four major record labels and Australian retailers Best Buy and Wal-Mart Stores are hoping that albums sold on microSD memory cards will at least provide an additional stream of sales.

The companies are expected to unveil plans to sell memory cards loaded with music in the MP3 format, free of copy protections.

Called "slotMusic," the new format is meant to address two intertwined trends. Most albums are still sold in a physical format 449 million were sold on CDs in 2007, while 50 million were sold digitally, according to Nielsen SoundScan - yet CDs are decreasingly popular. Albums sold on CD dropped almost 19 per cent last year.

Given this, the record labels Vivendi SA's Universal Music Group, Sony BMG Music Entertainment, Warner Music Group and EMI Group - are hoping slotMusic can be another physical revenue source and one that is more versatile than CDs, given the kinds of gadgets people carry around these days.

Unlike when the CD was introduced and people had to buy new players, many people already have the ability to play slotMusic albums, since many cell phones and multimedia players support microSD cards.

These new albums will come with a small USB dongle that lets buyers use them with computers, too.

"Particularly in this kind of economic climate, the idea of being able to use an electronic device you already own to enjoy music rather than going out and buying a dedicated player is pretty compelling," said Daniel Schreiber, who heads the audiovideo business unit at SanDisk, which created the microSD card format and is working on the technology behind slotMusic.

ADVERTISEMENTS

Catalogues for sale:

New Publications: Stamps on Music—The World-wide Catalogue and handbook of Stamps issued under Copyright Acts. Privately published by member Adam Miller, this incorporates Mechanical and General copyright, Purchase Tax and Inspection stamps as found on 78rpm record labels, piano rolls, early 45rpm and LP sleeves and labels, sheet music and some books. Profusely illustrated in full colour, \$NZ110 + p&p, further details and samples pages available at www.78rpm.net.nz

Phonograph Society of New South Wales Inc:

From cylinder to CD, the Society is for those interested in all aspects of historical sound recording and reproduction at its monthly meetings in Sydney. *The Sound Record*, packed with absorbing articles, reviews and advertisements, appears three times a year and goes overseas by airmail. The Society offers attractively priced books, CDs and cassettes, plus accessories and other memorabilia. One subscription for all: \$A30 pa Australia and overseas. Write to our secretary, Barry Badham, 20 Ryde Road, Pymble, NSW 2073, Australia, or visit our website www.phonographsocietynsw.welcome.to

Phonograph Society of South Australia:

An organisation of enthusiasts interested in the collection and preservation of the artifacts of sound recording and reproduction and research into their evolution. The PSSA NEWSLETTER, containing interesting articles and news, appears eleven times a year. Relevant books and reprints are also sold. Annual dues (Australian currency): NZ, Asia and South Pacific \$28.00; Rest of the World \$32.00; Write to: The Secretary, PSSA, P.O. Box 235, Kent Town, S.A., 5071, Australia. Phone and Fax (+61-8) 8261-9953. E-mail: etaylor@granite.com.au

California Antique Phonograph Society:

Dedicated to the preservation of antique phonographs, records and music memorabilia. Each year we sponsor a show and sale, the largest on the West Coast of the United States. Our quarterly journal, *The Sound Box*, is the first phonographic journal published, 36 full-size pages with full colour covers. Membership dues are \$25 per year (in USA). \$45 per year (outside USA). For information: CAPS, PO Box 169, Victorville, CA 92393-0169 USA or www.ca-phono.org

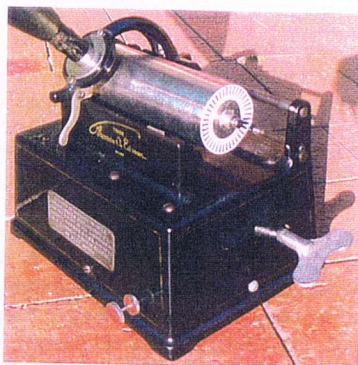
Canadian Antique Phonograph Society:

The interests of the 285 members of the Canadian Antique Phonograph Society (CAPS), now in its 25th year, range across all aspects of sound recording and its history: phonographs and gramophones, all types of sound recordings of historic importance, and related memorabilia. Membership is \$25.00U.S. per year and includes a 6-issue subscription to CAPS newsletter, *Antique Phonograph News*. For more information please contact: Canadian Antique Phonograph Society, Bill Pratt, Secretary/ Treasurer, 122 Major Street, Toronto, Ontario, M5S 2L2 Canada.

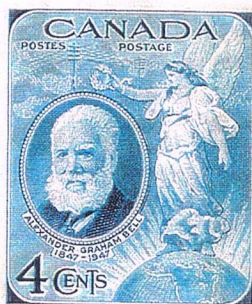
The City of London Phonograph and Gramophone Society Limited (CLPGS)

To join us, contact the Membership Secretary: Tim Wood-Woolley, 28 Park Terrace, Westcliffe-on-Sea, Essex, SSo 7HP, United Kingdom or email timandsara@homeinwos.fsnet.co.uk For more information visit the CLPGS Web page at www.clpgs.org.uk

THE FIRST EDISON GEM



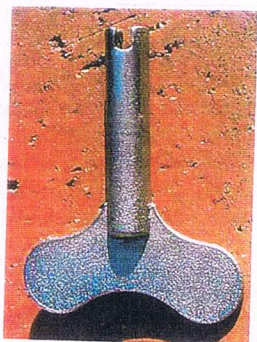
TOP VIEW



GRAHAM BELL STAMP



REPRODUCER



WINDING KEY



UNDERSIDE