



a hanobook for Uilleann Pipers

the reference book for pipers and would-be pipers

eddie Climo



produced with the support of members of the South Western association of Uilleann Pipers 2002 second (Web) Coition



publications by the author

Books:

- Handbook for Uilleann Pipers, Eddie Climo 1996; web edn. 2002
- Reedmaking for Uilleann Pipers, Larry & Eddie Climo 1991; web edⁿ. 2002 (forthcoming)
 Leaflets:
 - Equipment for Pipers, Eddie Climo (distributed with An Píobaire Spring 1996)
 - Materials for Pipers, Eddie Climo (distributed with An Piobaire Spring 1996) (these two formed the basis for this Handbook)

Check the SWAUP website for further free goodies to download.

cover illustration: Der Düdelsackpfeiffer (The Bagpiper) from a woodcut by Albrecht Dürer in 1514 A.D.; considered by some to depict an Irish mercenary.

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Concents

Foreword to 2nd Edition	7
Foreword to 1st Edition	8
Introduction	9
Historical background, Distinguishing features, 9	
The Would-be Piper: getting started	10
The anatomy of uilleann pipes, 10	
What to buy, Materials used in pipemaking, What maker?, 11	
Reeds, 12	
A buyer's checklist, 13	
How to learn, 14	
The Travelling Piper: things to carry with you	15
Tuning Devices, 15	
Pipecases, Diddy-box, 16	
Miscellaneous, Useful knots, 17	
Care and Maintenance of Pipes	18
Reeds, by Alan Burton & the author	
Parts of a double & single reed, 20, 22	
Adjusting chanter & drone reeds, 21, 23	
Materials	24
Oils, Recipes, 24	
Tapes, Threads & Cords, Waxes, 25	
Miscellaneous, 26	
Tools & things to make	29
Plans, 31-32	
• P.31: reed winders, staple-length gauge, chanter-reed template, chanter-reed mandrel	
 P.32: shooting board, thickness gauge, reed-making knife, cutting/sanding block 	
Tools & things to buy	33
Tips	
Addresses	37
Contacts in Britain, Ireland, 37	
Contacts abroad, on the Internet, Pipemakers, 38	
Reedmakers, Publishers, 39	
Shops (Southwest of Britain), Suppliers, 40	
Publications	41
Uilleann Pipes, 41	
General, 42	
Out-of-print or in the pipeline, 43	
Videos, 44	
Glossary of piping	45
Index	50
South Western Association of Uilleann Pipers (rear cover)	52



FOR alan sinsbers who made my pipes



Foreword to the 2nd edition

The first edition of this Handbook was privately printed in 1996 in a small run of a couple of hundred copies, which were sold by both SWAUP and Na Píobairí Uilleann. It proved quite popular with fellow pipers, but copies have not been widely available for some time now. I decided that this second revised edition should be distributed over the World Wide Web, to save me the hassle (and expense) of putting it yet again on paper, particularly as it now uses a lot more colour than before. It can be downloaded from the SWAUP site and (hopefully) from other piping sites as well

The content of the book has been slightly updated, and the illustrations are mostly new ones. I would welcome contributions for a future edition, as well as corrections and criticisms. I can be contacted either through the SWAUP website (www.swaup.org) or by email at eddie_climo@yahoo.co.uk.

The book is available in 2 versions as an Adobe Acrobat v3.01 Portable Document File (pdf): a low-resolution one for quicker downloading, and a high-resolution one which shows more details in some of the illustrations; both are in thousands of colours.

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This detail from Hogarth's drawing shows a gentleman playing what looks like a left-handed 'half-set' of Uilleann pipes; there may be a 3rd drone present. The singer has a sort of (begging?) box, and the other players have a jaw's harp, a hammered dulcimer (the hammers are there if you look closely) and a very strange looking one-string bass fiddle! The combination of pipes and dulcimer is known within Irish music today. Roderick Cannon (see bibliography) says this is "the earliest clear evidence of the existence of the Union pipe."



William Hogarth, The Beggar's Opera Burlesqu'd (1728)

Loreword to the 1st coition

The Uilleann Pipes are a very rewarding instrument to learn, but they require a longer apprenticeship than some others in the Irish tradition, and the early stages can be very discouraging. A piper's proverb has it that it takes twenty-one years to learn to play the pipes – seven years to learn the instrument, another seven to learn the tunes and yet another seven to learn the music. Then, some would say, you're ready to start really learning! This may be a slight exaggeration, but if so, I've still got fourteen years till I find out, so I'll reserve judgement for now.

The existing literature of Uilleann piping covers many areas of interest: structured courses for beginners, analyses of the technique of some great pipers, transcriptions of pipers' performances, the making of pipes and reeds, and so on. But one area that has been rather neglected is those snippets of practical information that we tend to acquire orally from direct association with other pipers: how and where do you buy a set of pipes, what might you carry in your pipecase, how do you locate and fix leaks. What books are on sale, and so on.

This oral transmission will always be an essential and enjoyable part of piping, but exactly what you learn will of course depend on which pipers you happen to have met. So it seemed high time that such piperly lore was made more systematically accessible, both to the beginner and to the more experienced piper alike. This handbook tries to share with you the essential –if rather mundane– information that the author and the other members of the South West Association of Uilleann Pipers have garnered or devised over the years. If it helps to ease your piping or reed tuning, then it will have succeeded.

Most of the information in this handbook was freely given to me by my fellow pipers, and for this reason I assert my copyright only to the text and the illustrations in the book, and not to the information it contains. The book is being distributed mainly through piping associations so that they may benefit from any profits generated through its sales. I would welcome any further information or suggestions to be included in a future edition, and my address is given below in the 'Addresses' chapter.

Where possible, I have acknowledged my sources of information in the body of the book, and I would like to thank these people for their generosity. Thanks to my family for their support and suggestions through the overlong gestation of this project. Thanks also to Edwin Spring for casting a critical eye over the book and making many useful comments. My uncle Roy Burr applied his woodworking skills, and showed me better ways than I had devised for making a couple of tools.

Introduction

Historical background

The earliest mention of bagpipes in Ireland is over a thousand years ago, but these were probably a simple mouth-blown instrument. The illustration on the front cover may show Irish mouth-blown pipes of the 16th century; it is from a woodcut by Albrecht Dürer from 1514, and is thought by some to be an Irish mercenary soldier. The first detailed reference to something close to the uilleann pipes is in the early 18th century, when the 'Irish pipes' were described as having a chanter, 2 drones and a bellows, with a 2-octave range. Hogarth's drawing on page 7 shows something similar to this from 1728. By the middle of the century, the 'Union' pipes had the 3rd drone and 1 regulator, and the instrument achieved more or less its present form with 3 regulators by the early 19th century. This would have been a quiet, narrow-bore instrument – what is termed a 'flat set' today– since the louder, widebore 'concert set' was not developed until later in the 19th century, apparently when there was a need for greater volume during stage performances.

The instrument has had several names through its history: following 'Irish pipes', the name 'Union pipes' was common in the last century although the origin of this name is not clear. In the present century, the term 'Uilleann pipes' has become the most widely accepted term, although some pedants insist on the word 'Union'! Again, the point of this name is rather obscure, since píob uilleann in Irish simply means 'elbow pipes'!

The fortunes of the Uilleann pipes have fluctuated greatly. Up to the time of the Great Famine in the 1840s, it was quite widely played, but the disruptions caused by the Famine greatly reduced the number of players. There was a revival of interest at the turn of this century, with the growth of the Gaelic League movement, but again there was a decline until the 1960s when Irish music began to become more popular, and Na Píobairí Uilleann was set up. At present, the instrument is at its strongest for over 150 years, and deservedly so, as it is a superb instrument.

Distinguishing features

The uilleann pipes have many features which some would argue make it the most highly developed species of bagpipe in the world. Warpipers and Northumbrian pipers would doubtless disagree vehemently!

- the chanter has an unusually wide compass of 2 octaves.
- it can play a fully chromatic scale with keys or cross-fingering if desired, although chromatic intervals are not common in Irish music.
- pipers can play staccato or legato at will by playing on or off the knee, whereas most pipe chanters are only either open or stopped.
- the regulators allow the addition of a chordal accompaniment.
- the chanter, drones and regulators can be switched on and off while playing, allowing any combination to be played.
- there is a wide range of pitch and loudness between individual sets of uilleann pipes, and typically they have an unusually rich and mellow tone.

The Would-be piper: zecting started

the anatomy of uilleann pipes

The air is supplied from a bellows through a flexible connecting tube of leather or rubber. This is attached to a wooden blowpipe inserted into a stock (socket) in the side of the bag. The chanter is attached to the bag through a wooden stock, and the bottom of the chanter can be closed at will either with a leather 'popping strap' ('piper's apron'), or directly against the leg of your trousers, or with an automatic 'popping valve'. Unusually for bagpipes, this allows you to play legato or staccato as you wish. Bellows, bag and chanter make up a 'Practice Set'.

The chanter may have up to about 5 keys to give you a full range of accidental notes, although the commonest 3 accidentals (D#, C and F) can be played using cross-fingering. Some chanters have a 'stop key' to shut off the flow of air in order to facilitate tuning drones or regulators; on sets lacking such a stop key, the neck of the bag is pinched with the fingers to shut off the air flow. A second octave is reached by overblowing the reed, and in exceptional circumstances a few notes from the third octave may be reached. The normal maximum range is considered to be 2 octaves, albeit the top 3 notes (C', C'# and D'') may be difficult to reach, and anyway they are rarely needed in Irish music.

The practice set may be expanded with a second, main stock, inserted into the bag to take further plumbing: 3 drones (tenor, baritone and bass) with an on-off switch make up a 'Half Set'. Normally 3 regulators (tenor, baritone and bass) are inserted into the main stock to make a 'Full Set', or just the 2 smaller ones for a 'Three-quarter Set'. The drones sound a continuous background chord when switched on. The regulators are stopped, keyed pipes used to play other chords or single notes, either with the chanter or on their own, and they are almost unique to the Uilleann Pipes. Any combination of chanter, one or more drones and one or more regulators may be played at will, which is another unusual feature of these pipes. This allows, for instance, playing drones to accompany a fiddler.

Pipes come in a range of pitches, typically from D down to B flat, although E flat and A are occasionally seen. The usual keys for playing in Irish sessions are D, its related key G and the modal scales derived from these. So the commonest pitch for the pipes is 'concert D', and this is what beginners are normally recommended to buy. Regardless of its pitch, the chanter is fingered in almost the same way, and written pipe music is, by convention, always notated for a D set. This pitch is typically bright and rather loud, although a lot depends on how the chanter was designed and how it is reeded. This style of pipe was originally developed in the mid 1800's to be loud enough for unamplified stage performance, but the older 'flat' style of pipe is quieter, mellower and lower pitched with a narrower bore to the chanter. This has produced a distinction among players between 'flat pipers' and 'concert pipers' that has lasted to the present day.

what to buy

Buying a set of pipes is a major investment, and moreover they are technically a difficult instrument to learn. For these reasons, many people start learning Irish music on other cheaper, less demanding instruments such as the tin whistle, before embarking on the pipes. Current prices for new pipes are around £300–450 for a practice set, £1000–1500 for a half-set and £2500–3500 for a full set, depending on which maker you go to. The cheapest of new pipes are probably not worth having, but on the other hand the dearest are not necessarily the best. Second-hand kit is about half these prices.

As a beginner, you are recommended to start with a practice set, partly because of cost, and partly so that you concentrate on chanter technique, which is the key to good piping. In the early stages of learning, drones add to the difficulty of playing, and can be used to try and 'cover up' the flaws in your music. If you do start off with more than a practice set, you would be as well largely to ignore the drones and regulators for the first year or two.

If you are buying second-hand, you would be well advised to ask a piper to evaluate the pipes before you buy them. With new pipes, you can usually rely on an established, reputable pipemaker.

materials used in pipemaking

- timber for pipes: box is the only native hardwood commonly used that rivals the qualities of tropical hardwoods, although fruit woods are occasionally seen. Of the tropical hardwoods, varieties of ebony, blackwood and rosewood are the commonest, although lignum vitae, cocobola, kingwood, karanda, partridge wood, mulga, bloodwood, greenheart and ironwood are also used. There is no universal favourite amongst these, although some say that box and rosewood give the sweetest tone.
- metals: brass, German silver (= nickel silver, a silver-coloured nickel alloy), and stainless steel are the commonest, and acoustically there is little to choose between them. Aluminium should be avoided.
- mounts: ivory is ethically dubious (except perhaps from old billiards balls), and needs care to prevent cracking. Horn is sometimes used, but the commonest are artificial (plastic) ivory or hardwood of a contrasting colour.
- leather: the best is thick hide for bellows and straps, and soft dry-cured sheepskin (basil) for the bag. Chrome-tanned leather is also acceptable. Rubberised fabric and leatherette are used for bags, although some pipers do not favour them.

what maker

There is a wide range of pipemakers to choose between; most are good, a few are outstanding, and – sad to say – one or two could not be described in print without disregarding the laws of libel! Furthermore, good makers differ in the style of pipes they make: one will prefer to be louder and brighter, while another tends towards the quieter, mellower sound. For a frank, if somewhat subjective, appraisal of vari-

ous makers you should mix with pipers and ask their views (not in writing!) and listen to their instruments. There is a list of addresses at the back of this book which may help you to contact some makers. Na Píobairí Uilleann, the pipers' association in Dublin, can provide a much fuller list of makers on request.

It is a good idea to make a personal visit to your chosen pipemaker – perhaps in the company of a piper – to discuss your requirements, and to hear what you're intending to buy before you part with your cash. You should be sure that the pipes fit you, and that you like the sound, look and feel of the pipes. If you're happy with your new pipes, then you may well be starting a relationship with the maker which will last for many years, as you return to get further kit, replacement reeds and occasional overhauls. For these reasons, mail-order pipes are an uncertain proposition at best, and the products of third-world sweat shops seem decidedly risky.

reeds

A full set of pipes has seven reeds: one double-reed in the chanter, three in the regulators and three single-reeds in the drones. They all have to be adjusted so that they are in tune with each other, and 'balanced' to respond at the same air pressure. Reeds are temperamental beasts, and respond to humidity, temperature, how much they've been played and –for all I know– the phases of the Moon! In common with most other reed-instrument players, pipers are hag-ridden by trying to keep their reeds in tune, and Quinn's book on reedmaking is aptly named 'The Piper's Despair'. The chapter on 'Reeds' below will give you more details.

Most if not all piping tionóil have a reedmaking workshop, and you are strongly recommended to learn at least the rudiments of reedmaking, so that you can maintain and tune your own reeds, and avoid the characteristic 'car-horn' sound of some beginners. A finished chanter reed costs about £15–20, whereas the materials are less than 50p. So experiments on reeds you have made for yourself are much less costly, and some of the materials from your failures can be recycled, which reduces the cost still further.

The bibliography lists a variety of books on the subject, but in this as in so many other areas of piping there are many different styles of working, so you should be prepared to experiment. If possible, try to copy the style of a reed you are happy with, preferably one made by the maker of your pipes.

When you buy your pipes, get at least one spare reed set up for your own chanter. As each set of pipes (and indeed each piper) is different, the reeds must be set up individually. A mail-order chanter reed will definitely require adjustment, and may never work in your chanter. Drone reeds are not quite so fussy, but will still need to be tuned and balanced with the other reeds in your pipes.

 Hardness of reeds: pipemakers vary in the hardness of reed they favour in the pipes they make. Equally, pipers have differing tastes: some prefer the louder, brighter sound of a wider-bore chanter with a wider, harder reed, others prefer the softer, subtler sound of a narrower chanter with a reed to match. A hard chanter reed requires more air pressure to sound, and hence more effort from the piper. As the pipes are already challenging enough to learn, beginners are normally recommended to start with a softer reed. With experience, you will develop your taste and be able to choose which style of reed you personally favour. Unlike clarinet and saxophone players, uilleann pipers do not automatically move on to harder reeds as they gain experience; instead, it becomes a matter of personal taste. Another misconception is that softer reeds cannot reach the upper notes in the chanter's range: this largely depends on whether the pipes were designed for softer or harder reeds and on the skill of the piper.

a buyer's checklist

- if you cannot yourself play, take a piper with you, especially when buying second-hand.
- if buying new, buy direct from a known maker, preferably one recommended to you by a piper whose pipes you admire. Avoid buying by mail-order, if possible.
- first check the pipes visually, and then by playing them, as suggested below:
- examine the wooden parts for splitting. Some unscrupulous people will try to hide such flaws with coloured wax or glue-and-wood-dust.
- check that any keys move smoothly without waggling sideways, and fit the size of your hands.
- peel back the bag cover and check the workmanship and for second-hand kitany signs of wear.
- check all lapped joints:
- sliding ones (drone tuning-pieces)
- removable ones (drone butt-pieces, chanter top-piece, blowpipe, mainstock ...)
- permanent ones (chanter cap & ferrule, wood-metal joints, decorative mounts)
- strap on the pipes now, and check they fit you:
 - bellows straps (allow room for cushions to be fitted to bellows)
 - blowpipe (must be long enough to reach around you while playing)
 - neck of bag (must be long enough to allow comfortable playing)
- handedness (some left-handed people play right-handed pipes I'm one. If possible, learn to play on a right-handed set, i.e., with the right hand lowermost on the chanter, and the bellows fitted to the right elbow. Left-handed kit is much scarcer than right-handed, which will limit your choice when buying or playing other pipes later on)
 - chanter: should feel comfortable in your hands, keys should fit your fingers
- test for leaks (see 'Tips' section below).
- have a play on the pipes now, checking whether:
 - they are in tune with themselves
 - they are in tune with concert pitch (less important with flat set than D set)
 - the reeds are balanced (i.e., all respond properly at the same pressure)
 - the tone and volume are to your taste
 - the range is 2 full octaves

- you like the overall sound and feel
- if the sound is not altogether to your satisfaction, this may be due to the way the reeds are set up (which can be corrected), or to the way the pipes were made (which probably can't!)
 - new: get the maker to adjust the reeds, or ask to try another chanter
- second-hand: if the reeds cannot be adjusted to suit you, you must make the difficult judgement as to whether -despite the reeds- the pipes are good or not. This requires some experience of pipes and piping. If in serious doubt, don't buy: there's always plenty of other sets waiting to be bought!

how to learn

The Uilleann pipes are not an easy instrument to learn, and any piper whose playing you enjoy has spent many hours and years working at improving his or her music. At the start, we ALL sounded dreadful and I daresay most of us wondered if we would ever get past the 'beginner' stage. Being already able to play Irish music on another instrument is an advantage of course, but even so the pipes require persistence over a period of years. Daily practice, even if only for 15 – 20 minutes, is preferable to once-in-a-while. At first, you may well find it very tiring, since you have to develop the muscles and relaxed co-ordination necessary, but that will pass.

It takes practice for you to hear exactly what you sound like when you are playing. Try playing into a cassette recorder, and the playback will give you an impartial view of your piping: you may be pleasantly surprised! If you date the recording, you can use it in later months to assess the progress the progress you've made.

The best way to learn is face-to-face with a live teacher, and the addresses of piping associations at the back may help you to find one. There are plenty of piping weekends and summer schools available; they are great fun and you can learn a lot at these. Failing this, a tutor book with cassette tape will do to get you started, and Heather Clarke's is probably the best currently available. It is important that you educate your ear by listening to plenty of piping, live or recorded. NPU has a good range of tapes and books for sale, and information about piping events in Ireland, Britain and beyond.



Darna bean a' chlàrsair – a' chlàrsach fhèin. The harper's second wife – the harp itself.

Gaelic proverb

The Travelling piper: things to carry with you

Pipers tend to carry an astonishing variety of 'indispensable' oddments around with them, indeed some appear to find the spaciousness of their pipecase an irresistible challenge to pack in as much as they can. Among the more exotic 'necessities' I have observed are:

- · a folding full-size music stand
- a full set of reedmaking tools + materials + finished reeds + a few choice books on the subject
- enough tin-whistles to equip an entire session, and the odd flute or two
- portable cassette recorder + cassettes
- a second set of pipes (flash beggar!) or at least a few spare chanters
- a folding stool (albeit a small one!)

It's just as well that piping develops the shoulder muscles if you choose to lug that lot around with you! In contrast, however, there is a number of **small** items that may make your piping less troublesome. Some pipers store these loose in their pipecase, others prefer a small 'diddy-box'.

Tuning Devices

Essential if you aim to stay close to concert pitch.

- chromatic pitch pipes. ca. £10. May not be accurate!
- violin pitch pipes (D, G, A, E), or viola (C G D A) ca. £4. May not be accurate!
- tuning fork. Every note is available and they can be extremely accurate. Useful if you have a good ear for pitch, or for calibrating e.g.. a tin whistle. ca. £3–5.
- \bullet mouth organ, a good Hohner one costs about £7–15 and should be quite accurate when new.
- tin whistle. You should calibrate it and make sure the mouthpiece will not move. NB. you can play 'A' single-handed on chanter and whistle simultaneously. £2+
- chromatic electronic tuner. The best option, (but -alas- the most expensive!) as they show you the exact effect of each adjustment you make to your reeds. Korg is a good make, various digital and analogue models from £45—£250. Guitar tuners are cheaper (ca. £20) but of limited use for pipers.

Equal Temperament-Just Intonation

The pipe chanter is usually tuned to the Just Intonation scale, which is optimised for a small number of related keys (e.g.. D, G, C and their modal derivations). On the other hand, most electronic tuners –like the piano– only give the Equal Temperament scale which is designed to allow playing in any key. The significance of this is perhaps

Conversion: Equal Temperament to Just Intonation (for concert D chanter)				
note	cents		note	cents
D	0		А	2
E	4		В	-16
F#	-14		С	-4
G	-2		C#	-12

more theoretical than practical, but the table above (Max Busch, *An Píobaire* 3,14) shows the deviations in cents of J.I. from E.T. Substitute an appropriate bell note for flat sets. Note: 100 cents = 1 E.T. semitone.

Pipecases

A hard case is a sensible investment to protect your expensive pipes. Various possibilities are open to you, depending on how much time or money you are willing to spend. If you get a case long enough so that you only have to remove the bottom joint of your bass and baritone drones, you will not upset the adjustment of your pipes very much. Some pipers prefer such small cases that they almost have to rebuild their pipes every time they take them out of the case. Some bellows have a removable air pipe, which allows them to fit in a shallower case.

- custom-made fibreglass flight-case you'll need £200 or so to spare
- · unfitted gun-cases start at about £60
- cases for instruments such as saxophone, electronic keyboard, drum kit.
- make your own out of good quality plywood
- second-hand instrument cases are not hard to find and can be very cheap

Extra items that you might like to add to your case:

- a stout padded shoulder strap to take the strain off your wrists
- · a suitcase- or bunjee-strap to prevent the case bursting open
- foam rubber to fit the inside of the case
- velvet to line the case. This can be bought in fabric remnant shops for about £6 a yard. Although cotton velvet is the material of choice for bag covers, synthetic Draylon is fine for case lining.

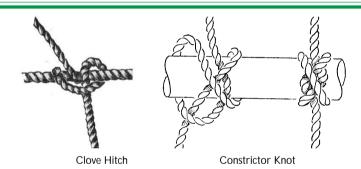
Diddy-box

Either a compartment within the pipecase, or a small separate box for a few essentials. DIY shops sell plastic component boxes with internal dividers for $\pounds 3+$ which are suitable. The exact contents vary greatly from one piper to the next, but for what it's worth, my own box measures about $6 \times 4.5 \times 1$ inches, and usually contains the following items:

- small pair of good-quality, fine-nosed pliers (for adjusting double-reed bridles)
- sharp penknife (e.g.. French-made Opinel lock-knife)
- single-edged razor blade
- · lump each of beeswax and cobblers heelball (for waxing thread)
- lump of Bluetac (for tuning drone reeds)
- tube of cork grease (for lubricating drone slides)
- wine cork and an assortment of cut slivers of cork (for fine-tuning chanter holes)
- hooked piece of wire (for handling cork slivers)
- waxed dental tape, in dispenser with built-in cutter (for lapping joints etc.)
- a few small hanks of beeswaxed dental tape (for lapping reeds)
- roll of plumber's PTFE tape (quick-and-dirty answer to leaks)
- small pieces of fine sandpaper (for sanding reeds)
- a few small feathers (for cleaning chanter reeds, see 'Tips' section below)

Miscellaneous

- popping strap (piper's apron). Used to give an airtight seal, especially when playing staccato. Some pipers can't get on with them. Made out of soft leather, 2 types are commonly seen:
 - a piece large enough to wrap around the thigh
- a small oval or rectangular piece, perhaps 8×4 inches, with a fastening thong or strap with Velcro attached
- spare reeds. A padded 2-ounce tobacco tin is an ideal container
- pen and A5 music notebook
- folding table-top music stand
- shoulder-strap fitted round the stock of a half- or full-set. Optional. Guitar straps are about the right length, nylon webbing ones cost about £4, leather ones rather more.
- Reed scraping knife. Cheaper than buying a gouge. See 'Tools to make'.
- impregnated polishing cloth. (e.g., Goddard's). Silver ones are good for German silver on pipes, and a brass one is available as well. No good for heavy tarnish, but removes light tarnish without causing any mess.



Useful knots

Either of these is suitable for attaching cord securely, e.g. when lapping the base of a reed or a fixed or sliding joint. The clove hitch is the less secure knot of the two, but it lies flatter when tightened.

- the constrictor is especially good for attaching the rubber or leather blowpipe to the stock on the bellows
- each knot can be tied as a slip knot by doubling over the working end of the cord befpre making the final tuck under the bonding loops
- •the constrictor tied in lightly besswaxed fine cord makes a good tuning slide for drone reeds. When the tension and position is correct, it may be secured with a reef knot.

Care and Maintenance of Pipes

Musicians generally follow one of two philosophies in looking after their instrument: do the minimum necessary to keep it playing, and adjust your playing to compensate for its quirks, or keep it clean and carefully adjusted so that it is in better condition than when new. You must make up your own mind on this matter, but remember that some of the best musicians play the most disgraceful looking instruments (equally, others don't!). Given below is a fairly thorough maintenance schedule; the materials mentioned are detailed in the 'Materials' chapter:

- return the pipes to the maker occasionally for an overhaul and new reeds
- check for leaks (see the 'Tips' chapter). These may cause tuning problems.
- avoid extremes of temperature and humidity. In a centrally heated building, store the pipes in a cooler, slightly damper room if possible.
- in dry weather, wood shrinks causing harder reeds and slack lapped joints. The converse happens in damp weather, and you must compensate for this as discussed below.
- · always transport pipes in a stout, padded case.
- wood (unvarnished):
- an occasional light oiling to protect from moisture, remove dirt and replace lost natural wood oils. Light woods may discolour with the wrong oil, but almond oil or bore oil should be alright.
 - clean chanter finger holes with an oily cotton bud
 - pull lightly oiled rag through chanter and drones
- wood (varnished): apply beeswax polish with a soft rag
- lapped joints (permanent): should be airtight and difficult to remove
 - if loose, add extra thread with beeswax.
 - PTFE tape will be fairly durable as there is no friction to abrade it
- lapped joints (sliding drones): should be airtight, easy to tune yet not slip out of tune while playing
 - adjust the amount of thread
 - apply cork grease to the lapping to seal and lubricate
 - do not use beeswax/heelball, PTFE tape is alright for a temporary fix.
- lapped joints (removable): should be airtight and removable without rupturing yourself, yet not shoot across the room when you play in the second octave!
 - adjust the amount of thread
 - do not use beeswax/heelball, use PTFE tape for a quick fix.
- metalwork: an occasional polish with Brasso wadding, cotton bud and brass polish, or polishing cloth. Wear gloves to avoid black hands.
- keys:
 - polish occasionally
 - check the pads are airtight. If not, oil or replace them
- if keys are too stiff, use a very small drop of light machine oil around the hinge pin

- if keys waggle sideways, return to maker
- mounts: horn and ivory need regular oiling to prevent cracking. Artificial ivory needs no treatment.
- bag: check occasionally for wear or leaks.
- bag (leather):
 - if the shiny side is outermost, use leather food to keep it supple
 - if it is leaking, use the recipe given in the 'Materials' chapter
- flap valves: located on the blowpipe and the bellows air inlet. Oil occasionally to keep them supple.
- drone air valve: located on the inner end of the main stock. Check the retaining nut is tight. If rubber, check for perishing. If leather, apply leather food occasionally to keep it supple.
- bellows: polish or oil the woodwork as appropriate
 - apply leather food to the leather parts
 - if the front pivot has a metal hinge, apply light machine oil
- bellows straps:
 - apply leather food and check for wear. Add metal eyelet to worn holes.
- popping strap: leather food to keep supple
- popping valve: leather food on the leather, light machine oil on the hinge
- reeds: see the 'Reeds' chapter for a guide to adjusting reeds. Refer to the bibliography for relevant books.
 - clean the chanter reed occasionally (see under 'Tips')
- check that reeds are firmly seated in their reed-bed. Add extra thread lapping and beeswax/heelball if necessary
- do not overadjust your reeds: some problems are only temporary, and will correct themselves with changes in the weather
- NB. if you change the position of a reed in its bed or adjust the bridle, this can usually be undone. However, removing cane or shortening the staple is irreversible
- if really stuck, ask for help from a more experienced piper, but at your own risk!



from Edward Bunting's Ancient Music of Ireland

Bheireadh tu cho fad a' gleusadh do phìob 's a bheireadh fear eil' a' cluich puirt. Ye're as lang tuning yir pipes as anither wad play a tune.

Gaelic proverb

Recos

parts of a double reed

back (heel) – the part of a reed with the bark left on.

bark- the shiny outer surface of cane.

blades– the two pieces of cane bound together to form the head of the reed.

bridle (collar) – the mechanism used to tune the reed by adjusting the tension on the head. Usually a bent strip of copper, or a length of fine brass wire ('oboe wire') wrapped 2 or 3 times around the blades and the ends twisted.

corner- the part of the reed where the lips meet the side. Vulnerable to damage, may be chamfered to protect the cane and make the reed easier to blow.

eye- oval aperture at the flattened end of the staple inside the reed. The depth of the eye is crucial to the tuning.

head- the pair of cane blades lashed together to form a unit.

heart- the middle part of the scrape.

lapping– cord wrapping near the bottom of

the staple, used to ensure an airtight seal in the reed-bed of the pipe. Usually beeswaxed.

lip– the upper edge of the blades, often slightly chamfered towards the mouth to make the reed easier to blow. Very fragile.

mouth- the gap between the lips. The width of the can be altered by the bridle, and the wider it is the louder the reed.

scrape- the part of a blade where bark and wood have been removed.

shank- tapered bottom of the blade, usually chamfered on each side to prevent the cane splitting.

side- the place where the two blades touch. Must be airtight.

slip- the length of cane from which the two blades are cut.

staple– metal tube to which the blades are fastened. Usually copper or brass, flattened at the inner end to form an oval eye.

top-vee– v-shaped thinner area of the blade just below the lips, visible by raising the reed to a light bulb.

vee- the v-shaped bottom part of the scrape.

whipping- tight wrapping of cord which fastens the blades to the staple. Cord is carefully laid side-by-side & often beeswaxed or varnished to give an airtight seal.

wood- the part of the cane which lies under the bark.

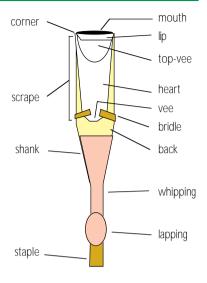


fig.1 Double Reed

adjusting chanter reeds

Problem	Possible Cure	Positive Effect	Negative Effect
	Trim 'spider's leg' from lips	Raises pitch	Sharpens back D. May 'narrow' octave
Reed below concert pitch	Sink further into chanter	Raises pitch, especially top half of 8ve. Brightens tone	Sharpens back D. May flatten high A,B
	Close bridle	Raises pitch. Eases playability	Flattens black D. Can cause problematic 8ve E,F
Reed above concert pitch	Pull reed out from chanter	Lowers pitch, espec- ially top half of 8ve. Eases playability	Dulls (mellows?) tone. May flatten low B. Flattens back D
	Open bridle	Lowers pitch. Brightens tone	Harder to blow. May flatten low B. Sharpens back D
	Scrape at heart of reed	Lowers pitch. Eases playability	Weakens reed. Causes breaking back D
	Roll of paper up staple	Lowers pitch, especially top half of 8ve. Quick fix.	Quietens chanter
	Rush up chanter (eg. length of brass wire)	Flattens a section of the chanter. Quick fix.	Quietens chanter
2. SOME NOTES OU	JT OF TUNE		
Problem	Possible Cure	Positive Effect	Negative Effect
	Reduce finger hole diameter with eg. cork	Quick fix for sessions.	Alters tone of note. Reduces note volume
Individual note sharp	Reduce chanter diameter just above finger hole with 'rush'	Quick fix for sessions	Alters tone and volume of all lower notes
Bottom D sharp	Insert roll of paper, strip of cork into bottom of chanter	Can improve hard D. May stop gargle	
Dools D. oborn	Close bridle		
Back D sharp	Pull out from chanter		
Back D flat	Open bridle		
DACK D HAL	Sink into chanter		
C# flat	Open bridle.		
	Trim lips		
	1		
Lligh A D charp	Sink into chanter		
High A,B sharp	Sink into chanter Close bridle		
High A,B sharp High A,B flat			

High A,B sharp	Sink into chanter	
	Close bridle	
High A,B flat	Pull out from chanter	
	Open bridle	

3. PLAYABILITY

Problem	Possible Cure	Positive Effect	Negative Effect
Reed too light to	Open bridle		
blow	Sink further into chanter		
Reed too hard to	Close bridle	May seal leak at sides, if any	
	Sand lips slightly thinner	May brighten tone	May dull tone. May make back D break
blow High E hard to hold,			
'awkward' tone Back D weak/unstable Gargle on bottom D	Lightly scrape top 5mm of reed head, especially corners	May brighten tone. May ease playability.	May dull tone
	Strengthen reed by opening bridle		
	Open bridle. Scrape bottom of Vee		
Leak at side of head - reed squeaks, high 8ve difficult to get	Seal leak with eg. glue.		
	Close bridle		

parts of a single reed

body (?)- all of the cane except the tongue.

bore- the hole running through the cane.

bridle– two or three loops of thread firmly tied around the reed near the bottom of the tongue. Used for tuning. Usually beeswaxed to prevent it slipping.

cut- made at an angle with a sharp blade to slightly less than half the diameter of the cane.

lapping– cord wrapping near or on the taper to ensure an airtight fit in the reed-bed. Usually beeswaxed.

node end- the end of the cane sealed with a naturally occurring node (or joint). If there is no node in the piece of cane, or if it is porous, it is sealed with cork, sealing wax or heelball.

notch– some reedmakers make a notch before beginning the cut. Can help to prevent splintering.

scrape– the surface of the tongue may scraped to tune and balance the reed. Scraping near the tip sharpens the reed, near the base it flattens it.

split- made after the cut by levering up the tongue with the knife. Can be lengthened by running the knife along it. The bridle or lapping is put on beforehand so that the split cannot go too far.

taper- made with a knife and fine sandpaper to allow the reed to fit snugly in its bed.

tongue- the freed strip of cane.

tuning blob– small piece of Bluetac or melted wax stuck near the top of the tongue for tuning and balancing the reed.

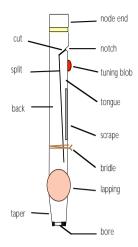


fig.2 Single Reed

ADJUSTING A DRONE REED			
Problem	Possible Cure	Side Effect	
reed sharp	scrape base of tongue	easier to blow & quieter	
	add weight to top of tongue	harder to blow & louder	
reed sharp	lengthen split		
	move bridle nearer base of tongue		
reed flat	scrape top of tongue	easier to blow & quieter	
	remove weight from top of tongue	makes it easier to blow makes it easier to blow	
	move bridle nearer top of tongue		
	scrape base of tongue		
stops under pressure	snap tongue a few times	raises tongue	
	place a hair under base of tongue		
	adjust bridle & size of blob		
note varies with pressure	reed may be unsuccessful		
	check airtight seal in reed-bed		
reed silent when assembled	check reed is aligned straight in reed-bed		

materials

Oils

Almond or Olive oil

- for softening leather flap valves or keypads which have become stiff.
- a little rubbed into unvarnished woodwork if it looks dry or to remove dirt. Penetrates the wood and stabilises it by preventing moisture from getting in. Helps prevent cracking.
- these oils do not oxidise to form a varnish, but will go rancid after prolonged storage.

Bore oil

a non-toxic light mineral oil sold for protecting mouth-blown woodwind instruments from moisture. Does not form an oxidised varnish or go rancid.

Machine oil (fine)

use VERY sparingly to ease slightly stiff regulator keys. NB. it will discolour some woods.

Neatsfoot oil

can be used for softening leather, but leaves a greasy finish. Leather Food is better. Available from leather shops and saddlers. Some people use it to soak double-reed cane slips to make them resistant to humidity changes.

Tung oil

this was recommended to me for applying to the wood of your pipes. I understand it oxidises to form a varnish as does raw linseed oil, so use with care.

Recipes

Bag/Bellows sealant

18% beeswax, 80% neatsfoot oil (from leather shop), 2% rosin (from music shop) – Alan Ginsberg

Melt together in a double pan (tin in saucepan of boiling water). Pour into bag or bellows while still hot. Rub around the leather, especially the seams. Suspend to drain overnight over a pan to catch the drips for re-use. (Highland pipe bag compound is best avoided: it leaves a greasy finish which may leak through the bag.)

Beeswax-Tallow

50/50 mixture melted together for sealing and lubricating drone slides. Tallow is available from plumbers' suppliers, or make your own by cleaning mutton lard. Some people use tallow on its own. (Alternatives: beeswax-olive oil 50/50, or try vegetable lard or petroleum jelly instead of tallow. Or buy woodwind 'cork grease' and save yourself a lot of mess)

Cobbler's heelball + Beeswax

melt together 2 parts heelball to 1 part beeswax. Use for waxing thread on double reeds. (Alan Moller says this is better than either of the waxes on its own)

Stitching paste

beeswax-rosin 50:50, with enough neatsfoot oil to give the consistency of soft butter when cold. apply to the bag seam to prevent leaks, or to the lapping of joints going into a stock. (Gordon Mooney's *Tutor*)

Tapes

PTFE Plumber's Tape

useful for quick-and-dirty sealing of leaks on lapped joints, but it does not withstand rubbing: dental floss or hemp give a more durable result. Good for an airtight seal under the whipping on double reeds. If you apply it level with the top of the staple, it will show how far your whipping ought to reach. (or goldbeaters skin)

Polyisobutylene self-amalgamating electrical tape (25mm x 10m)

rubber tape that vulcanises to itself when stretched. Good for sealing stock/blow-pipe entry points into bag. Available from Farnell (stock code 217-104. £6.95)

Threads & Cords

Dental tape/floss

excellent for any job that requires thread: reedmaking, lapping friction joints or drone slides. Dental tape is wider than floss. It packs down flat as the fibres are not twisted. Tease it out with your thumb nail to make it lie flatter. Waxed and unwaxed varieties from chemists shops in dispensers with a built-in cutter. (Alan Ginsberg)

Nylon thread.

such as Barbour's Lynyl no.20. Good for chanter-reed making, as its slight stretchiness makes it easier to keep the whipping under tension. Alternatives: yellow hemp (from NPU), oboe-reed thread, carpet thread, dental floss/tape.

Beeswax strengthens thread and stops it slipping; MacLellan's Tutor suggests using heelball. Use

- as a sealant when making double reeds
- for keeping chanter top-piece secure in the bag
- smeared around the base of a reed to keep it secure in its bed (or use soft wax from Dutch cheese, according to Gordon Mooney's *Tutor*).
- beeswaxed thread for semi-permanent fixings
- use very sparingly (if at all) on sliding joints on drones and friction joints
- to prevent the hemp or thread tuning bridle on a drone reed from slipping

Candle wax

rubbed and burnished onto the inside of a double-reed cane slip, it helps prevent dirt from adhering during playing. Can be applied to the lapping of drone slides, although cork grease is better.

Cobbler's Heelball

A hard black wax available from cobblers and leather shops. Strengthens thread and (according to Quinn) grips the cane more securely than beeswax.

Useful for tuning drone reeds: paint onto the reed tongue with a hot metal rod (Dave Williams). Bluetac is also commonly used for this. A hard wax like heelball can be painted inside a chanter finger-hole to tune it: reducing the size of a hole

flattens its note. I have heard this is no longer manufactured, but brass-rubbing wax is very similar.

Sealing wax

- for weighting drone tongue reeds. Apply as for heelball.
- for sealing drone cane lacking a knot at one end: apply on top of a sliver of cork.
- for attaching leather pads to keys on chanter or regulator.

Miscellaneous

Bassoon cane slips (gouged but NOT shaped)

available from woodwind suppliers (e.g.. John Packer in Taunton). ca. 70p each. Length 4 3/4" (120mm), width 9/16–3/4" (15–20mm), thickness 3/64–1/32" (1.0–1.3mm), average diam. ca. 1" (25mm). May be worth experimenting with, but they are perhaps too deeply gouged for our purposes.

Blu-Tac. Use for

- weighting drone-reed tongues. Quick to apply, easy to adjust.
- blocking the end hole of a drone to silence it while tuning the other drones.
- to stop regulator-reed bridles from slipping.
- to tune regulators, inserted up the bore on a brass wire.

Brasso Wadding (Duraglit)

cotton wadding impregnated with brass polish. Works on German silver as well. Or use Brasso and a soft rag. Wear gloves if you don't want black hands!

Brazing rod (or any stiff wire, preferably brass)

available in various thicknesses from hardware shops. Use as a rush to lower the pitch of your pipes; the thicker the rod, the greater the drop in pitch.. Alternatives: pipe cleaner (burn away unwanted parts), strip of surplus cane 5–6mm wide, length of straw.

- chanter: cut an appropriate length, and bend a crook at the lower end to secure it inside the chanter. This lowers the pitch of the whole chanter. Lower individual notes by attaching Bluetac, waxed hemp, Sellotape etc. to the rod just above the hole of the sharp note.
- drone: as for chanter, but bend a crook to fit over the bottom mount of the drone as you slip it up the bore. The usual method of tuning a drone is, of course, to adjust the reed or the slide of the drone, but this may be useful as a temporary fix to lower the drone beyond its present range.
- regulator: straight piece attached to tuning pin. Tune the highest note first, and work your way down.

A Flat Set on the Cheap:

In this way, the tenor and baritone drones can be lowered about 2–3 semitones. The bass drone would need an extension piece of brass tubing fitted in the end. Result: buy a flat chanter, and you have a flat half-set for the price of a chanter! (thanks to Alan Ginsberg and Phil Hunnable for this.)

Car radiator hose

may be used to connect bellows to blowpipe. Comes in a range of diameters, some types with a concertina section in the middle. Better than wide-bore polythene tubing, since it does not lose its flexibility with age. Cover with leather if you wish.

Cork

choose new wine corks with no flaws from a home-brewing shop. A thin crescent-shaped paring in chanter finger-hole will lower the note, with a drop of glue to secure it if you wish, although the natural springiness of the cork should hold it in place (Alan Ginsberg). A slice or washer of cork in the bottom of the chanter will lower the pitch of the 'bell note' and prevent it gargling. Use a stout piece of wire with a bend at the end to fish cork pieces out. Can also be used for sealing one end of drone cane, with perhaps a drop of sealing wax on top to make it staunch.

Cork grease

a hard synthetic grease, useful for lubricating drone slides, if you do not fancy the alchemical concoctions listed above. e.g.. Bach cork grease ca. £1.30, Bach tuning slide/cork grease £2.25 (Mickey Dunne)

Lead

for extra weight when tuning drone reeds, stick a fragment of lead into the molten sealing wax (Phil Hunnable)

Lead pencil

before the final sanding of a double-reed cane slip, rub a pencil all over the inside surface of the cane. If you sand it until all the lead has been removed, the cane should have an even inner surface. Works on the same principal as engineers' bluing. (Alan Moller)

Leather Food

apply to the smooth side of leather to keep it supple and lubricated, but without leaving a greasy finish. Use on straps and bellows (makes your shoes comfier too!). Avoid 'Leather Cream' which only gives a surface polish. Available from saddlers and leather shops. Expensive (£4 to £6) but worth the money, and a tub will last for years. Alternatives: saddle soap, neatsfoot oil.

Metals in double reeds

copper is easier to work, but brass staples give a brighter sound (Alan Ginsberg). 22-gauge sheet is best for both staples and bridles. Copper from a domestic hotwater tank is suitable for bridles. Good model shops sell extruded brass pipe: 3/16-inch for a D set, 9/64-inch for a C set are typical, but be prepared to experiment.

Oboe wire

fine brass wire used as a bridle on double reeds. 2 or 3 turns around the head, and the ends stretched and then twisted (to prevent the wire breaking) with pliers to tension. Easy to adjust and gives a brighter reed (Alan Moller). David Daye specifies 24-gauge wire for bridles.

Pipe cleaner

- use for cleaning swarf out of staple after filing or cutting
- or as a rush. Burn away unwanted parts for fine tuning.

Plastic pipe

various diameters are available from DIY shops. 2-inch is best for a sanding former and cutting block when making chanter/regulator reeds. Alternatively use a piece of turned wood (dowel, rolling pin).

Shellac

painted on the whipping of double reeds to ensure airtightness. Available from electronics suppliers. Alternatives: gloss paint, nail varnish, polyurethane varnish. Dave Hegarty recommends Patent Knotting as used by decorators.

Straw

a traditional material used as a rush for tuning chanters, or even for making single reeds (especially barley straw cut near the ground).

Super-glue (cyanoacrilate or super-fast epoxy)

- for attaching cane slips to staple
- for 'fixing' cracks in double reeds (carpenter's white glue does as well, e.g.. Resin 'W'). Apply with a mounted needle or pin, and scrape off surplus when dry. Be prepared for disappointment! Some people use nail varnish, but it is not as good.

Tobacco smoke

A traditional woodwind maker's method for locating leaks

- 1) In the bag
- remove chanter and bag cover
- seal chanter stock with a rubber bung
- fill bag with smoke
- squeeze bag and look for smoke
- 2) around key-pads
- remove the pipe from its socket, and remove reed
- make sure end of pipe is open
- slip cigarette paper under the suspect key
- squirt mouthful of smoke into pipe until it starts to come out of end
- seal the end with palm of hand and blow by mouth, looking for leaks
- remove paper: plume of tar shows where leak is.

Velvet

the traditional material for bag covers. The best is all-cotton; curtain v. is good, upholstery v. is more durable, dress v. is not durable enough. Avoid synthetic-fibre v. like Dralon for bag covers, although it can be used to line your pipecase if you like. You will need about 1 metre of cloth. Use 1-inch bias binding to enclose the seams to prevent fraying. Use the offcuts to make protective pouches for chanter, drone extensions etc.



Dè am feum a tha sa phìob mur cluithear oirre? What's the good of a pipe if it's not played on? Gaelic proverb

Mas ceòl fidileireachd, tha gu leòir againn dheth.

If fiddling be music, we've had enough of it. (said by a harper!)

Gaelic proverb

Tools 7 things to make

Most of these are for reedmaking, but are not shown in the reedmaking books I've seen.

Anvil

Useful for general bashing while reedmaking. The bottom of an old electric iron is perfect (and usually free!). Some metalworking vices have an anvil built in.

Bass-regulator dangler

a dangling ornament favoured by some pipers, attached to the cap of the bass regulator. Often a piece of macramé or beadwork. Some pipes have a 'dangler' on each drone with a plug attached which can stop off the drone. Useful for silencing a misbehaving drone, or for tuning 1 or 2 drones at a time.

Cutting block (see plans overleaf)

curved wooden block for sanding and cutting chanter reed cane slips. Turn on a lathe from hardwood, or use dowel or a wooden rolling pin (Roy Burr).

Double-reed template (see plans overleaf)

make from brass sheet, and give it a 1" (25mm) diameter curve by tapping on shooting board with a length of dowel. Choose the dimensions to suit yourself, but here's one for a Ginsberg ${\bf C}$ chanter.

Drone Plugs

occasionally seen on some older pipes, a tapered plug of metal that fits into the end of the drones to stop one or more for tuning or playing. Attached to the end mount of the drone with a cord or fine chain. Make out of plastic or wood, or use a small cork or rubber bung. Most people use a lump of Bluetac.

Elbow-strap keeper

to stop the elbow strap pulling out of its buckle, punch a small hole at the end of the strap and insert a key-ring or a piece of leather bootlace, or make yourself a fancy dangler.

Eye-forming tool

Make like a mandrel, but with a wider end to the shaft to match the form of eye you want. Insert at the top of the staple to form the eye, if you wish to have closer control over the shape of the eye than when using a mandrel.

Leather cushions for bellows

a cushion fitted to each board of the bellows should help to make them more comfortable, if you are not overly well padded yourself. Thin leather firmly stuffed with synthetic soft-toy filling. Seams glued before sewing. A good shape is oval with a semicircular cutout at the front to clear the air intake/outlet.

Mandrel (see plans overleaf)

If you cannot obtain steel rod of the right diameter, try fence wire.

Oiling plungers

length of knitting needle or brazing rod, wrapped with hemp, varnished with shellac and rolled to compress so as to fit the bore of a pipe. Each drone would need its own plunger, and the chanter – being conically bored – would need several. Dip in

a small bottle of oil and pass up the bore of each pipe. Apply sparingly to avoid soiling the reed. (Gordon Mooney's *Tutor*)

Plaque

a smooth, thin piece of wood or metal with rounded edges inserted between the lips of a double reed to support the cane while you scrape or sand it. Bassoon plaques are acceptable, but better would be one shaped to the scrape of a pipe reed. Guitar thumb picks are useable. Most pipe reedmakers do not use them.

Reedmaking knife (see plans overleaf)

The best material (Alan Ginsberg says) is a machine hacksaw blade (ca. 30mm wide), preferably second-hand as they are rather dear. Snap off the length required and using a hard grindstone shape a tang for the handle and a 2-inch diameter curve at the point, and put on a sharp cutting edge. Thin the set of the teeth on the back of the blade for scoring cane. NB. this can be hazardous, so wrap the blade in a cloth before snapping it in a vice, and wear goggles when grinding.

Reed Winder (see plans overleaf)

For winding thread around double reeds. Less tiring than a hand-held mandrel, and gives better control over the tension and placing of the thread. Can be made out of a block of wood (Dave Williams), or from a Mamod model steam-engine part.

Shooting board (see plans overleaf)

for gouging double-reed cane slips. Make out of hardwood, joints pinned with hardwood dowels, glued and cramped (Roy Burr).

Staple-length gauge (see plans overleaf)

To measure the length of staple in an assembled reed. Make out of fine, stiff wire, length about 6" (150mm), with a sliding plastic sleeve (e.g., a piece of wire insulation).

- insert gauge up staple until the hook catches
- slide the sleeve until it touches end of staple
- remove and measure distance from sleeve to hook

Thickness gauge (see plans overleaf)

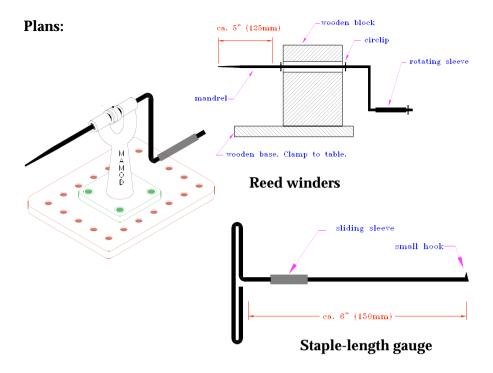
use a steel washer, or drill a 2p coin if you're desperate. Cut a slot with a hacksaw, and using needle files and fine wet-and-dry paper produce a slot as shown below. Use feeler gauges to measure the gap, and if it is too wide, tap with a hammer until correct. Mark the thickness on the gauge.

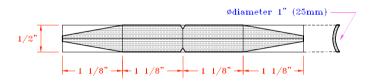
Wax applicator

a short metal rod mounted in a wooden handle. Heated in a flame, it is used to paint molten heelball or sealing wax onto the tongue of a drone for tuning. (Dave Williams)

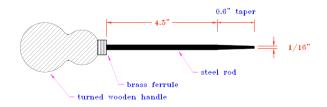
The relation of the bagpipe to the performer is often expressed [in Gaelic] as 'cèile' [spouse] or 'leannan' [beloved].

WJ Watson Bàrdachd Gàidhlig p.289

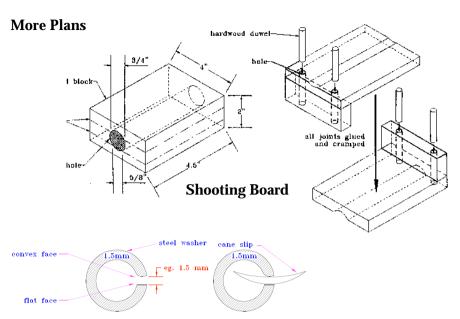




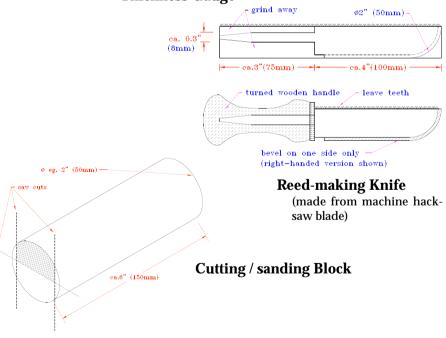
Double-reed template



Mandrel for chanter reed staple







Tools 7 things to buy

On the whole, these tools are for reedmaking, but are not mentioned in most of the reedmaking books I've seen. See the Yellow Pages under 'Tool Dealers' for suppliers.

Callipers (vernier or dial)

a good tool for measuring length and breadth of of cane slips. Cheap vernier models start at abut $\pounds 4$, nylon dial model about $\pounds 17$.

Chanter-reed template

available in cast bronze for D reeds from NPU, made by Cillian O Briáin. £15.

Circle template

plastic drawing aid with circular cutouts of varying diameters, available from art shops. The Helix metric model H67 has circles from 3-34mm in 1mm steps, and costs about £1.75. I'm not sure if imperial templates are still available. Useful for selecting lengths of cane or part of a length of cane of the required diameter. (Alan Moller)

Dial/clock gauge

a spring-loaded plunger with a distance dial on top. The easiest (and most expensive) way of accurately measuring the thickness of a cane slip all along its length. A Draper gauge costs about £30, and the stand around £15. However, you can make a stand yourself out of wood, metal or Meccano. (Dave Williams)

Feeler gauges

inexpensive folding set of metal strips of varying thickness, available in imperial and metric sizes. Useful for measuring eye of staple, setting callipers, calibrating micrometers and dial/vernier callipers.

Inside-ground scribing gouges

NPU supply the 'Ashley Iles' range. Alan Moller uses #3 or #4 for the initial profiling, and #6 for the tails of chanter-reed slips.

Micrometer (0-1", 0-25mm)

cheaper models may be OK, or buy second-hand. Student models cost under £10, while engineering quality ones start at around £25. Traditionally stored in a steel spectacles case. Can measure concave surfaces like cane slips with a ball attachment available from Buck & Hickman for about £4–£5. Each attachment is designed for a micrometer with a specific spindle diameter.

Opinel lock knife

French made with a wooden handle, available from tool and camping shops. The model with a 3.5" (90mm) blade is useful, as the curved end has roughly a 2" curve, although obviously you can regrind it to suit yourself. Alan Ginsberg favours them, and says the steel is very good quality, Cost from $\pounds 5$ – $\pounds 8$.

Orchestral reedmaking sundries

oboe and bassoon plaques fit inside double reeds; bassoon reed cane-slips (gouged but not shaped) are said to acceptable for the pipes; fine and thick thread; reed knives (£16 – £58!); goldbeater skin; cutting blocks. All from orchestral woodwind suppliers (e.g. John Packer of Taunton).

Python wooden handles

turned wooden handles with metal ferrule, available in various sizes. Size $\bf 0$ is fine for mandrels and costs about $\bf 55p$.

Reamer

Use either a small hand reamer or a drill reamer bit on staples

- to remove burr after cutting
- to flare the inside bore (gives a slightly brighter reed)

Replacement Bellows Straps

Saddlers will make leather straps to order. They are not cheap, but as saddlers use the best materials the straps should last a lifetime.

Sanding formers

if you don't have access to a wood-turning lathe, the formers shown above are available from Cillian O'Briáin.

Stanley knife

the best models in my experience are the Interlock series such as no.10-010: they tighten with a wheel, rather than a screw, so you don't need to carry a screwdriver with you. Models with a retractable blade have a dangerous habit of closing themselves while in use. Various grades of blade sold, the sturdiest being 'heavy duty'.

Wooden moulding plane

I have not tried this idea, but these old-fashioned tools are available second-hand with a wide range of profiles, including simple curves. If you cannot find one with a 2" curve, you could adapt one by planing and sanding the wooden bottom, and regrinding the cutter. They should give you better control than a firmer gouge when gouging cane slips. They could be used either on a modified shooting board (with the back-stop reduced in height to allow the plane to pass over it), or held upside down in a vice and the cane passed over the plane with a pushing stick (to save your finger tips!)



cha dèan a' phluic a' phìobaireachd. puffing won't make piping. *Gaelic proverb*

Ged a chual' iad an ceòl, cha do thuig iad am port.

They heard the music, but understood not the tune.

Gaelic proverb

is searbh pìobair an aon-phuirt – ach is miosa pìobair an aona chuir. harsh is the one-tune piper – but worse is the one-bar piper Gaelic proverbs

Cips

blowpipe flap-valve

this should hang downwards, so that it closes more readily with the aid of gravity. Mark the top of the mount with a centre punch or file. (Alan Ginsberg)

cleaning chanter reeds

Chanter reeds pick up a rim of dirt inside the lips, which makes it sound muffled and quieter, and may make the 2nd octave more difficult to play. Some remedies:

- take a small feather by the quill end and push the feathery end right up via the staple to sweep out accumulated grime from between the lips of the reed.
- Alternative method in *An Píobaire 3,14*: small triangle of very fine 1200-grit sand-paper wetted with trichloroethylene (Tippex thinners. NB. this is a hazardous solvent!) inserted in the top of the reed to remove the 'black stuff'.
- A warpipers' trick is to clean them with spirit (?methylated) on a feather.
- some makers insert an air filter in the blowpipe to help prevent dirt from reaching the reeds in the first place. Tends to make the pipes a little harder to blow.
- slip a piece of hard paper (tracing paper, bank note) between the blades, press the blades gently together and remove the paper. Repeat until clean.

composite drone reeds

in some types of pipe, single reeds are made in two parts, the body and tongue being whipped together with thread. Cane is the usual material for both parts, but metal, wood or plastic have been used for either part. Baines and Quinn have some useful details and drawings.

corner knocked off chanter reed

trim both corners off to balance the reed. You can do this anyway to prevent this kind of damage happening, and to make the read easier to blow.

detachable connecting tube

using plumbing screw fittings to attach connecting tube to bellows. Allows bellows to pack into a shallower case.

eye of staple too narrow (in assembled reed)

insert mandrel right up staple, give sharp tap with hammer to end of mandrel. NB. not reversible, so don't overdo it! May strengthen a weak reed.

hunting leaks

Cover all finger holes, press the chanter against a popping strap, pump the bellows until the bag is full and apply steady pressure. If the bag goes down, you have a leak. The next step is to locate the leak. If you cannot hear the leak, try using to-bacco smoke as detailed above under 'Materials'.

- leaking chanter: remove chanter, and with the reed removed, stop up end of chanter with finger tip and blow by mouth.
- leak elsewhere: stop up chanter outlet with a rubber bung, and inflate the bag.
- leaking mainstock outlet: remove the stock, cover the hole with plastic sheet and a tight rubber band, and inflate the bag.
- leaking bag: having removed chanter and mainstock as described above, detach bellows, inflate bag by mouth and squeeze.

- leaking bellows: isolate the bellows, block the end of the blowpipe, inflate the bellows and apply pressure.
- if you still haven't found the leak, it may be where the drones or regulators fit into the mainstock, or the regulator caps.

remedies for leaks:

- bag/bellows: for leaking leather/seams or porous leather, see above under 'Recipes' for sealant.
- stock insertion points into bag: melt beeswax where wood meets bag and add extra whipping, or see above under 'Tapes' for PIB tape.
- permanent friction joints: e.g.. chanter cap. Add thread with beeswax on.
- movable friction joints: e.g.. drone slides, drone insertions into stock. Use thread with No beeswax on, or cork grease, or PTFE tape for a temporary fix.

newly lapped joints

to make the thread lie evenly on a freshly lapped joint, roll it between two flat surfaces – gives a better seal. (John MacLellan's *Handbook*)

Paper down throat of chanter

insert a small roll of paper no more than 10–15mm to cure an unsteady hard 'D' (Geoff Wooff, Ceol na hÉireann II.5).

Paper up chanter reed staple

insert a small rolled piece of e.g.. tracing paper up the staple to alter tuning. This flattens the upper part of the octave and quietens the chanter. (Alan Ginsberg)



An English view of our noble instrument. Could this explain the demise of the pipes in all of England except one unregenerate Northern region? (The Scots and Irish are presumably beyond redemption!)...

To bagpipe:

to indulge in a sexual practice that ... is too indecent for explanation. late C18–19. synonymous with 'huffle'.

To huffle:

'to bagpipe' which \dots is a piece of bestiality (? $penilingism^*)$ too filthy for explanation.

Eric Partridge Dictionary of Slang

*not found in the Oxford English Dictionary, which was evidently too shocked to include it. Your imagination must take over at this point!

Obbresses

One of the pleasant surprises I had while preparing this book was the great generosity shown by so many people in providing me with information, printed material and offers of a drink and a session should I be passing their way. I would like to thank you all very much, and I hope our paths cross one of these days!

Although I have tried to update this list as far as possible for the 1st edition, some of the addresses will inevitably be out-of-date by the time you read this. Any additions or corrections would be gratefully received for the next edition. There are other lists of makers, pipers and organisations both in NPU's leaflet and on the Internet.

Tontacts in Britain

The Bagpipe Society. Membership secretary: **Don Ward**, 80 Witherford Way, Selly Oak, Birmingham B29 4AS (0121 472 1555). Exists to promote all types of bagpipe. Twice-yearly journal *Chanter*, newsletter, annual 'blowout'. Back issues available. **Balnain House**, 40 Huntly Street, Inverness IV3 5HR (0463 715757). Centre for Scottish Music.

Joe Crane, 5 Coquet Terrace, Heaton, Newcastle-upon-Tyne NE8 5LD (0191 2654681) London Piping Club. contact: Paul Carton (0181 399 1711). Weekly meetings at the Camden Irish Centre, Murray Street, London NW1 (01 485 0051)

Lowland & Border Pipers Society: secretary– Rona MacDonald, 6 Garrioch Crescent, North Kelvinside, Glasgow G20 8RR (0141 946 8624). Annual competition & gathering, sessions, newsletter, journal *Common Stock*, publications & tapes.

Danny McCormick, Flat 10, Derwent Court, Everard Ave., Bradway, Sheffield S17 4LY Pat McNulty, 30 Parkhill Drive, Rutherglen, Glasgow G73 2PW (041 647 5163)

Morpeth Chantry Bagpipe Museum, The Chantry, Bridge Street, Morpeth, Northumberland NE61 1PJ. (0670 519466) Curator: Anne Moore (uilleann piper). Wide display of pipe species, pipes to play, pipemaking workshop, classes, concerts, sessions, list of makers, extensive catalogue of goodies for sale

National Bagpipe Museum, Black Gate, Castle Garth, Newcastle-upon-Tyne NE1 1RQ (091 615390). Their pipe collection has moved to the Morpeth museum.

Northumbrian Pipers' Society, contact through Morpeth museum.

Pitt Rivers Museum, Park Road, Oxford (01865 270927). Bagpipe collection.

South Western Association of Uilleann Pipers. contact: **Edwin Spring** (Street 01458 443906). Meets alternate months, and has a small November tionól.

Tyneside Irish Centre, 43–49 Gallowgate, Newcastle upon Tyne 1 (091 261 0384) Sessions Friday evening, annual Tyneside Irish Festival.

Contacts in Ireland

Tom Clarke, 9 Ardmore Avenue, Belfast BT7 3HD (232 647608)

Na Píobairí Uilleann, 15 Henrietta Street, Dublin 1, Ireland (873 0093. Internet address: npupipes@iol.ie) reedmaking books and supplies including: chanter cane, drone cane, yellow hemp, beeswax, brass tube, gouges etc. Museum, concerts, summer schools, regular classes, sessions etc.

Tommy Keane, 'T' Lodge, Maree, Oranmore, Co. Galway (091 794 344)

Contacts abroad

Canada: • Neil O'Grady, PO Box 405, Carbonear, NF A1Y 1B8 (709 596 5692) Pipemaker. • Sheila Church, 40 Myrtle Ave., Toronto M4M 2A2 (416-466 7841)

Czechoslovakia: Strakonice Pipers Festival, annually at the end of August

Germany: • Deutche U.P. Gesellschafft: **Ulli Plasberg**, Bullmanaue 17 45327, Essen **Holland:** • Dutch Uilleann Pipers: **Swier Oosterhuis**, Zuid Haffel 49, 1791 LD Den Burg, Texel (00+31+222 014 702) E-mail: oosterh@nioz.nl

Italy: Willy Clancy Cultural Association: Fabio Rinaldo, Via Crispi 7A/13, 17100 Savona (39 10 826359)

USA: • The Irish Pipers' Club, Wally Charm (Editor), PO Box 31183, Seattle, WA 98103-1183 (206- 784 7353). Quarterly magazine *Iris na bPíobairí*, tionóil, 200+ (!) members.

Contacts on the Internet

For those who aren't familiar with it, the Internet is a world-wide network of computers containing a wealth of information on – amongst many other topics – bagpipes. There is an excellent introductory book on the subject in the Teach yourself series. For those who don't have access to the 'Net, there are cyber cafés in many towns: and many public libraries in Britain can let you have free access. Here are some useful 'Net addresses to get you started, and each of these will link you with many other addresses.

- Bagpipe mailing list (subscriptions): bagpipe-request@cs.dartmouth.edu
- Ceolas archive of Celtic music information: http://celtic.stanford.edu/ceolas.html
- David Daye's Bagpipe Page: http://www-bprc.mps.ohio-state.edu/~bdaye/bagpipes.html
- \bullet Frequently Asked Questions about bagpipes: http://info.acm.org/~ mscully/ faq.html
- James Stewart's Index of 20,000 piping tunes: anonymous ftp from <ftp.stolaf.edu>, login as anonymous, and look in the directory gopher/ Internet Resources/St. Olaf Sponsored Mailing Lists/\Omni-Cultural-Academic-Resource/Fine-Arts/Music/folk-tunes
- John Wash's WWW Bagpipe Server: http://sunsite.unc.edu/gaelic/Pipes/pipes.html
- Na Píobairí Uilleann: http://www.pipers.ie
- South Western Association of Uilleann Pipers: http://www.swaup.org
- Uilleann Pipe Information List: http://pipes.tico.com/pipes/Uilleann/Uilleann.html
- Uilleann Pipe Mailing List: send e-mail to listproc@lists.acs.ohio-state.edu

Pipemakers

This is a list only of those pipemakers whose pipes are played and recommended by members of SWAUP. Many other excellent makers are not on this list simply because we do not personally know their work. [The author is willing to receive non-returnable free samples (full sets preferred for a more detailed evaluation) from any other maker who wishes to be considered for inclusion in a future edition of the handbook!] A fuller list of addresses can be ob-

tained on request from NPU. Note that some have a very long waiting list, and some will not do work on pipes that other people made.

- Froment, Alain, Kilkeana, Cenmore, Co. Kerry (064 41026)
- Ginsberg, Alan & Joan. 2 Celtic House, Stryd Ganol, Bethel near Caernarfon, Gwynedd LL55 1YS (01248 671381)
- Howard, Brian. 196 Rock Street, Sheffield S3 9JF (01742 739985)
- Hughes & McLeod, Unit 1, WIN Industrial Estate, Newry (tel. 01693 69080, fax. 01693 69065)
- Lamb, Eugene. Kinvara, Co. Galway
- O'Briáin, Cillian. Ceardlann na Coille, Daingean Ui Chuis, Co. Chiarrai (066 51778, fax: 066 5191) Also sells a full range of reedmaking supplies & tools.
- Roberts, Charles. Kings Mountain, Glencar, Co. Sligo (071 43967)
- Thompson, Kevin. 'St. Judes', The Hill, Malahide, Co. Dublin (846 3964)
- Williams, Dave. Windmill Workshops, Waltham, Grimsby, South Humberside DN37 0JZ (01472 828865)
- Wooff, Geoff. Cloghanmore, Miltown Malbay, Co. Clare (065 84049)

Reedmakers

If you need new reeds, you are probably best advised to go to the maker of your pipes. Most pipemakers are reluctant to try reeding pipes they did not make, but the following people are willing to have a go.

- Burton, Alan. c/o 17 Penare Road, Penzance, Cornwall TR18 3AJ (01736 66580)
- Hegarty, Dave. 49 Meadowlands, Oakpark, Tralee, Co. Kerry (066 25161 eve.)
- Moller, Alan. Ty Newydd, Rhyd, Penrhyndeudraeth, Gwynedd LL48 6ST (01766 771227)

☞Publishers

- Jack Agnew, 11 Ulting Lane, Langford, Maldon, Essex CM9 6QB (LBPS journal)
- \bullet Bayley & Ferguson Ltd., now Kerr's Music Corporation Ltd., 65 Berkeley Street, Glasgow G3 7DZ (041 221 9444/5). Scottish music.
- Celtic Music, 24 Mercer Row, Louth, Lincolnshire
- & C.M. Distribution, 4 High Street, Starbeck, Harrogate, N. Yorkshire (04323 888979). Reprints of old music publications. (I can't find these two in the phone book!)
- Comhaltas Ceoltóirí Éireann, 32 Cearnóg Belgrave, Baile na Manach, Dublin (280 0295). Publishes books on Irish music, organises musical events. Branches throughout Ireland, Britain and beyond.
- **Dragonfly Music**, Matt Seattle, 10 Gibson Street, Newbiggin-by-the-sea, North-umberland NE64 6PE (01670 818540). Catalogue on request. He plans to republish some old piping books phone to show your support. Irish, Scots etc.
- Dyllansow Truran, Trewolsta, Trewirgie, Cornwall.
- Eddie Climo, 24 Richmond Road, Taunton, Somerset TA1 1EW (01823 286775)
- Edwin Spring (Street 01458 43906)
- Irish Traditional Music Archive, 63 Merrion Square, Dublin 2 (01-661 9699, fax 01-686260)
- Mercier Press Ltd., 25 Lower Abbey Street, Dublin 1 (874 4141) & 5 French Church Street, Cork (021 275 040). Their music list has been taken over by Ossian.

- Ossian Publications Ltd., 12 Popes Quay, Cork (021 300 350) & 40 McCurtain Street, Cork (021 502 040)
- Paterson's Publications Ltd., 8/9 Frith Street, London W1V 5TZ, Warpipe music.
- R.T.E. Commercial Enterprises, Donnybrook, Dublin 4 (01 208 2978)
- University College Cork, Music Dept. (021 276 871 ext.2440)
- Waltons Musical Galleries Ltd., 2–5 North Frederick Street, Dublin 1 (tel. 01 874) 7805. fax 01 878 6065). Publishers and music shop.

Shops (Southwest of Britain)

- Gillian Greig, 44 Kingston Road, Taunton TA2 7SG (01823 333317. fax 338454) Tuners, some Irish music books and musical sundries.
- Hobgoblin, c/o The Bristol Music Shop, 30 College Green, Bristol BS1 5TB (0117 929 0902). Folk music suppliers.
- John Packer Ltd., 1 Portland St., Taunton TA1 1UY (01823 282386/338517. fax 337653). Reedmaking supplies and musical sundries. Mail-order catalogue.
- Marcus Music, Unit 3, Tredegar House & Country Park, Newport, Gwent, South Wales (0633 815612). Instrument maker/repairer and folk music supplies.

Suppliers

Cases: • Consort Case Company (Ireland) Ltd, Mooncoin, Co. Kilkenny (tel. 051 95191, fax 051 95488), Contact: Connor Murray,

- Farnell Components Ltd, Canal Road, Leeds LS12 2TU (0113 279 0101).
- The Folk Shop, Cecil Sharp House, 2 Regents Park Road, Camden, London NW1 7AY (0171 284 0534)
- Hobgoblin, 17 The Parade, Northgate, Crawley, Essex RH10 2DT (01293 515858). Folk music suppliers.

Music Books, instruments etc. • Dave Mallinson Music, 35 Bradford St., Cleckheaton (0274 852280)

(mail order: Music Dispatch, 4 King Street, Cleackheaton, West Yorkshire BD19 3JX (tel. 01274 852 020. fax 01274 852280)



The piper wants muckle that wants his nether-chafts. The piper lacks much who lacks his nether-cheeks. Scots proverb.

Mas olc a' phìobaireachd, chan fheàrr a duais. If the piping be bad, the pay is no better. Gaelic proverb

Dublications

Tilleann Pipes

There is quite a wide range of books available, and NPU offers a good selection of both books and recordings. They will post a catalogue on request. These are particularly valuable if vou're learning in isolation from other pipers.

Breathnach, Breandán. Ceol Rinnce na hÉireann. Contains some transcriptions of pipers with variations and ornaments.

- vol.1 (Oifig an tSólathair 1983)
- vol.2 (Oifig an tSólathair 1982)
- vol.3 (An Gúm 1995 ISBN 1-85791-040-0)
- vol.4 Small, Jackie ed. (An Gúm 1996 ISBN 1-85791-143-1)
- vol.5 Small, Jackie ed. (An Gúm 1999 ISBN 1-85791-278-0)

Britton, Tim. My Method (Reedmaking) (available from NPU)

Brooks, Dennis. The Tutor – Irish Union Pipes, a Workbook

Carolan. Nicholas. The Uilleann Pipes in Irish Traditional Music

(leaflet, Irish Trad. Music Archive. Available from NPU. Other titles in the series) Clarke, Heather. The New Approach to Uilleann Piping

(Eyrecourt 1988. book + cassette) Perhaps the best tutor.

Climo, Eddie. A Handbook for Uilleann Pipers (1996. available from SWAUP & NPU). Replaces the Equipment for Pipers and Materials for Pipers leaflets produced in 1995 and distributed by SWAUP & NPU.

Climo, Larry & Eddie eds. Reedmaking for Uilleann Pipers (1991) Based on notes taken at reedmaking workshops at SWAUP's annual tionóil.

Crowley, Tadhg. • How to Play the Irish Uilleann Pipes (repr. Ossian)

• Music for the Bagpipes (ca. 1930. reprinted recently. Píob Mhór settings)

Ennis, Seamus. The Master's Touch. Tutor for the Uilleann pipes, edited by Wilbert Garvin and Robbie Hannan

Garvin, Wilbert. The Irish Bagpipes their Construction & Maintenance

(Garvin Publications 1988 ISBN 1-871340-00-4)

Ginsberg, Alan. Construction Plans for an Egan C set and a Rowsome D set (from the author or NPU). Plans, tools, reedmaking, advice. Invaluable!

Hegarty, Dave. • Reedmaking Made Easy (NPU, 1980)

• The Uilleann Pipe Reedmaker's Guidance Manual (NPU 2nd revised edn.)

Johnson, Thomas. Index of Uilleann Pipe Recordings (1994 Bibliotekstjdnst, Lund, Sweden.Internet address: johnson_thomas@mail.btj.se)

Irish Traditional Music Archive. The Uilleann Pipes, a listening & reading list (available from NPU)

Lachaize, Michael & YvesLaurent. Methode de Fabrication d'Anches (reedmaking in French)

McNulty, Pat. • The Piper's Dream (original tunes & poems)

 A Collection of the Dance Music of Ireland (trad. tunes & original compositions) Mitchell, Pat. • The Dance Music of Willy Clancy (Mercier Press 1983 ISBN 0-85342-465-9)

• *ditto* (Ossian 1993 ISBN 0 946005 72 9) a new edition with longer preface/appendixes.

Mitchell, Pat & Jackie Bell. *The Piping of Patsy Touhey* (NPU 1986 ISBN 0-950743-2-3) Moylan, Terry ed. • *Ceol an Phíobaire: An Píobaire* 1971-1978 tune collection (NPU 1980). Second vol. in preparation by Colm de Brún.

• The Regulators (NPU booklet 1991)

Na Píobairí Uilleann. • An Píobaire (quarterly magazine for members)

- Discography of Uilleann Piping (recordings currently on sale)
- Makers of Uilleann Pipes (detailed list, contact addresses + other info)

Quinn, D.M. The Piper's Despair (reedmaking book)

Rowsome, Leo. Manual for the Irish Uilleann Pipes (Waltons, Dublin 1936, repr.)

Russel, Micho. The Piper's Chair (tunes, songs & folklore)

Sky, Patrick. Tutor for the Uilleann Pipes (book + cassette)

Spillane, Davey. *Uilleann Pipe Tutor* (book + cassette)

Spring, Edwin. Camden Breeze (2 vols., piping transcriptions + tutor. From SWAUP)

Vallely, E. & J.B. Learn to Play the Uilleann Pipes (Armagh Pipers' Club)

Van Dijk, Robert. 'has written a study of the regulator playing of a number of well-known pipers' (*Ceol na hÉireann I.92*) No further details known to me.

General

Here are sources to give you a wider view of both Irish traditional music and bagpiping technique in other traditions. There are many collections of tunes available for these other traditions.

Bagpipe Society. *Chanter*. (Journal. Back issues available from the Secretary:

Chi Allen, Eryl, Llwyndafydd, Llandysul, Dyfed, Wales SA44 6DH)

Baines, Anthony. • *Bagpipes*. [Occasional Papers on Technology, 9] (Oxford U.P. 3rd edition 1995 ISBN 0 902793 10 1))

• Woodwind Instruments & their History (Faber & Faber 1962)

Breathnach, Breandan. Folk Music & Dances of Ireland

(Mercier 1983 ISBN 0-85342-509-4 + recording)

Butler, Richard. • Basic Tutor for the Northumbrian Pipes (book & tape)

Handbook for the Northumbrian Smallpipes

 $\label{lem:cannon} \textbf{Cannon}, \textbf{RD.} \ \textit{A bibliography of Bagpipe Music} \ (\textbf{John Donald Edin. 1980 ISBN 0-85976-024-3}) \ \textbf{Full descriptive bibliography of Scots, Irish \& Northumbrian printed sources.}$

College of Piping. Highland Pipe Tutor (3 vols. + demo tape)

Collinson, Francis. • The Bagpipe, the history of a musical instrument

(Routledge & Kegan Paul 1975 ISBN 0-7100-7913-3)

The National & Traditional Music of Scotland (RKP 1966)

Feldman, Allen & Eamon Doherty. *The Northern Fiddler* (o/p. Blackstaff Press 1980 ISBN 0-85640-155-2) Detailed study of the music and fiddlers of N. Ireland.

Groves. *Dictionary of Music & Musicians* (articles under 'Irish folk music', with a chronological bibliography, & 'bagpipes'. Authors vary with each edition.)

Lowland & Border Pipers' Society. *Common Stock* (Journal issued once or twice yearly since 1983. Articles on Scottish, lowland, Northumbrian, pastoral & uilleann pipes. Supplements on tune names & sources, reed & pipe maintenance, buying

pipes. Essential reading for the literate uilleann piper! Full set of back issues from the Editor: Jock Agnew, 11 Ulting Lane, Langford, Maldon, Essex CM9 6QB) MacLellan, Capt. John.

- Logan's Complete Tutor for the Highland Bagpipe (Paterson, book & tape)
- The Pipers' Handbook– a non-musical guide (Paterson, 1964 ISBN 0-8536-0457-6)

MacNeill. Tutor for Piobaireachd

Mooney, Gordon. *Tutor for Cauld Wind Bagpipes* (tutor for border/Scottish smallpipes) Na **Píobairí Uilleann**. *Ceol na hÉireann* (2 vols., vol.3 out soon). Essays on Irish music, musicians & instruments.

O'Canainn. Tomas.

- Traditional Music in Ireland(Routledge Kegan Paul, 1978 ISBN 0-7100-0021-9)
- Traditional Slow Airs of Ireland

(Ossian, book + 2 tapes, ISBN 0-946005-84-2, tapes OSS 118/119)

O'Neill, Capt. Francis.

- Irish Folk Music: a Fascinating Study (Chicago 1910, reprinted recently)
- Irish Minstrels and Musicians (Chicago 1913, reprinted recently)
- Waifs & Strays of Gaelic Melody (repr. Mercier 1980 ISBN 0-85342-639-2) Some pipeable tunes from old books/Mss. including O'Farrell, Bunting, Hudson.

O'Sullivan, Donal. Irish Folk Music & Song (Colm O'Lochlainn, Dublin 1952. ?o/p) **Podnos**, T.H. Bagpipes and Tunings (Detroit 1974)

Rickard, Dave. Traditional Irish Music for the Bagpipes (50 tunes for warpipes)

An Roinn Oideachais. Foclóir Ceoil – Dictionary of Music (An Gúm 1985)

Sheilds, Hugh ed. *Tunes of the Munster Pipers vol.1* [...from the James Goodman manuscripts] (Irish Traiditional Music Archive 1998 ISBN 0-9532704--6]. A 2nd volume is planned.

Smith, David Hogan *Reed Design for Early Woodwinds* (Indiana U.P. 1992 ISBN 0-253-20727-4) Acoustical theory, tools, materials, methods etc. Excellent for the experimental reedmaker.

Woodhouse, Harry. Cornish Bagpipes – Fact or Fiction? (Dyllansow Truran 1994 ISBN 1 85022 070 0) History & reconstruction of Cornish pipes.

Out-of-print or in the pipeline

There are a number of interesting titles that for one reason or another are not presently available. Cannon's Bibliography (see above) is an excellent source of titles. Perhaps letters or phonecalls of support to the people mentioned below would encourage extradigitation! Alternatively, you might like to do your bit for the Pipers of Sol III – produce a facsimile of an out-of-copyright piping book, or compile an anthology of notes or tunes from the members of your local piping association. Look on the biblio page of this book if you wish to see how it was made. We'd all love to hear from you!

An Píobaire.

The NPU magazine has been issued quarterly since 1971. As far as I know, the only reprints are an address list of pipers and the tunes from 1971–78 (volume 2 of *Ceol an Phíobaire* is still in preparation). This means that there are 17 years' worth of tunes and 24 years' worth of technical, historical and anecdotal material that are not generally available. NPU should make this material available to pipers in a se-

ries of anthologies, and earn funds for the association at the same time. Encouraging letters may be in order, or even better offers of assistance or financial support!

Dr. Henry Hudson Manuscript.

early 1800's. Contains 870 tunes, 138 from the piping of Paddy Connelly of Galway. 5 vols are in the Allan A. Browne Collection, Public Library, Boston, Massachusets and 2 vols in the library of the University of Notre Dame, Indiana.

Edwin Spring's Camden Breeze & the SWAUP Tune Collection.

a second revised edition of *Camden Breeze* is in preparation, as well as a collection of favourite tunes from SWAUP members.

Fitzmaurice's collections.

early 1800's. Details in Cannon.

Grattan Flood, W.H. The story of the bagpipe.

published in London 1911. Contains O'Farrell's Treatise on the Irish bagpipes

John Geoghegan Complete Tutor for the Pastoral or New Bagpipe.

Published London ca. 1771–77. The pastoral pipes were a Scottish adaptation of the uilleann pipes, so this book should be of interest. In preparation by Eddie Climo.

Edmund Lee Jackson's Celebrated Irish Tunes.

Published in Dublin 1774. Collection of tunes composed by the piping Reverend Walker Jackson and other early pipers. Dragonfly intends to republish this as part of a 'Gentlemen Pipers' series by 1997.

The Music of Seamus Ennis.

According to NPU, this "is being prepared for publication in late 2003 by Pat Mitchell and Jimmy O'Brien Moran. This will be a comprehensive collection of Ennis's entire repertoire, including music on pipes and whistle, songs, stories and *seanchas*". There are some transcriptions of Ennis in *Ceol Rinnce na hÉireann* and in *An Píobaire*.

P. O'Farrell Collection of National Irish Music for the Union Pipes.

early 1800's. Dragonfly intends to republish this as part of a 'Gentlemen Pipers' series by 1997.

P. O'Farrell Pocket Companion for the Irish or Union Pipes.

ca. 1801-10. 4 volumes. Details in Cannon.

Videos

Pat McNulty. *The Singing Chanter* (available from the author: address above) Keith Powell. *Reedmaking tutorial* (available from the author: Berllan, Lon Fain, Dwyran, Anglesey, Gwynedd LL61 6YF (01248 430147)) na Píobairí Uilleann. *The Art of Uilleann Piping.* (vols.1, 2 & 3 available) RTE. *The Pure Drop.* (numerous vols. with a variety of instruments).

Speak good of pipers – your father was a fiddler! Scots proverb.

Tlossary of pipinz

A guide to the vocabulary of pipe playing and maintenance. With this concise course in piperspeak, you too can sound like Seamus Ennis – until you put your pipes on! For the more specialised terms of pipe- and reed-making, you should refer to publications in the bibliography above. Some Irish terms are given in brackets; since they have been taken from dictionaries, I apologise if they have too bookish a flavour!

accidental

extra notes that are not in the basic chanter scale. On a D chanter: D#, F nat., G#, A#, C nat.

articulation

separating the notes, either by staccato or by ornaments.

autocran

a gargling sound caused by a faulty reed, usually on bottom D.

back D

the middle D in the range of the chanter. It may be difficult to reed correctly for this note. As it is right on the 'break', this note can not be ornamented in all of the usual ways.

backstitching

a staccato ornament in which a long note is split by two other notes, usually G'-F'# or C-A. Thus, D' becomes D'-G'-F'#-D', with the last 3 notes timed as a triplet. See the *Piping of Patsy Touhey* for a detailed description. (Ir. greim cúil)

bag

traditionally made from leather, although nowadays leatherette and rubberised canvas are sometimes used. This is what you use to control the chanter, NOT the bellows! (Ir. *mála*)

bell note (bottom D)

the lowest note on the chanter, it is conventionally called (and notated) D regardless of the actual pitch of the chanter.

bellows

use to supply air to the bag as it is needed, NOT according to the beat of

the tune! Has a flap valve inside the air inlet, which is a possible source of leaks. (Ir. *na boilg*)

blowpipe

the wooden pipe inserted into the blowpipe stock which receives air from the bellows via the connecting tube. Has a flap valve (Ir. *comhla*) to prevent air from returning to the bellows. Another possible source of leaks. (Ir. *séidedán*)

break (between the octaves)

the discontinuity on the chanter between eg. back D and D# in the second octave: having reached the highest hole, you return to the lowest one and overblow. On all instruments, playing across a break presents both technical difficulties and opportunities for unusual effects. For instance, the break above back D allows the strongest popping effect on the notes from D'# to G', but it can also cause difficulties in fingering: the run [C -D'-E'] is more difficult than [B -C -D']. The break above top D makes the third octave almost unreachable.

bridle

a strip of copper or length of brass wire (on double reeds) or a loop of waxed thread (on single reeds) used for tuning. Slight adjustments may have a large effect. (Ir. srian)

cane

the material from which reeds are made; *Arundo donax* is the species normally used. Cultivated in France, Spain and California. Other materials that

have been used include: native British reeds, elder, plastic. See Baines for some more exotic examples. (Ir. *cána*)

chanter

the pipe used for playing melodies. It usually has a range of some 2 octaves, and may have keys fitted to give extra, accidental notes. (Ir. *seamsúr, crann na píbe*)

chanter stock

wooden socket with a tapered hole fastened to the neck of the bag, into which the chanter is inserted.

chanter top-piece

the cap which encloses the reed, and goes into the chanter stock.

chord (wrist, thumb, hand, ferrule)

one or more notes played on the regulators with either the wrist, thumb or fingers of the bottom hand, or with the ferrule at the bottom of the chanter. (Ir. *corda*)

compass (range)

the distance between the lowest and the highest notes an instrument can play. On the uilleann pipes, the normal compass is 2 octaves (D to D"), but individual reeds, chanters or pipers may achieve a slightly greater or lesser range than this. (Ir. réim)

concert set

pipes in D. They are usually rather loud and bright and are the most useful type for playing with other musicians. cf. 'flat set'.

connecting tube

flexible tube between the bellows and the blowpipe. Must be long enough to reach round your belly. Traditionally made of leather rolled and glued with a lapped stock at either end. Nowadays polythene tubing or car radiator hose are sometimes used.

cran (short, long)

piping ornament in which a long note is split up by two or more 'cuts' (higher notes) played quickly. Like the roll, there are many variants of timing. Variants in fingering are less impor-



tant as this is essentially a rhythmical device, rather than a melodic one. Usually played on bottom D and E, but will work on most other notes, as detailed under *Doublings* in Tadhg Crowley's *Tutor*. (Ir. *cran*)

cross-fingering

fingering where some holes are closed below the note-hole, either to keep the scale in tune or to play accidentals (eg. C natural). Unlike the whistle, most notes must be played like this on the uilleann pipe chanter (except D# and E), as on all conically bored instruments. (Ir. crosmhéarú)

cut

ornament in which a note is decorated by a higher note played very quickly. Will work on almost all notes apart from the very highest ones. (Ir. gearradh)

double reed.

found in the chanter and regulators, made of two blades of cane whipped with thread to a fine brass or copper tube, and fitted with a tuning bridle. (Ir. feag dhúbailte)

drone

pipe with a fixed butt piece and a movable tuning piece, used to provide a continuous background chord. The drones may be switched on and off with the drone stop-key (drone switch). From smallest to largest, they are called tenor (Ir. teanór), baritone (Ir. baratón) and bass (Ir. dord). The butt piece has a lapped joint which is inserted into the main stock. (Ir. dos)

ferrule

brass cylinder at the base of the chanter which protects its wooden tenon. (Ir. bianna)

flat set

pipes tuned lower than the concert D

sets, typically from C sharp down to B flat. They are the older style of pipes, with a softer, richer tone, a narrower bore and smaller finger holes. Some afficionados claim they're the only pipes worth playing! cf. 'concert set'.

fugitive sounds

elusive sounds or tonal qualities often peculiar to an individual chanter, reed or sequence of fingerings. Many of them fall between the notes of a melody. Some solo pipers work on controlling these to enhance their music.

ghost D

a uniquely haunting note in the uilleann pipe scale, close to D# in the second octave. Played by overblowing and lifting the little finger of the bottom hand. May be popped, and played on or off the knee.

gracing

articulating or decorating a melody with ornaments (grace notes).

half-holing

half-covering a finger hole, to play a note not in the normal scale of the chanter. Difficult to control on a thickwalled instrument.

hard D and E

on a well reeded chanter, these two notes may be given a hard, metallic quality by increasing the pressure and cutting with the A finger.

key

used on the chanter to give access to extra notes or to stop the air supply. On the regulators, used to sound single notes or chords. On the main stock to control the drones' air supply. (Ir. gléas)

lapping

a wrapping of cord or thread. Used on joints or at the base of a reed to give an airtight seal. Depending on how tight the lapping is and what kind of wax or grease is applied (if any), the joint will be a sliding, removable or permanent one. cf. 'whipping'.

legato

playing a continuous sequence of notes without silences between them. May be played on or off the knee, with open or tight fingering as you wish. cf. staccato.

main stock (drone stock)

cylindrical wooden block inserted into the bag, into which are mounted the drones and regulators. (Ir. *stoc mór*)

mount

piece of turned wood, plastic, metal, ivory or horn lapped onto a pipe. Used for decoration and to give extra strength.

narrow-bore chanter

characteristic of flat sets. Some makers – with mixed success – have designed narrow-bore D chanters in an attempt to combine the tonal quality of flat pipes with the ability to play in standard session keys.

neck (of bag)

narrow forward extension of the bag with the chanter stock at its end. Must be long enough for comfortable playing, but not so long that it kinks while playing. (Ir. *caol*)

note-hole

The uppermost open hole, the hole through which a note speaks.

octave

'eight notes'. The second octave (or register) on the chanter is achieved by over-blowing.

off-the-knee

played off the knee, the pipes have a more open 'warpipey' sound. Fingering must be adjusted to stay in tune. Characteristic of the legato 'Travelling Piper' style. Bottom D can only be played off the knee.

on-the-knee

many pipers tend to play more on than

off the knee, as it allows staccato or legato playing at will.

open fingering

style of fingering in which as many fingers as possible are raised to play a note, while staying in tune. Gives its own quality to the tone of the chanter, but makes staccato playing more difficult as more fingers must be moved. cf, 'tight fingering'.

overblowing

increasing the air pressure to alter the tone of a note, or to reach the second octave.

pop (bark, yelp ...)

range of tonal effects achieved by increasing the pressure on the bag and raising the chanter off the knee. Strongest on D'#, E', F'# and G#, although it will alter most notes. Often used in combination with other ornaments, such as slide, cut, staccato etc. (Ir. nóta plabtha)

popping strap/pad (piper's apron)

leather pad placed on the thigh to seal off the end of the chanter when playing either tight or staccato.

popping valve

gravity-operated valve which opens when the chanter is raised off the knee. Some pipers prefer this to a popping strap.

reed

the prepared vibrating unit. cf. 'cane'. (Ir. feag)

reed-bed

conical hole at the upper end of each pipe into which the reed is firmly inserted.

regulator

stopped, keyed pipe used to provide chordal accompaniment. There are normally 3 in a full set, and from smallest to largest, they are called tenor, baritone and bass. A fourth 'double-bass' regulator is occasionally added. Almost unique to the uilleann pipes. (Ir. rialtán)

roll (short, long, tight, open...)

family of ornaments in which a long note is split up typically by a higher



('cut') and then a lower ('tip') grace note. Like the crans, rolls are primarily a rhythmical rather than a melodic device, so accurate timing is of the utmost importance. Will work on most notes apart from bottom D and the top of the second octave. (Ir. roll)

shaded note

one whose pitch has been slightly retuned, often by cross-fingering or by partly uncovering a hole. Commonest on C, F and D#.

single reed (guill)

usually fashioned from a slender stalk of cane into which a tongue has been cut. Only found in uilleann pipe drones, although other pipes use them in the chanter. (Ir. feag shingil)

slide

- mechanism for tuning drones. Must be airtight but not too stiff to adjust.
- ornament in which movement between notes is by sliding the finger off the hole, rather than by directly lifting it.

(Ir. sleamhnán)

 ornament in which the main melody note is preceded by a quick run upwards or downwards through a few adjacent notes.

staccato

playing notes with a brief silence between them. This can only be achieved on the knee, and is easiest with tight fingering. It can be simulated during off-the-knee playing by quickly interspersed lower notes ('tips'). (Ir. stadach, snagach)

staple

in a double reed, the metal tube to which the two blades of cane are attached. Usually brass or copper, although Baines reports aluminium is sometimes used. (Ir. stápla)

stock

wooden socket attached to the bag, into which is inserted a pipe. (Ir. *stoc*)

stop key (switch key)

on chanter or drones, a key which controls the air supply. Optional on chanter, essential on drones.

straight fingering

style of fingering where all the holes below the note hole are open. On parallel-bore instruments like whistle and flute, it is used for most notes. But conical bored instruments like the uilleann pipe chanter and recorder have to use cross fingering (q.v.) on most notes to get the scale tuned properly.

tenon

the narrowed end of a joint that is lapped to fit into a stock. The narrowed bottom end of the chanter around which is fitted a protective ferrule.

tight fingering (covered fingering)

style of fingering in which the minimum number of fingers is raised to achieve a note, consistent with playing in tune. Has an effect on the tone of the chanter, and makes staccato playing easier than does open fingering, as less fingers have to be moved at speed. Beginners are normally recommended to stick to tight fingering at first. (Ir. dochtmhéarú)

tionól (pl. tionóil)

this Irish word is commonly used in piping circles for a gathering or assembly of pipers. Approximate pronunciation for English speakers might be 'tyonnol'.

tip

lower note played quickly to ornament a melody note. Played with tight fingering and on the knee, it produces a staccato pause, much favoured in 'tight rolls'. Will work on most notes apart from bottom D. (Ir. inngreadadh)

tongue

in a single reed, the freed strip of cane which vibrates.

top-hand triplet

embellishment of three notes, played with the fingers of the top hand on the chanter.

tripled back-D

Playing 3 back-D's in quick succession either by lifting the thumb, or by sliding it from side to side. As D' cannot be rolled or cranned, this ornament solves a unique problem on the chanter. According to O'Canain, it was invented by Paddy Keenan.

venting

used for reaching top-hand notes in the second octave: briefly playing a lower-hand note first so as to start the reed vibrating in the second octave.

vibrato

tonal effect achieved by vibrating a finger several holes down from the note being played. Works on almost every note.

whipping

a tight form of lapping, in which the cords are carefully laid side-by-side to give an airtight seal. Used in making double reeds.



Index

addresses, 37	elbow-strap keeper, 29
adjusting chanter reeds, 21	equal temperament, 15
adjusting drone reeds, 23	eye of staple too narrow, 35
almond or olive oil . 34	eye-forming tool, 29
anatomy of uilleann pipes, 10	feeler gauges, 33
anvil, 29	foreword
bag/bellows sealant, 24	to 1st edition, 8
bass-regulator dangler, 29	to 2nd edition, 7
bassoon cane slips, 26	general books, 42
beeswax, 25	glossary of piping, 45
beeswax-tallow, 24	historical background, 9
blowpipe flap-valve, 35	how to learn, 14
Blu-Tac, 26	hunting leaks, 35
bore oil, 24	inside-ground scribing gouges, 33
Brasso wadding (Duraglit), 26	introduction, 9
brazing rod, 26 buyer's checklist, 13	just intonation, 15 lead pencil, 27
callipers (vernier or dial), 33	lead, 27
candle wax, 25	leather cushions for bellows, 29
car radiator hose, 26	leather food, 27
care and maintenance of pipes, 18	machine oil, 24
chanter-reed template, 31, 33	mandrel, 29
circle template, 33	materials, 24
cleaning chanter reeds, 35	used in pipemaking, 11
cobbler's heelball/beeswax, 24	metals in double reeds, 27
cobbler's heelball, 25	micrometer, 33
composite drone reeds, 35	miscellaneous items to carry, 17
contact addresses, 37	miscellaneous materials, 26
abroad, 38	neatsfoot oil, 24
Britain, 37	newly lapped joints, 36
Internet, 38	nylon thread, 25
Ireland, 37	oboe wire, 27
contents, 5	oiling plungers, 29
cork grease, 27	oils, 24
cork, 27	almond or olive oil, 24
corner knocked off chanter reed, 35	bore oil, 24
cutting block, 29	machine oil, 24
dental tape/floss, 25	neatsfoot oil, 24
detachable connecting tube, 35	tung oil, 24
dial/clock gauge, 33	Opinel lock knife, 33
diddy-box, 16	orchestral reedmaking sundries, 33
distinguishing features of UP, 9	out-of-print or in the pipeline, 43
drone Plugs, 29	paper
~	up chanter reed staple, 36

down throat of chanter, 36
parts of a double reed, 20
parts of a single reed, 22
pipe cleaner, 27
pipecases, 16
pipemakers, 38
plans, 31-32
plaque, 30
plastic pipe, 27
PTFE plumber's tape, 25
publications, 41
by the author, 4
publishers, 39
Python wooden handles, 34
reamer, 34
recipes, 24
bag/bellows sealant, 24
beeswax-tallow, 24
cobbler's heelball/beeswax, 24
stitching paste, 25
reed-making knife, 30, 32
reedmakers, 39
reeds, 12, 20
adjusting chanter reeds, 21
adjusting drone reeds, 23
chanter-reed template, 31, 33
cleaning chanter reeds, 35
composite drone reeds,35
corner knocked off chanter reed, 35
eye of staple too narrow, 35
metals in double reeds, 27
paper up chanter reed staple, 36
parts of a double reed, 20
parts of a single reed, 22
reed winder, 30, 32
remedies for leaks, 36
replacement straps, 34
sanding formers, 34
sealing wax, 25
self-amalgamating tape, 25
shellac, 28
shooting board, 30
shops (S.W. Britain), 40
Stanley knife, 34
stanla-langth gauge 30

stitching paste, 25 straw. 28 super-glue, 28 suppliers, 40 tapes, 25 SWAUP. 52 (rear cover) thickness gauge, 30 threads & cords, 25 dental tape/floss, 25 nylon thread, 25 tips, 35 tobacco smoke, 28 tools & things to buy, 33 tools & things to make, 29 travelling piper: things to carry, 15 tung oil, 24 tuning devices, 15 velvet, 28 videos, 44 wax applicator, 30 waxes, 25 beeswax, 25 candle wax, 25 cobbler's heelball, 25 sealing wax, 25 what maker, 11 what to buy, 11 wooden moulding plane, 3341 would-be piper: getting started, 10



Maurice Sendak

The South Western Association of Uilleann Pipers

The Association was started in 1987 in order to encourage uilleann piping in the South-west of Britain. It is an active organisation, with several dozen members who come from as far afield as Cornwall and South Wales. Regular all-day meetings are held every alternate month and there is an annual weekend tionól every November.

Many members take part in local sessions and a few play in groups. Some are teaching beginners. Several members have become proficient reedmakers, and one or two are trying their hand at pipemaking.

The list of publications produced under the Association's auspices is steadily growing – see the biblio page for a complete list of present and forthcoming items.

Pipers (and would-be pipers) are welcome to come to the bi-monthly meetings, or to ask for advice.

For further details, contact Edwin Spring tel. 01-458 443 906 or visit the SWAUP web site http://www.swaup.org

'Tha biadh is ceòl an seo,' mar chubhaire am madadhruadh,'s e 'ruich air falbh leis a' phìob. - sean-phaeal



'There's meat and music here,' as the fox said, when he ran away with the batpipe.

- Zaelic proverb