Mainly About Reeds

by Robert Thomson M.A.

As promised, here is the follow-up to David Kennedy's series on Chanter Reed Basics. The suggestion to re-print these articles (they first appeared in 1953) came from Geoff Ross in Australia who has himself made a significant contribution in this direction.

These articles are intended primarily for the non-expert piper who has probably received little or no instruction in this much-neglected aspect of piping. A reasonable knowledge of the construction and care of reeds will prove both a boon to his pocket and a help to the maintenance of a well-going set of pipes.

Of all the subjects normally discussed in piping, that of reeds is probably the most controversial. Why this is so is due, in my opinion, to three main factors. Firstly, because it is the least understood, and secondly, because numerous "armchair" experts make pronouncements which no one attempts to contradict and which have a cumulative effect on piping opinion. In other words, it has become an accepted fact that good reeds are hard to come by. Thirdly, reeds are fickle by nature and it is extremely difficult to lay down certain hard and fast rules regarding them. The treatment one finds successful with one reed often fails dismally with another. I suspect that there may be a fourth factor — the very human one of putting the blame on anyone or anything other than ourselves. To blame the reeds seems to be the natural thing to do. It is dangerous to make dogmatic statements as to whether the pipers or the reeds are to blame, but it is my considered opinion that during the past quarter of a century improvement in reed-making has outstripped improvement in "playing them in." This statment, I know, will not be accepted by most readers, but one has only to stand in one of the pipe shops and listen to reeds being sold over the counter to realise the truth of it.

Before going on to the main purpose of these articles, I should like to give an example of the sort of inaccurate statement which is doing so much harm. This is taken from an article on "The Pipes" which appeared in a Highland Games programme a year ago.

"The chanter contains a reed which must be suited to the chanter and correct in pitch."

Now this is obviously untrue, because many pipe firms sell reeds made by different makers. If the chanter **must** have a reed of a special make, then it is a bad chanter, and vice versa. No doubt the

writer penned this statement in all sincerity, but having appeared in print it assumed an air of authenticity and must have been believed by the majority of pipers who read it.

In the following articles I wish to make it quite clear that I am not a theorist but one with a practical knowledge of reed-making. Often I shall make statements which I can only justify out of my own practical experience. I leave theoretical and scientific explanations to those who are better qualified than myself to do so.

THE COMPONENT PARTS OF A PIPE CHANTER REED

The pipe chanter reed appears to be the chief offender. Briefly, then, here are the two main component parts of the pipe reed.

1. The Staple — This is commonly pronounced "steeple" by the reedmakers and as I have never been able to discover the correct spelling I shall keep to staple throughout these notes. The staple, made usually of a non-ferrous metal, e.g., copper, is designed to keep the blades apart. Although little of it is seen in the finished reed, I regard a well-made and strong staple as the foundation of a good reed. Like the finished reed, it is not of any definite size but most makers seem to favour staples of approximately the same dimensions.

2. The Blades — Normally these are made from seasoned cane which has been carefully selected. Unfortunately it is often forgotten that cane, being a "natural" substances, varies considerably in texture, strength and durability. For these reasons each piece of cane must be treated as a separate entity by the maker, thus precluding the mass production of reeds. Many operations can be carried out by machinery, but the final fashioning can only be carried out be operators of long experience. If blades were made from synthetic material then it might be possible to mass produce identical reeds, but the fact that the blades are normally made from cane precludes, as I have said, any hope of total uniformity.

For many years I have experimented with different media — with varying success, but cane appears to provide the most satisfactory material. I am forced to the conclusion that the reed must "breathe" and so must be "played in." No other material, I am certain, will provide such successful results and the less interference with natural cane the better. This is a tricky problem and one to which we may return later on.

How the blades are fashioned and bound to the staple does not concern the piper. Herein lies the supreme art of the reed maker.

THE PHYSICAL CHARACTERISTICS OF A WELL-MADE REED

A well-made reed should possess the following physical characteristics:—

1. **Staple** — Strong enough to withstand the pressure of the tying. Consistent in size for each individual maker to ensure some degree of uniformity in the finished reed.

2. **Blades** — Made from seasoned cane and strong enough to withstand tying. Reasonably open at mouth. Blades should be of equal weight and strength. This is easily checked by examination of mouth — the curves should be symmetrical.

3. **Reed** — The reed should contain plenty of room at the "waist."

4. The tying should be **level** with the staple. This, of course, can only be measured if you have a staple by the same maker.

5. Blades should be airtight at the sides.

1. **The Staple** — As previously stated, I regard the staple as the foundation of a good reed. Much time is saved if these are made from a light copper but later on the pressure of the tying may cause the staple to collapse. Even a partial collapse will have a serious effect on the efficiency of the reed. Further, carelessly made staples may differ slightly in length and this may result in under or overtying (see 3). Although the staple does not figure prominently in the finished reed, it still remains the foundation on which the reed is built. If you have some old reeds by you, cut out the staples and examine them.

2. **Blades** — I am not writing instructions on reed making and so, naturally, what I have to say on the subject of blades is merely superficial. What constitutes the correct weight of a blade is very difficult to define. It varies from maker to maker and is dependent to some extent on the texture of the cane. That is why I stated that machinery is useless for this part of reed making. Blades **could** be cut to a size and shaped, but the actual fashioning of the blade can only be done by hand. Experience decides the correct weight.

If blades are unequal in weight, then obviously one blade will collapse, and this is reflected in the mouth of the reed. This collapse will be hastened as the reed becomes weaker with playing. Before testing reeds I **always** glance at the mouth — the signs of a good reed being — (a) symmetrical curves, and (b) blades reasonably open.

3. **Room at the Waist —** Again this is really in the realm of the maker. Probably the chief part of the reed is the section adjacent to the tying. I find by experience that a certain width is necessary to give the volume required. I can not explain it. Too much width is as dangerous as too little. My father always held the view that the strength of a reed lay here, and this was revealed in his reeds. They possessed plenty of room at the tying. Be suspicious, then, of reeds which are very neat at the tying. They have been made too easily. They good reed must show a certain ugliness at this point.

4. If the conditions mentioned in 2 and 3 are observed, then the maker will find difficulty at this stage. The reed takes a good deal of tying in order to close the blades. The easy way out of this is to continue the tying above the staple for one or two turns. This closes the blades but also puts paid to the reel. It requires no argument of mine to show that the tying will cause blades to close beyond the staple and so reduce the necessary space at the waist. The reed will lack volume and "freedom".

5. This is allied to No. 4. Test by holding mouth of reed between forefinger and thumb and blowing through the other end.

I think I ought to mention here that sometimes a reed possesses all these points and yet may not be perfect. If so, look through the reed from the staple end. It may be some little obstruction lodged usually between the end of the staple and the tops of the blades. If nothing is visible, it could be a tiny particle lodged between the blades. Take a thin knife blade and insert into mouth of reed, drawing it out via the sides of the reed. This may remove the obstruction. When doing this, listen for the "click" of the blades. Well made blades should give an equal click on both sides of the reed.

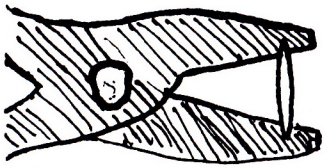
I find now that I have missed quite a lot which is equally important, but if the above is carefully noted the thinking piper will find out much more for himself.

Mainly About Reeds

by Robert Thomson, M.A.

(Continued)

Before continuing our discussion on the pipe chanter reed, I think it might be advisable to list some of the items which should be in the possession of every piper. In other words, **the Piper's First Aid Kit**. Most of the items are of a simple nature, but are none the less important. This kit consists of —



a pair of pliers—a sharp knife, razor blade or chisel—a goose quill—a small piece of sealing wax—a mandrill—2 pieces of glasspaper (a No. 0 grade and a No. 1½ or 2 grade)—a piece of hard wood, about 2½ by 3 inches—and a small piece of candle. Personally I keep all of these (except pliers) in a small tin box and carry in my pipe case. Added to this, of course, should be a tin of seasoning. At the moment I am experimenting with seasoning with a view to packing the latter in tube form. This appears to me a much more convenient form and more easily handled than in the tin.

Let me explain, very briefly, the uses of the above, and during the course of these notes I shall probably describe them in more detail.

Pliers — Useful, when carefully used, in opening the blades. More later. (See diagram).

Knife, Razor Blade or Chisel — Personally I use a chisel, which is more accurate. Used to thin or shorten blades.

Goose Quill — For cleaning the neck of the chanter. Very often this is the trouble when reeds appear difficult. Always keep an eye on the **inside** of the chanter.

Sealing Wax, Hemp, Sewing Wax and Candle — Obvious and varied uses.

Mandril

This may be made from a thin screwdriver ground down to shape. Useful when reed or staple requires opening. Used as such it often rejuvenates a weak reed. The mandril should slope **gradually** until the staple slides to within ½ inch from the handle. (See diagram).

Wood Block — Merely used as a cutting or rubbing block. Before cutting a reed ensure that you have a firm foundation on which to cut.

To the experienced piper all this may seem unnecessary, but how many pipers carry any such kit with them?

At this point it appears to be necessary to tabulate some instructions on "Altering reeds." The following shows how to (a) sharpen and (b) to flatten reeds, together with the results:—

To Sharpen

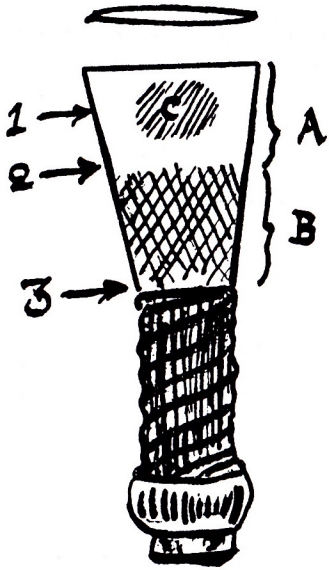
1. Lower in Chanter. Result: General sharpening. Structure and strength of reed unaffected.
2. Cut Slice off Reed (1/32 in. to 1/16 in.)
   Result: Strengths reed; increases resistance.
3. Close Blades (bridle). Result: Weakens reed, reduces resistance.
4. Narrow Blades. Result: Weakens reed, reduces resistance.
5. Close Staple at 3. Result: Total weakening; may ruin reed; not recommended.

To Flatten

1. Raise in Chanter. Result: General flattening; reed unaffected.
2. Rub or Scrape Blades at A. Result: Weakens reed; may affect resistance.
3. Reduce thickness at 3. Result: Weakens reed; may affect resistance.
4. Rub Tips gently. Result: Little weakening; eases reed.
5. Open Staple at 3. Result: Strengthens reed; increases resistance.
6. Open Blades with pliers. Result: Strengthens reed; increases resistance—but not permanent.

N.B. — **Resistance** This is a term which will be explained later and which has a most important bearing on pipe chanters and reeds. Meantime ask your fellow pipers—and you will be lucky if you are given the correct answer.

To explain the foregoing in more detail:—



Raising/Lowering Reed in Chanter — By adding or removing binding hemp the minimum flattening or sharpening may be effected. This is well known to all pipers, but what is not so well known is that the reed must be firmly seated in the chanter. Very often a shaky and unsatisfactory reed may be due to insecure seating. A further cause may be partial obstruction by a loose piece of hemp. Always see that staple and chanter bore are free from any form of obstruction. (Goose quill).

Cutting the Reed — Before attempting this, please decide whether such treatment is really necessary. Once done it cannot be undone. Sometimes this is necessary, particularly in the case of a reed which has just been "blown in." Often such a reed becomes weaker and flatter. By taking 1/32 in. to 1/16 in. off the length of the blade a great improvement will be noticed. This sharpens and strengthens the reed. Final adjustment by raising or lowering in the chanter will complete the transformation. In cutting the reed, use the cutting block and see that the operation is done in one clean cut. The safest plan is to do **a little at a time**. Should the reed be too sharp, rubbing the tips on the fine glass-paper should compensate. It may be that the reed has lost its "crow." Again, rubbing should free the blades and restore this necessary requisite. If too much has been cut off, the reed may be "off" on top notes. In this case a general thinning of blades, plus judicious use of the mandril, is necessary, but the reed will have lost much of its power.

Actually, much of this is best shown by demonstration — it is impossible to describe accurately on paper. Queries from pipers should go a long way to help.

It should be well noted, however, that these treatments should be used only in emergency, and the best treatment of all is to **leave the reeds alone.**

Opening/Closing the Blades

First of all, take a quick glance at the table and diagrams in the last notes.

Opening Blades — This is necessary when the reed requires flattening or strengthening in volume. It is also useful in correcting a sharp high G, a fault which seems prevalent at the moment. Even on the radio I have heard this. A sharp high G is quite unnecessary if the reed is properly made and **handled**. The safest plan is to keep the reed slightly flat on the top hand and so allow a certain latitude when playing.

Look at positions 1, 2 and 3 on the diagram. These indicate points where pressure can be applied, e.g. —

(1) Normally manual pressure is all that is required at this point, although pliers are much more satisfactory. Carried out at this point, a moderate flattening or strengthening can be effected.

(2) This position is tackled when rather more opening is required. The use of pliers is essential here.

(3) This position is used when drastic action is required and is obviously a dangerous operation. It is useful when the reed has been well played. The difficulty here is that the increased opening is not too easily discovered and one is apt to crack the blades. Opening here brings about more room **inside** the reed, thus increasing the volume.

When using pliers, extreme care must be taken and the operation should be carried out in short stages. Always keep an eye on the mouth of the reed — (more later).

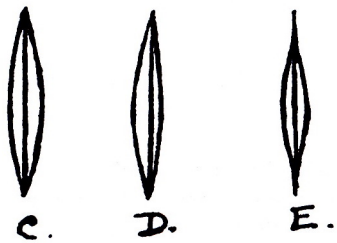
Before attempting any opening, one must ensure that the reed is **wet.** If necessary wet the reed and leave for a moment or two before opening. It is obvious that a fair amount of experience is necessary before this remedy is attempted.

Opening the blades will certainly achieve the results already outlined, but unfortunately the reed may now take too much wind. If so, this can be corrected by squeezing the blades between forefinger and thumb. In any case the piper must bear this in mind **before** opening the blades.

If the reed is still too difficult to blow, it may be "eased" by gentle rubbing at the tips. As such rubbing will further flatten the reed, then the latter should be lowered in the chanter to compensate.

Note — Glance at "C" in the diagram. The shaded portion indicates the part of the reed which should be rubbed when

"easing" the reed. On no account must the edges of the blades be rubbed or the reed will be ruined. The accompanying diagram illustrates this.



"C" shows the correct shape of the mouth — blades at correct width apart and free to vibrate across the complete width of the mouth. Blades symmetrical.

"D" shows the result when one blade is stronger than the other. Such a reed will have a short life.

"E" shows the effect of careless rubbing, and here the effective width of the blades has been reduced (reed consequently sharpened). Personally I **always look first** at the shape of the mouth. This is probably the surest visual test of a reed. Have a good look at the reeds in your possession and check this point.

Before describing further methods of opening, I think a word or two concerning "resistance" would not be out of place. This is a quality which every reed or chanter must possess and I can do no better than describe the test carried out by the famous John MacDougall Gillies. He judged a reed or chanter on **one main quality —** that of resistance. This is quite apart from pitch, balance, etc. All these are of no avail if resistance is weak. To test for resistance, close on low G and blow until the reed or the chanter skirls. The actual sequence of notes used by J. MacD. Gillies (and one which I use when testing reeds) was as follows:— E, low A, C, E, high A, high G, F, E, C, low G, E, E, low A, B, low A. Notice how this sequence also checks balance.

N.B. — Hang on high and low G.

Try this on several chanters, using the **same** reed. Conversely, try several reeds on **same** chanter.

Many chanters possess little or not resistance, and consequently require a strong reed to allow a safe closing on low G. I believe that a chanter or reed possessing resistance is less liable to go "off" on high G.

As a chanter is a permanent part of a piper's equipment, it follows that he should obtain the best possible. After all, a reed can be replaced cheaply.

Personally, resistance is the first and foremost quality for which I look, and if necessary I could fill the present issue of the "Piping Times" with illustrations regarding it. As I have stated, it is an essential quality of chanters and of reeds and if lacking there is **nothing** which can be done.

(To be continued)

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MORE ABOUT RESISTANCE

Continuing my last notes on the subject of resistance, I don't think I made it perfectly clear how really important this fact is — that is from the viewpoint of **Reed** or **Chanter.**

REED

Resistance is, as I have said, a quality, i.e., something which is not externally visible and which can only be detected when the reed is played. A maker of good reeds cannot say how this is achieved — he just doesn't know. The ability to produce such reeds grows with experience up to a point. The poor reed-maker, on the other hand, finds it beyond his powers to produce them. No doubt there must be physical reasons and, in my opinion, these lie in the skill of the tying and in the weight of the blades. I have previously mentioned that I suspect a neatly tied reed, and one reason for that statement lies here. A **good** reed is not made easily. If pressed, I could make two dozen reeds in an hour, but they would be very poor things and I doubt if they would produce much resistance. Good reeds are made slowly and cannot be hurried. That is why they cost more. I still maintiain that good reeds are still too cheap.

It is a strange thing that Resistance does not occur in practice or drone reeds. Why? I don't know. The pipe chanters and its associated reed seem to be the only items affected.

CHANTER

As in the case of the reed, there is no visual sign of Resistance or otherwise, and again it appears to be something inherent in the make up of the instrument. To those who are investigating reeds and chanters with a view to their improvement, I would suggest this as their starting point. Once the secret of Resistance is discovered, then chanter-making would be improved one hundred per cent. So far, to the best my knowledge, **no maker has yet solved this problem.** I have personally ruined several chanters recently in experimenting, but I belive I have progressed a little.

Many years ago, J. M'D. Gillies told my father that he personally treated all pipe chanters which passed through his hands and showed him the tool which he used. I was told at the time and was led to believe that this was a close secret not even known to the chanter makers. If that was true, then this is known today only to members of my own family, **but we have not tried it out.** I shall remedy this at the first opportunity. I don't know, however, what the treatment is supposed to produce. Is it Resistance?

At any rate it is obvious that much can be done in the way of improving reeds and chanters. A wise reedmaker scraps his inferior reeds — but I am not so sure that all inferior chanters are similarly treated.

The following words were directed to pipers of moderate experience: — **"Be your own judge of a chanter or reed."** The best player is not necessarily the best judge. If you know how to test for Resistance then you are just as capable as anyone. Only too many players judge on reputation or on popular fancy. Men of the calibre of Pipe-Major Reid would win with any **good** chanter. Some time ago a good player asked if he could try my chanter. He did so and pronounced it as inferior to his. I tried both and formed the opposite opinion, but when I asked him what he tested for he couldn't tell me. To make matters worse, he **tested both chanters with different reeds.**

I would go so far as to say that I could form a reasonable opinion on a reed or chanter by testing three notes only — High A, high G, low G — increasing the pressure on the latter note until it skirled.

So in future be your own judge of a reed or chanter, and if you have understood these notes you will know as much about the subject as most people, If you would like further remarks on this subject, then please write to the Editor.

After our digression on Chanter Resistance, it might be profitable to return to the real purpose of these notes — the reeds. The following treatment will be found useful when a piper has let his pipes lie unused for some time. By the time he decides to put them into condition again he finds that both bag and reeds require attention.

On examining the reeds he is appalled. The pipe reed in particular has dried up and is probably closed. In his opinion they will require several hours "blowing in." Not at all. I recommend the following treatment. Several hours before blowing, get an old piece of flannel, soak it and then wring almost dry. Wrap up the reeds, pipe chanter and drones — keeping reeds separate, and leave in the pipe box. By the time they are required the reed will have absorbed sufficient moisture to restore them to something like condition. See that flannel is damp — not wet.

And now for the most difficult problem of all — **choosing a new reed.** This is a stage dreaded by most pipers, who are afraid they will

never obtain "a reed as good as the old one." Early in these notes I stated that there are more good reeds than good pipers. The right reed is there — if you know what to look for. I have also indicated some of the characteristics and visible signs of a well-made reed, and so the careful reader should have a fair idea of what to look for.

Unfortunately for the piper — but not for the seller — one is not encouraged to blow and test a new reed, and so the type of reed required must be indicated. Reeds must **never** be wet unless they are being kept in the chanter. A reed which has been wet and then laid aside is almost certainly ruined. That is why pipers are not encouraged to test reeds for themselves.

The safest play when choosing a new reed is to select one which is slightly **stronger** than you require, and which is slightly flat on the top hand. No reed will remain the same for any length of time, and a reed which is just right to begin with will be useless after a time. The reed must be "blown in," and if a piper is not prepared to do this he will never possess a really good reed. Whether the piper plays a weak or a strong reed, it must be "blown in."

Having chosen a reed and decided to play it — what next? Firstly, it can now be **wet.** To overcome the stiffness, two methods are recommended.

1. Leave the reed alone but squeeze the blades together from time to time — preferably just before playing. A fair pressure may be exerted here without damage to the reed. This squeezing may be continued until the reed adjusts itself to the player's liking.

This is by far the best method of dealing with a new reed.

2. Using a bridle. If reed is very strong it may be advisable to tie a hemp bridle round the blades. This can be adjusted until the reed is the correct strength. The fault in this method is that the reed may become "sticky" to play. I use this method only in the case of a very strong or open reed.

In both methods it is obvious that when the mouth of the reed is closed the reed will become sharper. Hence the stipulation that the reed should be flatter on the top than normally required. Another reason for this flatness is that such a reed allows greater freedom when playing under stress.

(to be continued)

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CHOOSING A NEW REED

These are the two methods recommended when dealing with new reeds, as they are the safest and do not involve tampering with the actual structure of the reed. Sometimes, however, certain alterations must be carried out. The reason for this is obvious. No reedmaker can produce reeds which will be ideal for each individual piper and chanter. The best he can do is to offer a reed which is well-made and approximately correct in pitch and strength. The piper must modify this reed to meet his own requirements.

At this point I must re-emphasise our previous review of reed lore and it is probably that I shall repeat myself.

Having found a reasonable reed and having tried out either of the methods already described, we may find that the reed is just a little too stiff to blow. In fact, if the reed is a good one this is a certainty. If

so, 'ease' the reed by rubbing on very (No. 0) glasspaper. This rubbing should be carried out near the tips of the blades, care being taken not to rub too much at any one point or to disturb the symmetry of the reed mouth. A good idea, if one is inexperienced in this, is to rub twice on one side then twice on the other. Now test. Repeat process until a satisfactory stage has been reached. The operation, like all reed operations, must be carried out **gradually**. This is important. When actually rubbing, place index finger over the blade of the reed. This will avoid undue stress being placed on the reed. All through, keep a strict watch on the tips. They **must** be of even thickness throughout and free to vibrate **all the way** across the mouth. This "easing" by rubbing should be carried out several times in the life of a reed and **always** after shortening the blades.

Reverting for a moment to the "bridle" method; perhaps I did not explain sufficiently clearly in the last notes. When tying this bridle, use a thin waxed hemp and work spirally from the tying and up the blade. As the reed settles down, the bridle can be removed — one spiral at a time — as required. (Again, by easy stages!) It may be several weeks before all the binding is unwrapped. This binding, as I have mentioned, will sharpen the reed — a point which must be kept in mind when choosing a reed.

THE "SQUEEZING" METHOD

First, remember that squeezing the blades will (a) weaken, and (b) sharpen the reed. Periodical squeezing, therefore, will have the effect of sharpening the reed and that the reed will become flatter in the course of each playing. In actual practice this sharpening/flattening is not unduly pronounced. The reed may be "eased" in the manner already described, but I am averse to a too ready interference with the body of the reed.

THE EFFECT OF PLAYING ON A NEW REED

This is a very difficult point to discuss, as the effect can be either of two extremes. A reed may open or close according to its build. In my experience and during my experiments with reeds of different weights, I have reached the following conclusions:— (1) a lightly made reed tends to open after playing. It becomes flatter, therefore, and must be cut to restore the pitch. Its playing life, on the other hand, will be of short duration. (2) The heavily built reed tends to close, hence the importance of choosing a reed which is slightly flat and also the importance of keeping the mouth undamaged. (See earlier diagram). In brief, the better reed tends to close (and sharpen). If left alone, the reed will eventually correct itself, but this can be hastened by careful manual manipulation or by passing a

mandril through the reed — from the staple end. This tendency on the part of a good reed is most unfortunate, as many really first-class reeds are discarded at this point. If such reeds were given the correct treatment at the correct point — or left alone — much disappointment would be avoided.

Mainly About Reeds

by R. Thomson, M.A.

The tendency, previously mentioned, of a good reed closing is one which should be constantly be borne in mind. Perhaps at this stage in the year when accent is placed on the practice chanter rather than on the pipes, a word or two on the Practice Chanter reed would not be out of place.

The structural features of the practice reed are similar to those of the pipe reed. Let me add here that I have never been able to account for the fact that the prestige of a good pipe reed maker is higher than that of a good practice reed maker. It is a fact that a maker usually specialise in one or the other. I can never decide which of the two reeds is the more important and can make out an equally good case for both. Personally I can make pipe reeds faster than practice, although I believe this is rather unusual. This may be due to the fact that the practice reed is made nearer to the skin of the cane and is therefore more brittle and easily split. Some years ago I asked myself why practice reeds were not made *exactly* like pipe reeds. Being unable to think of any valid reason, I sat down and made some. To my surprise they proved superior in every way — except one. They produced more tone for a given quantity of wind, and were much more amenable to treatment. I find, however, that they tend to wear out sooner. But my considered opinion is that they are definitely superior, and this opinion has been backed by several sellers of reeds. Unfortunately pipers are so conservative that they "don't like the look of them," and I have reverted to the more orthodox reed except when a specially good reed is asked for.

Apart from this, the orthodox practice reed possess all the essentials of a pipe reed — strong staple, strong blades evenly balanced and tied *level* with the staple. The vibrating part of the blade is still near the tip. Once again, however, the weak reed tends to open and the strongly-made reed tends to close. Again, a good

reed may be discarded just when it is beginning to become useful.

To correct, one can apply any of the methods advised for pipe reeds. The bridle method is often more successful in the case of a practice reed. I always choose an *open* reed, and close by means of a bridle. Before long the bridle can be removed and the reed will be playable with ease.

Practice reeds are prone to being broken by the chanter top and, although it is a very obvious statement, it is one which should be taken seriously. Always see that the reed sits perfectly upright in the chanter. It is the obvious which is often passd by, and I could mention several cases where even well-known players have failed to spot the obvious. Space is running short, but I should like to stress that a good practice reed is an acquisition and is just as important as a good pipe reed. A good practice reed should be tuneful and pleasant to listen to — not the horrible squeak one often hears from this instrument. Meantime, when choosing one — see that it is fairly open and not too lightly made.

For some time after the first appearance of these notes, I wondered how much real interest was taken in them. During recent months, however, I have been greatly comforted by the many private letters which I have received expressing thanks for the ideas which I have put forth. Strangely enough, many letters have come from outside Scotland, thus proving the widespread circulation of the "Piping Times."

I regard these letters, not so much from a personal point of view, but as a pointer to the need for a wider knowledge of reeds and their treatment, and it appears to me that this side has been too long neglected. This was known to me before, but has recently been brought home to me much more forcibly.

Some of the letters contained results of experiments carried out by amateur pipers. In many cases, I disagree with the conclusions reached, but I must give all credit for the spirit which inspired them. It may be that I shall be able to include some of the ideas in later articles. The resulting discussions may bear fruit.

One conclusion I have reached (and in this I may be entirely wrong) is that some form of instruction in reeds should be included in any piping course. Unfortunately (or is it fortunately!) I have

never attended the splendid courses run by the Army School of Piping, but I am under the impression that the reed plays little part in them. Am I correct in this statement? To my mind, theoretical and practical instruction should figure largely in any army or civilian course. It appears desirable to me to afford the students considerable opportunities to actually cut, scrape, open, test, etc., reeds of varying qualities. Exactly how this would be done, I am not quite sure, but, writing at the moment and without practical experience in running such a course, I should be inclined to give each student 6 to 12 reeds untested, and ask him to put them into playing condition. Expensive — but worth the money. No doubt the initial losses would be in the region of 100 per cent, but I am certain that the experience gained would compensate eventually. Any comments?

Amongst the questions put to me in the said letters were some on the question of treatments for care **after** the reed is made and on the correct material for staples. All I can say is that it may be possible to improve the cane — how, I don't know — but personally I think this is asking too much. On the question of staples again, I don't know. Copper has been used, probably because it was the commonest suitable material. I have used nickel but find it rather hard to manipulate.

I should like to repeat — at the risk of becoming boring that (1) it is best to leave reeds alone and (2) provided a reed is carefully made from selected cane and treated properly, little can go wrong. Play the reed regularly and leave it alone. Add to this a tight bag and plenty of commonsense.

There is, however, one point which I have overlooked and which has a distinct bearing on the subject. This is the need for correct setting of the reed. I cannot even attempt to discuss this as too many factors are involved, but it is a very important point. In a previous article, I mentioned the difficulty of laying down a hard and fast rule in writing — so much depends upon circumstances as they arise. Hence my suggestion that a practical course of reed instruction is necessary.

This course should be available to all pipers, but how this can be done is beyond me. Perhaps the Editor can make a few suggestions! My own suggestion is: Start in the Army School of Piping, and hope that the instruction gained there will spread, but — perhaps I have said enough (or too much!) for one month.

so, 'ease' the reed by rubbing on very (No. 0) glasspaper. This rubbing should be carried out near the tips of the blades, care being taken not to rub too much at any one point or to disturb the symmetry of the reed mouth. A good idea, if one is inexperienced in this, is to rub twice on one side then twice on the other. Now test. Repeat process until a satisfactory stage has been reached. The operation, like all reed operations, must be carried out **gradually**. This is important. When actually rubbing, place index finger over the blade of the reed. This will avoid undue stress being placed on the reed. All through, keep a strict watch on the tips. They **must** be of even thickness throughout and free to vibrate **all the way** across the mouth. This "easing" by rubbing should be carried out several times in the life of a reed and **always** after shortening the blades.

Reverting for a moment to the "bridle" method; perhaps I did not explain sufficiently clearly in the last notes. When tying this bridle, use a thin waxed hemp and work spirally from the tying and up the blade. As the reed settles down, the bridle can be removed — one spiral at a time — as required. (Again, by easy stages!) It may be several weeks before all the binding is unwrapped. This binding, as I have mentioned, will sharpen the reed — a point which must be kept in mind when choosing a reed.

THE "SQUEEZING" METHOD

First, remember that squeezing the blades will (a) weaken, and (b) sharpen the reed. Periodical squeezing, therefore, will have the effect of sharpening the reed and that the reed will become flatter in the course of each playing. In actual practice this sharpening/flattening is not unduly pronounced. The reed may be "eased" in the manner already described, but I am averse to a too ready interference with the body of the reed.

THE EFFECT OF PLAYING ON A NEW REED

This is a very difficult point to discuss, as the effect can be either of two extremes. A reed may open or close according to its build. In my experience and during my experiments with reeds of different weights, I have reached the following conclusions:— (1) a lightly made reed tends to open after playing. It becomes flatter, therefore, and must be cut to restore the pitch. Its playing life, on the other hand, will be of short duration. (2) The heavily built reed tends to close, hence the importance of choosing a reed which is slightly flat and also the importance of keeping the mouth undamaged. (See earlier diagram). In brief, the better reed tends to close (and sharpen). If left alone, the reed will eventually correct itself, but this can be hastened by careful manual manipulation or by passing a