

## 2.04 Chanter design & construction methods of the classic makers.

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The above title, suggested to me by our editor, leaves me in no doubt as to whose work I am to discuss. Classic is, however, a term applied variously according to taste. Therefore let me define 'classic' as it would be applied by maybe the majority of contributors to this journal.

Who then were the classic makers and why? As far as we can decide at this period, some two hundred years after the manufacture of the earliest good working sets that are still extant, the names of Kenna, Coyne, Egan and Harrington come first to mind. There are of course other names, such as Colgan, Reid and Kennedy. The first four names are those of men who worked in Ireland during the first half of the 19<sup>th</sup> century and of whose instruments we have seen and heard in nearly sufficient numbers to form an opinion as to the quality of their work and the technical relationship between them. We can therefore group them, not as exact contemporaries, but due to the similarity of their work. I would call these men the classic 'Flat set' makers – though others would not care for the term 'Flat Set'. The instruments of these makers, in un-tampered form, provide few problems for the reed-maker or player, and have a fine sweet sonority unequalled by latter makers.

Each of these makers had an external style, or 'look', which is so characteristic that we often do not need to see a name stamp to identify them. They were definitive and reflected the period, both musically and socially. These makers were competing not with the penny whistle, *bodhran* or banjo for customers, but with the instruments of polite society – the piano, the violin, the flute and clarinet etc. The sets were not made 'down to a price' as has been the case during most of the twentieth century (which is not a criticism but a fact caused by the changed economic climate that the UP found itself in) when it became a folk instrument and was desired by the less well off.

So our classic makers were fine craftsmen working for the upper and middle classes and for the professional musicians, who could afford it or not, needing a good instrument.

The earliest of our group is James Kenna, who was making 'Irish pipes' in the 1760s. The very earliest chanters marked 'Kenna' were in either Eb or C sharp (as we would call the keys today) and have no closed keys for sharps or flats and no mounting blocks for the addition of keys. The prevalent material was boxwood. They have very narrow tapered bores with very small finger holes (usually less than 4mm diameter) and are quiet, even in comparison to the drones, which accompany them. One theory here is that these chanters were originally played open or 'off the knee' possibly with a foot-joint, which would account for their relative quietness when played in the accepted way today. As Kenna progressed with developing the instrument there is a marked change both in style of work, in materials and in pitches.

The classic period begins with Timothy Kenna (the son of James) working in boxwood and fruitwood (pear, cherry or plum) usually in the keys of C# and B with

chanter lengths of 15 ½ and 17 ½ inches respectively. These two keys would relate to D and C for the bell notes of these chanters at the prevalent pitch standard of the period which gives A at approximately 415hz. However, chanters by Kenna have been found that play at our modern C, which may relate to D at the French pitch of A = 392hz.

Boxwood begins to give way to ebony during the latter Kenna years and the work of the other makers discussed is usually found executed in ebony. There are many different types of ebony with various densities, but most of the black types have similar tone quality. Some would say that it was the colour that made it popular for instrument making, but I think it is more that the tone was 'right.' Ebony does have a slightly 'nasal' quality, which suits the double reed and allows good harmonic separation so the tone is clear and the ability to make vibratos is more distinct.

Some boxwood instruments were still made, though more universally found in flute making, along with cocuswood. African blackwood, which is currently used for making war pipes and clarinets, was not used for the *Uilleann* pipes until the 1950s and is not a tonally ideal wood for our pipes.

The work of the Kennas was of the very finest. The crispness of the turning and the quality of the metal work, either in brass or silver, was most professional. At no period since has work of such an exquisite nature been offered to the piping public.

It could be extrapolated from Seán Donnelly's researches that Maurice Coyne very possibly learnt the trade of musical instrument making from Timothy Kenna. It can be seen also by looking at sets stamped with either name that one followed the other.

Coyne sets are more prevalent today than the other makers under discussion. This could be because there is more than one Coyne – in fact two, or possibly three<sup>1</sup>, or that the instrument had become most popular during their time. However, I feel that the Coynes made sets at a cheaper price.

Many Coyne sets show signs of more hurried work and less 'fancy' attention to detail. They are very practical sets and inclined towards the sturdy rather than the 'fine'. That is not to say they are less worthy and there are some extremely fine examples of the Coynes' work and the playability of their sets cannot be criticised. We have all heard Séamus Ennis in C# or Willie Clancy and Robbie Hannan playing their B Coyne sets.

The Coynes followed the same making style (ethos) as Timothy Kenna. The basic bore sizes and shapes, the style of reed making and the sound-scape are all closely related. Egan, or Michael Egan as we should call him, does not leave us any evidence as to where he learned his pipe-making, but again there are so many similarities between his work and that of Kenna, that he either copied their pipes or was another apprentice in their workshop. This possibility is reasonable and plausible because, during the first half of the nineteenth century one did not just start a business in the

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<sup>1</sup> Sean Donnelly in 'A century of pipe-making, 1770 – 1870: New light on the 'The Kennas and Coynes.'

same way that people do today. Most work was to some extent controlled by Guilds and most independent craftsmen had been apprenticed to a master at the beginning of their career. Therefore, if Michael Egan, who died in the 1860s, was apprenticed to someone in the early years of that century, who might it have been?

Egan certainly had his own ideas and moved further into them as time went along – we think he was trying to make his chanter louder, as some do show a tendency to break the mould. A point that I should inject here is that we can only go on the physical evidence left to us and that is in the form of a very small sample of work from any of the makers being described, and many of those chanters show signs of having been tampered with by the intervening generations of pipers/reed-makers. A chanter is very easily ruined by the removal of wood from the bore or scalloping the finger holes. Never was the phrase “a little knowledge is dangerous” more rightly used to describe the actions of would be reed-makers and pipes-tuners. This style of ruination is prevalent to our period and several of my chanters have even been spoilt in recent years.

However, back to Egan – one of the first sets I ever examined was a Bb Egan. The chanter tone was very clear but not louder than a Coyne. The length was 18.125 inches and all the finger holes were (musically) the same size (between 3.8 and 4.5mm) and none of the finger holes were scalloped! The bore ran from a throat of 4.1mm diameter to a rather curved out bell of 11.4mm diameter. The finger holes were undercut reasonably evenly, if more to the sides as the bore diameter increased, which would suggest he wanted to decrease impedance as the ratio of hole size to bore size increased. The chanter was fitted with seven keys and a fine wooden stop key head.

I would think this to be earlyish Egan and certainly before he left for America. The set was made for a Captain Ross – it had his name and motif engraved on the stock. It would seem that this captain was of the army type and one evening was looking for music to accompany a dinner party that he was giving. So he enquired of the men under his command if any could provide some. One Michael Wallace was suggested, as he was a piper. When approached by the Captain Wallace agreed to play but he did not have a pipes. “Easy” says the captain, “you can play my set.” So Wallace played and the captain was so impressed that he gave him his pipes.

Well, Wallace played them ever after and became very well known. After his death they came into the possession of his friend Dinny Delaney who sold the pipes to John Wayland. Wayland took them to Australia in 1911 and played them until his own death in the 1950s. They now reside in the University of Western Australia.

A point worth noting here is that the Egan set described above showed no intentional scalloping of the finger holes – maybe there was a little wear at the finger holes which would be normal as this set was played for about 100 years by the two pipers known to have owned it. The chanter was made of ebony, which will wear considerably well under rough or abrasive fingers, or maybe some peoples skin secretions cause more wear than others?

Although this set has a stop key head on the chanter it does not have a swan necked, or other metal, connection to the bag. The headstock tenons into a small bag end stock. This Bb Egan is not stamped with the maker’s name and Wayland thought it

was a Kenna as suggested in O'Neil's *IM&M*. However in Wayland's own copy of that book he has inscribed next to the photo of himself playing it "Coyne Set".

Wayland had changed his mind! So some confusion existed even then as to the identity of the makers. Most of Egan's later work is stamped M.EGAN. There is a stop key head on Willie Clancy's Coyne B stamped M.EGAN and though it is a slightly different design to other Egan stop key heads it does suggest that he made it for that particular Coyne set as a replacement or improvement. The very fact that he stamped a chanter head was obviously to show that it was his work.

Another of the earliest chanters I was able to examine was a 16.2" long Harrington C. This chanter and its accompanying set has belonged to me since 1977. The similarities in concept between it and the Egan Bb were such that I could imagine a series. I could make the two chanters' basic bores on the same reamer, well I nearly could then (1978), and now I know that I really cannot. However the concept was the same.

So, Harrington who was working at a greater remove from the other three, in Cork at a later period up until 1858. Did Harrington apprentice with anyone or did he copy? His work was very distinctive and very well executed with some radical differences to the work of the other three in construction, but the chanter bore and tone was of the same school.

One problem that people have with trying to recreate the sound of the master pipe-makers is that without an original example, reeded by one of those masters, we can only imagine the tone and volume. To describe what I mean, listen to the tone of two Rowsome chanters on recordings. Try comparing Leo Rowsome playing his own set to Paddy Keenan playing one of Leo's chanters with his own reed. The tonal difference is striking – Paddy's tone is thick and almost flute-like, whereas Leo's tone is reedy and oboe-like. The reed-making styles are quite different. Many people have tried to make a C or B chanter after spending many years making and playing the concert pipes. The result is often a flat-pitched concert type chanter – too loud and with the fundamental dominating the harmonic structure. The problem here is quite involved and starts with the preconceptions of the maker. I will therefore attempt to describe the utter difference between the two types of chanter currently used – the modern concert pitch or 'D' chanter of the wide bore type which is usually modelled on the 14¼" long Rowsome. Whatever about the relative width of the bore, the finger holes are much larger than those of the classic makers and are varied in size e.g. the F sharp hole much larger than the E hole. These chanters were designed to play in D, but that is at the pitch standard prevailing at the time which was A= 453hz. This standard pitch was changed around 1930 to A= 440hz – a drop of half a semitone! This drop in pitch did not bother many pipers who just played away as there were plenty of other instruments that were also in this higher pitch. However with the revival of interest in pipes in the late sixties these 'D' chanters were made to play in modern concert pitch by applying a wide and heavy reed that was scraped to produce a natural note, when sucked, of G or even F sharp. This does bring down the overall pitch but leaves the instrument sounding loud and 'heavy'. The typical staple diameter was also reduced and, with the use of a rush in the bore, the two octaves could be lowered in pitch together. However the result as I see it, is that a whole generation of pipers have grown up using and thinking that these are the real thing. The classic chanter, or 'flat' chanter, with its narrower bore and small relatively even-sized finger holes needs to be coupled to a smaller reed that has only been scraped so that its

natural note, when sucked, is the A of the chanter or a little above. At the same time the reed head needs to be reasonably light so that it can respond to the small pressure changes caused by the small finger holes. So here is quite a difference – a light-ish reed head playing at a higher pitch for the classic chanter and a heavy, strong reed playing a lower pitch for the concert chanter!

The result is that these two types of chanters play very differently. Some would say that the ‘flat’ pipes are much easier to play and that would be because it can still be made to play within its design parameters. Two octaves are always on tap and hard D can be obtained directly from almost any note without an ‘A’ cut. It is easy to jump to top B and stay there due to the reed head speed giving that note when sucked. The pressure to blow the ‘flat’ set is less and the pressure difference between the two octaves can be reduced so the regulators can be used with chanter notes all the way up to the top of upper octave readily.

The reader may be able to detect that I do not like the concert pipes – they would be correct in that assumption, but more to the point, the general public, other than those in a concert hall seat, are also not convinced of the niceness of loud D pipes.

There are pipe-makers and reed-makers who have come a very long way in recent times with the concert pipes. However there are also those unfortunate individuals who have to struggle with the “worst gadgets” possible.

The classic chanter, as I have mentioned already, has finger holes of small and nearly even size. There is however more to these small holes than just size. Each one is tuned and voiced by ‘undercutting’ and will work as a tone and volume filter or ‘control element’. It is possible, by varying the number of fingers raised during playing, to alter the tone and loudness of a note. Some notes can have four or five stages of definable alteration in sound. The undercutting and tuning of these holes, combined with small-bore moves and wall thickness adjustments, can all be grouped under the title “voicing”. The whole process is a time-consuming one built on compromises and assumes that you have found, if not the perfect reed, then at least a repeatable model.

Look into the finger holes of any of the chanters of the great makers – I would be very surprised if you find one drilled and left just as it was drilled. You should see some amount of angulation down the sides of the hole, a removal of the sharp edges at both ends of the hole, that is, where it meets the bore and where it exits the outer face. The size of the hole and the amount and direction of the undercutting have a marked effect on the pitch and tone of the note issuing from it.

There are, unfortunately, very few old chanters left that can give us the exact information as to how they were made and sounded when new. The problem for us is to recreate these instruments with the small sample to hand. I have tried to do this by relating a good example of each pitch to the other pitches to see a progression or scaling up or down between chanters from C# to Bb. Not to try to make a set of chanters that has exactly the same tone and volume in all the keys, but to try to understand the classic or flat chanters as a group.

It is also important to study the drones made for each chanter. An assessment of the drone tone and power can tell us much about the chanter and what its maker expected of it. Drones are not as simple as some may think.

The small number of extant good chanters from the classic period is due to two factors, as I see it. Firstly, as I have suggested earlier, they are very easily damaged and the last 150 to 200 years in the hands of pipers cannot have been that easy. Secondly I do not think that these pipes were made in large numbers. The prices of these sets when new would suggest that the maker spent a very long time creating them and that very few people could have afforded them.

My personal experience tells me that the Coynes are the most numerous sets left today and I can quickly think of only 12. So maybe with the pooled knowledge of the whole group it may be possible to double that figure. It should therefore be possible to achieve the same quality of work, as the classic makers, considering our modern machines and electronic wizardry, should it? Well, two things work against us currently, time and price! Both these items come together in the phrase 'time is money'.

The modern maker is oppressed by the economic climate where people want everything, or want to experience everything. Mass production and the use of slave labour from the far east has allowed us to enjoy a very high degree of sophisticated personal belongings. This can make the handcrafted set of pipes look very expensive. However I recently worked out that I had spent more than 300 hours making a full set! Ask your local plumber what he would charge for that long a job!

So back to Mr Kenna, who with his shop at Essex Quay Dublin, advertising his business in the newspaper and probably employing several people, shop assistants and apprentices etc. it is small wonder that his instruments were expensive and made in small numbers for gentlemen.

Earlier I mentioned 'scalloping', where some wood has been removed from the outside of the chanter, over the finger hole or holes. Though I do not believe that the classic makers scalloped their chanters as such, it is however a tuning device. When you lower the chimney or wall thickness at a finger hole the lower octave note will rise in pitch. Therefore, although old chanters can be met that have severe scalloping, this could have been caused by long hard years of playing by rough fingers and a different reed recipe might have to be used to render the chanter in tune again. So as a word of warning please do not scallop a chanter to make it comfortable – you run the risk of ruining it.

Hole voicing as a means of tuning a new chanter is necessary to achieve a clear sound and at the very least the sharp edges of the finger holes both inside and out must be removed. This process assumes that the reed and chanter when first coupled give all the notes slightly flat of their finished pitch. Undercutting the inside edge of a finger hole towards the reed, or upwards, will raise the pitch in both octaves. Undercutting downwards, or away from the reed will raise the pitch of the note in the upper octave.

Reducing the wall thickness at the finger hole, either by scalloping or by increasing the bore diameter locally will raise the note pitch in the lower octave. It is not so easy

to adjust the pitch of the upper octave so it is best to make the reed dimensions such that the upper octave is exactly an octave above the lower or slightly sharp of it before hole voicing.

A reed that is fine in a chanter but has a flat top G and or A can be cured by slightly shortening the staple at the lower end, but leaving the reed tip exactly the same amount out of the chanter. Always remember that the chanter drives the reed – the reed resonates in sympathy with the amount of chanter bore applied to it.

### **Credits.**

The story about Michael Wallace was ‘cobbled’ together from Captain Francis O’Neill’s *Irish Minstrels and Musicians* Chicago 1913 and other sources.