The Violin Makers Journal

MARCH-APRIL, 1964

THE OFFICIAL PUBLICATION OF THE VIOLIN MAKERS ASSOCIATION OF BRITISH COLUMBIA

Mr. Tibor Varga and Mr. Ced Welstead
(see story page 5)

Issued as an Educational Feature to encourage and develop the art of violin making.

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The Violin Makers Journal

A Non-Profit Magazine Published every six weeks
by The Violin Makers Association of British Columbia

MEETINGS HELD THE
SECOND SATURDAY
OF EACH MONTH AT
4360 MAIN STREET.

Vol. 7, No. 2 MARCH-APRIL, 1964

CONTENTS

If you do not receive your copy of the Violin Makers Journal within reasonable time, please advise us. Please notify the Secretary of the Association at 4163 Sophia Street, Vancouver, of your change of address

Lithographed by Apex Printing, Vancouver, B. C., Canada.

EDITORIAL PAGE OF *The Violin Makers Journal*

CLARENCE COOPER, EDITOR

The Violin Ma
limited to British Columbia. Associate Membership is open to anyone interested in String Instruments. Associate Membership
Advertising rates may be procured from the editor.
Published at Vancouver, B. C. Address all communications, and make all remittances payable to The Violin Makers Journal, 4163 Sophia Street, Vancouver, B. C., Canada.

The past year has been a very trying one for your Editor, but our members have shown a support within the last two months which has been a source of encouragement for him to carry on.

Material for publication in the Journal is an ever-present problem and we hope to have a varied content in each Journal so that there will be something of interest to every reader. Many members have suggested, and others requested, that we publish more articles on the tools used in making a violin. There is no source of information for our readers from which they can obtain instructions on how to make certain tools or even the existence of tools for particular jobs. Then again, there is the technique in using these tools which also needs to be explained. Take, for example, the subject of the bending of the violin ribs. At one meeting of the Association I raised the question of the best method of bending violin ribs. The members present at the meeting indicated that this was a very simple process if you knew how to do it and also how to construct the tool which you would have to make to accomplish this. This could be the subject of a good article for the Journal.

Likewise, the technique for making other parts for the violin and cello are always interesting to our members. No one has yet sent in comprehensive articles on the construction of these various parts. By this I mean articles which first describe the tools needed, followed by a description of the method of making the part whether it is a top plate, a scroll and neck, or even a sound post, and at the same time, discuss the variations and alternative ways of doing the job.

There are also other parts of the instrument which are somewhat auxiliary to it, such as the finger board, the saddles for the tail piece, the tail piece, etc., which could be discussed in an article as to the proper method of fitting them up and finishing them to add to the beauty of the instrument. This esthetic side of the instrument appeals to the judges in competitions and we certainly could do with help on this type of article.

We have never yet received an article describing the method of making the bridge and fitting it. The tools used for this operation are practically unknown to many members as quite frequently it is done as a hand-made effort, copied from another bridge which may not be suitable for the violin that they have just finished.

Surely the tools of the art are worth a complete description and we hope our members will accept this challenge. Maybe a new book "A History of Woodworking Tools" by W. L. Goodman, published by G. Bell & Sons Limited, York House, Portugal Street, London, W. C. 2, might furnish a starting point.

LOCAL NEWS

By Al Gough

Well, it's been a long time since we have managed to get together, but here we are again. There have been a few changes that we should bring to your attention. In the recent meeting we had the annual election of officers. We were very disappointed when Ragnar Helin decided not to run for President. His decision was motivated by pressure of business and he felt that, having filled the office for two years, he should give way to someone else. We were fortunate in that he relented enough to accept the position of second vice-president. We are looking forward to giving him lots to keep him busy in this capacity.

George Friess, our new President, is familiar to the readers of VMJ. The story of his life was in a recent edition and he was President at a previous time. George has real managing ability and gets things done in a big hurry.

Clarence Cooper, our editor, now fills the position of first vice-president. You all know Clarence so I guess I don't have to say any more about that here.

George Wright continues on as Treasurer and I am now secretary.

Another new name on the list is that of Syd Orpword. Syd is a real acquisition, as he is a reporter for the Columbian newspaper in New Westminster, and has a lot of ability in organizing and arranging facts.

For all those who are interested in sending a violin to the Pacific National Exhibition, all entries should be sent directly to: The Violin Makers Association Booth, The Hobby Show, Pacific National Exhibition, Vancouver, British Columbia. Instruments should be sent postage paid and will be returned to you by the Exhibition. Entries should be sent direct in order to avoid any confusion in regards to duty in crossing the border. Further information can be obtained by writing to the above address. The judging will take place prior to the Exhibition so all who intend to enter should be on the move now to get the instruments in by the first week in August.

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We are going to be busy as beavers getting the next issue to the press, but are still short of material so let's hear from you soon. Several good articles on tools would be practical and would help us beginners. Good-bye till next issue.

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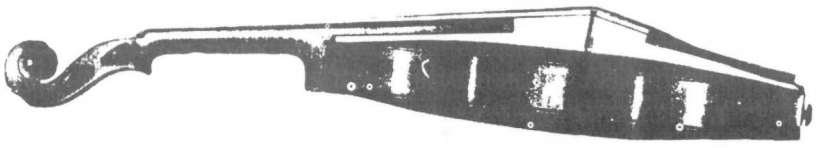
NEWS ITEM

Within a few months my book "The Old and Modern Varnishes for Violin Makers" will be available in English. The book contains 16 colour plates and two photos in black and white. Some of these photos are of violins with my varnish and there are of good violin-makers. There are also 41 formulae of varnishes of the 17th Century, and 31 formulae of my own, which have taken me 33 years to complete. There is a photo of the Corbara Cooker--a small gas oven for preparing these special varnishes. The book contains also the name of every gum-resin, copal, and coloured-gum and the way in which to use them for preparing the varnishes, and information regarding the best turpentines and oil to include in the varnishes. In my book, there are some secrets which will be the key to all the varnishes used in the world by stringed instrument makers. The book contains an explanation of the making of the varnish from the beginning to completion.

The book will be printed in three languages--Italian, English, French--the Italian edition now being complete and available. The English edition is being prepared now and at the end of October, the edition in French will be available. In Italy this book has had great success amongst violin-makers, and orders for it are growing every day. If you are interested in this book, you may write to me, as quickly as possible for any further information.

Prof. Corbara Lamberto,
Piazza Albizzi, 5
Cesena (Italia)



Living makers AND their instruments

CED WELSTEAD

by Al Gough

My interest in violin making was engendered years ago while a student at the Conservatorium here, while listening and arguing concerning the old master instruments with teachers and visiting players. My first violin was made in 1955-56 after twelve years of research on the varnish question, and during this period, I had not considered the possibility that I would have to become a maker in order to prove my varnish theories, (or have them disproved). I was born in Australia, (a small rural town named Toongabbie) of English and Irish parentage, in the year 1916. My father was at that time a poultry farmer, and my first contact with wood working was "helping" him to build incubators and brooders for egg production. My primary education commenced at the Toongabbie Public School, and latterly the Marist College at Randwick. I became a watchmaker serving my time at the trade, and for the past 15 years have had my own moderate business.

My first experiments with violin making consisted of producing a prototype from some local timber in order that I could familiarise myself with the many tools of this art, and it was some time (about three years) before I felt confident enough to commence making my first real violin. It was slow and heartbreaking at first, but my hand eventually became dextrous in the many operations related to producing violins.

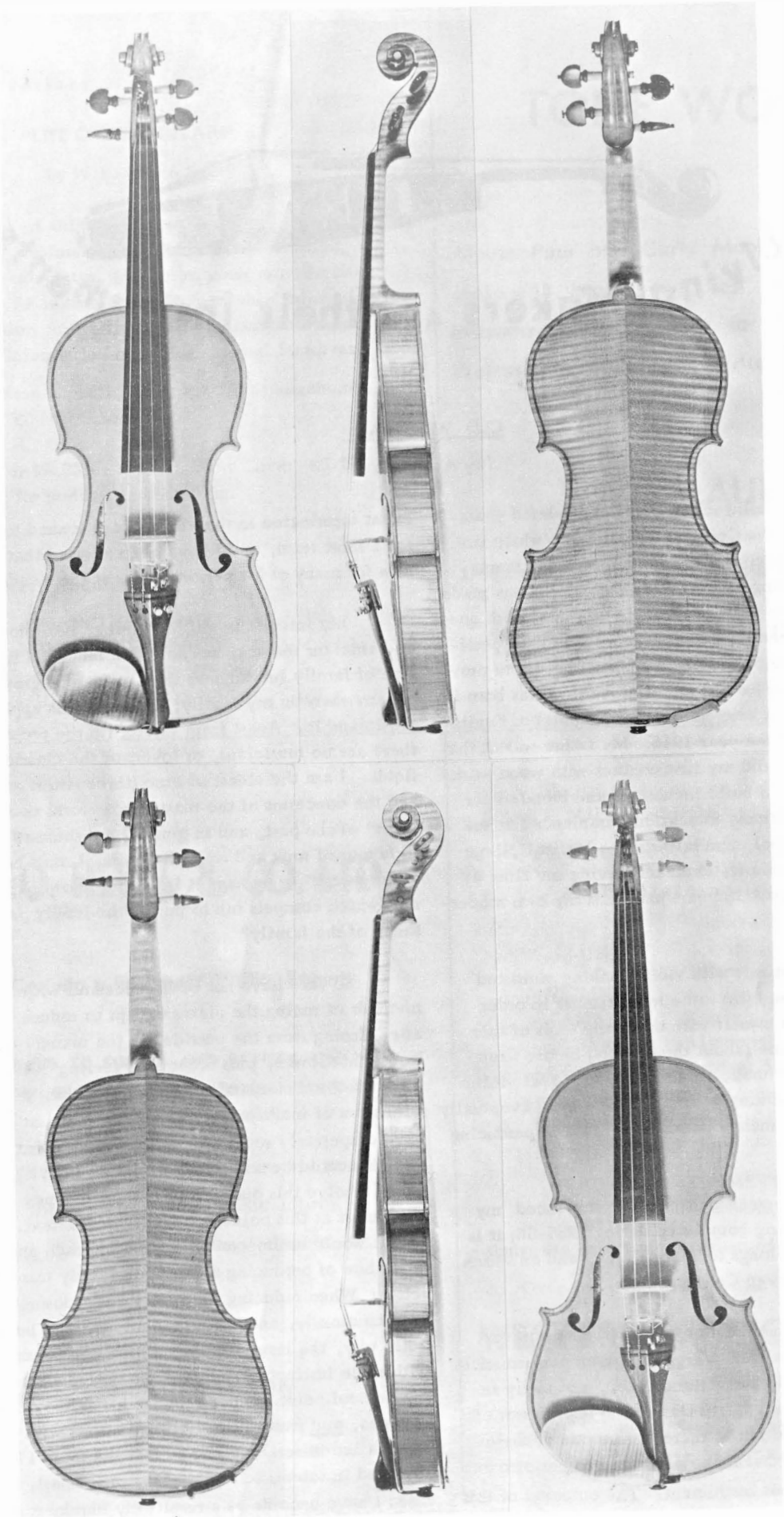
It was during the year 1954 that I commenced my first instrument, this being completed during 1955-56; it is this violin which now belongs to Tibor Varga, and on which he performed the Beethoven Concerto.

As a point of general interest, I shall mention that since returning to Europe, Mr. Varga has given performances on this violin in England, Switzerland, etc., and lastly in Vienna. While in Vienna, Lukes David who is professor of violin at the Academy of Music there, heard one of these concerts, and requested that he be permitted to perform one of his own concerts on this instrument. The outcome of this event terminated in the violin being loaned to the professor for a short term, and I have been advised that he is using it now for many of his performances at the Academy.

My interest in violin making, like most professional and amateur makers, has not been inherited from a long line of family luthiers, as there is no background of this art anywhere in my family; likewise, this applies also to musicianship. Apart from myself (in the present generation) there are no musicians, or lovers of the classics in musical fields. I am the eldest of nine (three sisters and six brothers) and the concertos of the masters are works composed by "Long Hairs" of the past, and in general are shunned like the plague in favour of rock and roll, therefore, I must be one of those "throwbacks" or perhaps it is just plain ordinary Irish cussedness which compels me to pursue the lonely path of the black sheep of the family?

So far I have not been successful with any of the methods of tuning the plates except to reduce them gradually after closing from the outside, in the manner explained by Robert McGowan, plus a certain "feeling" which cannot be translated into words of simple explanation; perhaps this is an admission of inadequacy, but it is a fact just the same; I have desperately sought for words in order that my innermost thoughts could be resolved into simple language which would resolve this question of proportion once and for all, but I must at this point admit absolute defeat, and declare that it would be impossible for me to teach anyone the final procedure of producing a fine violin; only this much can I relate: When reducing the plates after closure, I proceed very cautiously, and quite suddenly without knowing exactly why, the instrument acquires a sonorousness which with some instinct beyond my knowledge assures me that the critical point has been reached; I acknowledge that this is vague, and frustrating. All my efforts with micro-tuning have failed miserably, and in fact the more I have become involved in scientific approaches in the past, the more confused I have become as a result; my lucidness on this subject

Violin No. 1



Photos by Gino Morelli

Violin No. 2

comes to an abrupt halt when I am asked the burning question--"how do you build tone into your violins?" It is entirely different when discussing the varnish question, for here we have far less unknown quantities to deal with--we are involved with an established science known as chemistry and physics, which can be applied to the production of varnishes, and substances which, when combined, do not react naturally, can be induced to do so by introducing into the reaction an intermediary element, a catalyst, and we are assured by the inherent and immutable laws of matter, that what we observe during a controlled experiment can be repeated ad infinitum!!! not so with pine and maple--there are no standards here; every piece is different. To these last remarks, I would like to add that I have not yet tried the syntonising principle of Gunnar Sanborn, but I am interested in doing so as soon as I feel myself competent to proceed with this system.

The photos accompanying this short history of the twin violins, are based on the outline and colour of the famous Stradivarius "Le Messi". The grain of the backs is similar, and the outline is an exact copy. The dimensions were assessed from literature on this instrument obtained from the Museum which houses this Italian relic. The scroll and peg box edges are outlined in black, and I give here the remarks of the Curator of the Ashmoleum Museum concerning a comparison of my twins with the original:

Dear Sir:

Your letter has been forwarded to me, and I would like to thank you for having sent the series of photographs (Colour, and black and white) of your copy of the "Messiah" violin. It is generally very like the original, but I should say that the back of the original is slightly more yellow than yours, and the front slightly browner, but this may be just an accident of photography. The general effect is certainly very similar, and the graining of your backs looks to be very effective. It is the fieriness in the Stradivarius instrument which is so remarkable: it seems to quiver in the light when moved, and it looks as though your instrument has something of this quality and a similarly translucent, almost transparent glaze.

Might I retain the photographs you have sent, because I am sure they will be of great interest to your fellow makers, who often come here."

Yours faithfully,
G. L. Taylor.

I am accumulating data concerning the viola, and if time will permit, will commence the construction of my first some time this year after I have completed my inlaid violin (see photograph) which incorporates my design of an Irish lyre. The double purfling encloses black diamonds of ebony, the remainder being rosewood inlays. Bowmaking, which also intrigues me, must be left out of my curriculum because materials are not available and also because there are only twenty-four hours in a day, and one must provide three meals a day for one's family, and a place to sleep--regardless!!

Yours fraternally,
Cedric Welstead.

These two talented youngsters, Mairita and Gunars Larsen, are using violins made by Mr. C. Welstead and are on their way to Europe to study under Tibor Varga

THE SECRET OF MICRO TAP TONES IN A VIOLIN

by John H. Hogue
3615 N. Center Road
Flint, Michigan

In recent years many violin makers have written many articles on the above captioned subject. I feel that I am somewhat of an authority on this subject because as a student in Yale University, 1944 class, studying sound and electronics, I became interested in tap tones as applied to a violin, then after World War II, I started seriously experimenting along this line. In 1957 I filed for a patent; I did not receive the patent; although I did not put forth much effort to obtain this patent, I still feel that I could patent the following method if I wanted to; it really works.

I know there are literally thousands of people tapping violin backs and tops, listening for the tones. It took this writer some time to hear the tones clearly and it took another two or three years to pick out the desired tones and properly tune them.

The back is easier to tune; you merely find the tone and tune it, then use a pair of graduating calipers and make the middle of the back five millimeters and around three and one-half along the edges, then using a piano as a guide, hold the back by the left hand as high as possible at the base where the neck sets, holding the back as close to your left ear as possible tap the lower bout with your right knuckles or forefingers as lightly as possible. If you tap this a little too hard you hear the tone of the whole lower bout which will probably be lower and completely wrong. This is probably the most common mistake. I like to vibrate one small section with approximately the same strength as you would if you were playing the violin. Once you have your note in the lower bout (D or E) you move up taking out wood with sandpaper on a scraper until you have the back tuned to middle D or E on a piano. Once it is tuned leave it set over night or a couple of days, and usually you will find at least one place where it isn't quite tuned, then go over the entire back again. Remember American wood will have to be thinner because it is much harder. I know that last statement will bring about questions, for example, "Why is the top thinner, when the spruce or pine is much softer?' There is an explanation for this, when you are tuning the top, holding the top between thumb and forefingers left hand, and bee sting between lower and upper bout, you will find the first tone you pick up will go through to E, D or C on a piano, and when the note is around C or C flat, (it will be lost) you will find another note, G sharp or F, this last note is the note you want to cultivate, leave the note you lost and C flat and start tuning the one you found around G or G on the piano, tune the top the same way as you tuned the back. The top graduation will be almost the same all over after you make the final tuning with the bass bar installed and the F hole covered.

The ribs will be tuned in around one millimeter, tune the same tone as the back, the middle bout ribs probably will be slightly thinner, I have installed as many as fifteen different bass bars in the same violin, strung them up and noted the difference in tone, believe me, this is fantastic. If your violin top is practically the same all over your bass bar should be five millimeters wide, eleven inches long or longer and ten millimeters thick in the middle and at least one-eighth inch thick on the ends. When the F holes are covered this will lower the tap one tone, then when the bass bar is installed this will raise the pitch one tone. The explanation I can give for the top being thinner than the back, is when the sound post is installed; this applies pressure to the top more so, than the back, then the bridge adds pressure to the top, the more pressure, the higher the top vibrates, raising the tone.

The writer met Dave Rubinoff in 1959, since then I have worked with him. He plays the violins when we test them. He has the Romonoff Strad, I'm not going to say I know all the methods or procedures the Italian School of Violin makers did or went through when they made violins, but there is one thing I'm sure, they tuned their plates. I have taken a violin and un-tuned the plates, taken it down to Maestro Rubinoff, the great Violinist, and watched the expression on his face when he tuned it up and began to play. "It's junk, junk, junk, terrible." (This guy does not hesitate to tell you what he thinks when it comes to a violin.) Then, taking the same violin, re-tuned the plates, gave it back to him and he was a different violinist. "It's a marvellous violin, very strong and good quality." There have been other violinists who have remarked that my violins are the best that have been made by modern makers.

I figured out how to tune the plates of a violin, but I would have never gone nearly as far as I have without the help of Maestro Rubinoff. He gathers all the information he can from violin makers all over the country. We analyse this information; it is interesting to note the different views.

Now, if you have followed my procedure, glue your violin together, string it up, and I would suggest you play it about a month, and take the top off and fine tune it all over again. Do not take the back or ribs off as this is unnecessary. Hold the violin by the neck and tap very lightly--you can hear the little micro tones ringing out much better. You

may get one tone where you tap, move your knuckles two inches and the tone will change one whole tone. Going back to sound and acoustics, a violin, when the plates and ribs are vibrating together or are in harmony to each other, they will carry with a clear tone. In Flint, we have an Auditorium that seats around five thousand, a violinist played one of my violins on the stage, the floor was covered with canvas and hanging from the ceiling there were literally hundreds of hemp ropes. I personally think this was a better test than if the Auditorium was full of people. I walked to the furthermost point away from the player, closed my eyes; I could not tell if the violinist was by my side or where he was; also, I have sat in the audience when Maestro Rubinoff played my violin in his concerts, they carried like a violin should, all the way back to the rear of the Auditorium.

If a violin is properly tuned and matched when you first string them up they will ring and have a mellow tone. I leave my top one or two notes higher than the back, example, if the back is D, the top I make E or F. I suspect if a top is E when the bridge and bass bar is installed it will shift to D. This system will work on old violins, indeed it will. Old violins are much harder to get the frequency drift. You can tap the back of an old violin--it's more difficult to detect where it is out of tune. I suggest this is because it has vibrated so long; it vibrates easier and a small tap will cover a larger area.

Remember your problem is to detect the very weak micro tone. Once your ear is trained to pick them out, you should have little trouble in tuning your plates. The writer has tried hearing aids, their frequency do not go below 400 cycles, D on a piano is much lower than this, a doctor's stethoscope probably will help although I would train my ear first. I doubt if the old school had more than the naked ear.

* * * * * * *

COMMENTS ON JOURNAL ARTICLES

by Dr. L. T. Lloyd
Warwick, Queensland
Australia.

A friend, Mr. D. Cameron, recently lent me eight copies of your very interesting Journal. On the principle "the more the merrier", I have decided to write you my own opinions on some of the points raised by other contributors. I realize the opinions you have published are not your own; in fact that would not be possible, as some of them are diametrically opposed to one another? Also, I assume that not all of my own remarks will necessarily be of sufficient interest to warrant publication.

Naturally you have never heard of me before--unless perchance you have read some of my work in "Lutherie". I am an amateur player and maker of violins and violas, have studied physics and chemistry at University level. (You will note I have a Toronto D.D.S. so I am almost a Canadian!) I was nominated as a member of A.N.L.A.I. by its President, my friend Dr. Gioacchino Pasqualini of Rome, at whose home I have spent some delightful hours--talking about fiddles, of course! In his home I also met Guiseppe Lucci, who seems to be one of the leading Italian makers of the present day, and incidentally, one of the most modest ones I have ever met. He never ventures an opinion without being asked for it, and I certainly wouldn't know that his fiddles were any good if I had relied on him to tell me so!

You printed three photos taken in the Pasqualini home, and I fear you erred in saying that this home is in Ascoli Piceno. It is in Rome, in the Via Babuino (Street of the Baboon) where I visited. Ascoli Piceno, Pasqualini's birthplace, is on the other side of Italy. In the first of the three photos, the central portion of the table is taken up with a string quartette, which was made by the above-mentioned Lucci for the great competition in Liege where it won the great prize. Incidentally, I did my own photography there, i. e., at Pasqualini's home, and if it is of sufficient interest I can send you a copy of a picture of that tableful of instruments with (in the background) Prof. and Signora Pasqualini, Guiseppe Lucci and my wife. The original picture is a nice Kodachrome, but I have some black and white copies from it. The colour of the Lucci instruments is really glorious, and you will note, even in your own photo, that the "herringbones" of the back of the quartette run in the reverse direction from the usual.

To comment on some of the points you have printed:

I find it very interesting that some non-Italian makers claim to have built instruments with Italian tone. Do they mean "something like Italian tone?" I still wonder what that means, for genuine Italian fiddles differ quite a lot; some of

them are very bad, too! Some folk say that Italian tone is the kind that Kreisler, Heifitz, and other such players get from their instruments, but I hasten to point out that men of such calibre can get extraordinary tone from inferior instruments and I have had the privilege of seeing this demonstrated.

It is curious to read bits like the last paragraph of page 25 of your Jan.-Feb. 1963 issue, and my answer is that to make a fair comparison between two instruments, they must both be played by the same player. Otherwise, it becomes also a test of technique and artistry even if both players are of the top rank. Mr. Szigeti could not be expected to admit that another artist could get as much tone out of a Welstead violin as Szigeti himself can get out of a Cremona, so where would be the value of the test your contributor suggests? Would the audience be comparing the artists or the fiddles?

The very words used by some of your writers are a great puzzle to me. Jan.-Feb., 1963, page 32, Col. 1, bottom paragraph, a writer draws a distinction between the voice and the quality of an instrument's tone, but he doesn't explain the difference. Is he creating an imaginary distinction to suit a shaky theory?

April-May, 1962, page 12. "A tone of velvety softness but with unimpaired brilliance and power"; this writer uses his words "differently" and I would say that they seem to contradict, as no tone could combine those four qualities-even if it were possible to find a fiddle that had exactly the same quality on every note which I beg leave to deny. (Who ever heard these two notes with similar quality on a violin? Such examples can be found for viola and cello too.)

Another writer seems to me to make a similar error where he speaks of a " . . . lovely tone, but weak and box-like". Elsewhere I read of the pine of the belly being used to neutralize the faults of the back; was he referring to a good fiddle or a bad one? Perhaps pine and maple are used together to combine their good qualities, but surely not pine to neutralize the faults of the back, whether it is maple, poplar, pear or balsa!

I was interested in the great length of tail-gut shown in one of your photos and I wondered if it was done with or without good reason, since it usually seems to be regarded as a fault prejudicial to good tone. (Miller's cello.)

Apr.-May, 1962, p. 14 -- Here I read "Linseed oil may spoil the tone by becoming soft and sticky." I ask: Is "may" the operative word? Do all types of linseed oil--boiled and raw, sunned and unsunned, etc. etc. - necessarily go soft and sticky? Also, if they go soft and sticky do they necessarily spoil the tone? - my guess would be "no". Folks who use that argument always seem to me to assume that wood must be harsh, dry, brittle, and, above all, resonant. If this were so, pine probably would not be the best material for bellies.

This passion for resonant materials really intrigues me! It is so simple. Why not use steel? or the hardest wood obtainable? Varnish won't be needed! The fiddle will ring like a bell long after it is plucked or bowed. It will last forever and it will not be subject to the vagaries of the weather. To avoid rust, I advise the use of stainless steel. Wood is only for furniture and coffins as it has no real ring. Strad. and Co. didn't use steel for the simple reason they weren't metalworkers.

To quit kidding, the metal violin won't play well, though the wooden monstrosity will delight the heart and the ear. Why is this? Plainly, it is because a fiddle should not be resonant. If it were otherwise, Strads and other good fiddles would all be made of the hardest densest woods treated with hard spirit varnishes. To my critics who will point out that a good violin will resonate or ring for five, ten, fifteen, twenty seconds after the plucking of a string, I will point out that therein lies the deception that has fooled so many. It is the string that continues to vibrate naturally but the wood of the good fiddle continues only so long as the string continues to energize it. A bad fiddle--a heavily made one for instance--will waste too much of the energy of the strings in overcoming resistance. The same remark applies to many mechanical devices. In short, the good fiddle is free to vibrate, but it will vibrate only while the string does so, as you can easily prove by damping the strings with wads of rag or cotton wood and then testing the resonance. In a mechanical sense the fiddle must have a degree of instability if it is to vibrate freely, for the more stable, the more rigid, the more resistant to distortion we make it, the more prone it will be to vibrate only at certain pitches (high ones). Here, surely, we have a clue to proper design--weakness and instability in those parts which must vibrate, with strength and a degree of rigidity where it is required to resist collapse under the strain of string tension, soundpost push, bowing, pizzicato, etc. Even in the bridge we see more or less the same idea; the bridge built for strength would be a very solid affair with no side cuts and it would facilitate the production of a truly wretched tone. Hermann Meinil has pointed out that the best wood for fiddle tops has quite a high damping throughout the useful tonal range with a much higher rate of damping at the frequencies of the higher notes and overtones of the musical scale. If it were otherwise, pine could scarcely be the wood of our choice. Regarding backs: see your article on Rev. Wright's Black Diamond violin. A violin that is "dead" when plucked is lifeless not because of its materials but often because of faulty strings or disrepair; a loose winding will do it, or frayed gut, or an open joint.

If the principle of damping is carried to its extreme it will result in very poor tone for the simple reason that damping always just the high frequencies much more than the lower ones, so that with such sluggish materials as balsa wood or leather--which have been tried!--the ability to respond to the strings is so low that acoustic efficiency and energy is lost at every part of the scale and we have a tone no more musical than that of the metal fiddle.

This all adds up to the simple statement that there is a happy medium in this matter as in most others. We already see the ideal materials in the best fiddles old and new; let us not think that we can improve very greatly on this by the use of wood with greater or lesser ring than we already use. Your June-July, '62 issue, p. 22, speaks of stiffening the wood--but why? If this is the ideal, why not use stiffer wood from the start? The same writer compares a violin with a bell, but surely there is no similarity. A bell is struck and it goes on ringing, at the frequency for which its fundamental and overtones are tuned--it is as resonant as science can make it. A violin gives its full tone only while the stimulus of its strings continues to be applied, and if it is any good at all it must be able to change this response every time a different note is plucked or bowed. In truth it would be more correct to compare a bell with a banjo, ukelele or guitar, because these instruments which lack a soundpost are able to ring much better than those with soundpost. Even at that, the comparison with a bell is very unsound and poor.

Also I think that there is a confusion over taptones and microtones because some workers believe that the tones obtained during the working of the detached plates will still be heard ringing during the playing of the completed instrument--after it is glued up, strung up and fitted with a soundpost, not to mention ribs, chinrest, fingerboards and lots besides! The concept is false, I feel sure, as the fiddle has none of the same acoustic properties as its separate parts. How could it? Even the strings behave differently when tightened and so does the fiddle, not to mention the effect of glueing it together!

Nevertheless, I feel sure that such systems of toning do have some value, for if we take the tonings of the plates of successful fiddles as our standard, reproduction of the tonings does, to some extent, guarantee the production of plates whose thickness is in correct relation to their density, weight, etc.

April-May, 1962, p. 18. Here I read much theory on the vibration of the bassbar, but the theory seems to me to be faulty in that it deals with a bar that is free to vibrate independently--not glued to another piece of wood of totally different character. I think that the theory of a balanced bassbar may be a little more valid if we also balance the belly to which it is glued--also, perhaps, the back and sides! I question whether the centre of gravity remains an active and significant factor under conditions of stress and strain of bridge, soundpost, etc.

Also, I think that the same writer's argument on Chladni patterns is not applicable to all the relative frequencies. I wonder how many readers have noticed that in practically every case a Chladni line which reaches the edge of the belly reappears or continues at the corresponding point on the edge of the back. This could be interpreted as suggesting that, to some extent at least, the entire fiddle body seems to flex.

There is an interesting article on "air capacity and the violin family", but I cannot help wondering whether its writer is aware that there is a very well known mathematical law relating the frequency of the air vibration to the dimension of the air space and to the size of its outlet.

June-July '62, p. 9. Kilpatrick suggests a system of tests and auctions of members instruments. I wonder whether it is known that ANLAI has been doing this in Italy for years? In the same issue--page 22, top of right hand column--we read of putting the mass of the violin in motion. Perhaps we should pause a moment to reflect that the player only vibrates the strings; all his difficulties are concerned with that alone. He doesn't vibrate the fiddle; the strings do that. The player's difficulties depend on his bow, his resin, the quality of the strings and the fitting of the fiddle, whereas the vibrating of the fiddle by the strings depends only on what the maker and adjusters have done to it. Of course the quality of the strings counts for much. Those which are heavy have to be pulled to a higher tension to bring them to pitch. They are correspondingly harder to vibrate--harder to play on, though the difference is small--and once they are vibrating they energize the fiddle more energetically than lighter, slacker strings.

May '63, p. 29, says "The new violin muddies up and refuses to articulate because the response is lacking", but I very much doubt this sweeping statement partly as a result of my own experience and partly from reading the results of tests in which my friend the late Dr. F. A. Saunders got Heifitz to play on some very inferior instruments, only to find that the worst ones articulated as easily as the best, even though they lacked most of the other good qualities.

Mar. '63, p. 31. Denlin favours wood which lacks a ringing tone; I fully agree, as I have said earlier.

April-May '63, p. 36. The question "Why is a violin shaped like a figure 8?' My answer is that it facilitates bowing on the first and fourth strings without the need for an over-high bridge. Also, if we altered the shape we would be altering many dimensions and would thus get a

very different tone at one or other part of the musical scale.

One point, I feel, is often overlooked--the fact that the violin is supposed to have a certain kind of tone with which all of us are already familiar. Only if we want a totally different kind of tone should we indulge in some of the more crazy ways of obtaining same! Such as altering shape or size; e.g., R.-T. viola. Or getting a guitar!

With the design that we now use, if the detached plates are tuned so that their various parts (as demarcated by Chladni lines) can vibrate at a wide range of frequencies, as can be demonstrated perhaps by the microtone system, then this tends to ensure that some part of the fiddle will be able to vibrate at each of the desired pitches representing fundamentals and harmonics--a most necessary feature if we are not to have weakness at some part of the tonal range. Such systems as the microtone system may or may not be perfect, but I do not see how they can be improved upon, and even a poor system--provided it is not founded on ignorance--is better than no system at all.

March '63, p. 4. "Infra-red will only heat the outside surface of the varnish; these rays do not penetrate". My comment is that infra-red rays are usually considered very penetrating. Ultra-violet rays are usually considered far better for "drying" or oxidizing varnish--but not for reasons of penetration.

I forget to tell you that I have been corresponding with Prof. F. A. Saunders for many years and he has said some very nice things about my work. I miss my old friend very much.

Regarding English translations of the Pasqualini works: I don't think I have come across any of these. Prof. Pasqualini has given me copies of all his works--all in Italian except a couple which are in French. Pasqualini once told me that he knows only one word of English--"Thankyou"--and incidentally he pronounces it very nicely! (He used the word, with a courtly bow, when I paid him a compliment.)

Nov.-Dec. '62. N. Miller says: "The strings of some violins when up to pitch are loose and flabby; some are very taut and hard. These properties persist regardless of the type of string being used. The ideal tension is neither too tight nor too loose." My comment is that the actual tension on the string depends only on 1. The kind of string; 2. Its length; 3. Its pitch. If these factors are constant the tension is constant--on any fiddle. The main variations we are likely to find result from 1. Kind of string--heavy or light, metal or non-metal. A metal string will have the same tension as a gut one of the same weight, but it will be less flabby, less stretchy. The ease with which the bridge can be shifted is an entirely different matter as it depends on 1. The tension of the string; 2. The angle at which the string "bends" in crossing the bridge-top; 3. Roughness or smoothness of varnish. The angle made by the string is a very important factor with any instrument and I find it surprising that it is so seldom discussed. This angle depends on the set of the neck, height of nut and saddle, height of arch of belly, and height of bridge. Measurement of this angle on a number of instruments--or on the side view pictures in such a book as Jalovec--will reveal many variations and these variations mean much variation in the pressure on the bridge. But this is not string tension as your other correspondent has called it. Certainly some fiddle bellies are flabby and some are not, though I do not think this can be correctly gauged by ease or difficulty of shifting the bridge. In any case, if the belly is flabby it will yield when the strings are brought up to pitch and it will go on yielding until it finds a fairly stable position, when the pressure on it will be just the same as it would be in the absence of flabbiness. As Newton said, "To every action there is an equal and opposite reaction." At the risk of seeming to repeat myself on this very important matter I will add that if the belly is not strong enough to withstand the pressure of the bridge, something will yield or crack--there can surely be no question of flabbiness. In actual playing--which is important, of course!--a further factor is the pressure of fingers and bow, and the position and direction-of-application of these forces; but this makes no difference to what I have said. Needless to say, if the instrument could not yield in some slight degree to the forces placed upon it, it would be incapable of vibrating.

April-May '62, p. 30. "Moisture from the atmosphere will allow the wood to adjust and settle. This may be the reason that violins left unvarnished lose their tone." If this were valid, what about the unvarnished inside surfaces which are also in contact with the air?

Speaking of varnish, I once read that Stradivari used to varnish his fiddles with beaten egg. I have never discovered whether it was the writer or the reader who had his leg pulled. When violins and eggs are cheap enough I really must try it.

June-July '62. "Why are thin sides required--can we not use thin and thick and compare them?" My answer: Some years ago Pasqualini published a work entitled "New results obtained in the study of the violin by electro-acoustic methods" (translating the Italian title rather freely). In this work he speaks of tests on instruments with sides of thick aluminum also with sides and backs of cast aluminium and lead. (N.B., these metals have not the elasticity and "ring" of the steel I mentioned earlier.) In these tests he examined the frequency response of the separate parts--back, sides, belly, neck and fingerboard.

In the case of the aluminium sides the tone--as judged by ear--did not differ much from that of the same instrument with maple sides, but there was rather less power and rather less ring ("i suoni una volta prodotti si estinguono repidamente, come avviene per sli strumenti con forti spessori di legno per le tavoli"). This was thought to be due to the greater rigidity of the metal sides which weighed 362 grammes. (Mass also? Compare this with my pencil note on page 8 of this letter.) When a cast aluminium back was fixed to the aluminium sides (it had the same thicknesses and arching as the maple back), the weight of the instrument without accessories went up to 1141 grammes, three or four times its original weight. The tone was then found to be surprisingly similar to that obtained in the previous test with metal sides and maple back. Because it was feared (!) that the metal back might happen to be vibrating like the maple one, Pasqualini next substituted a back of thicker aluminium and finally a back of cast lead. The heavy aluminium back was about 1 cm. in thickness and weighed 1095 grammes--well over 2 pounds! The tone was not greatly altered. In the case of the lead back--which weighed 2910 grammes, or between six and seven pounds! -- it is found at last that the tone is greatly altered, especially on the 4th string. On the 3rd and 2nd strings the tone is improved. Altogether the tone is better than in the case of the aluminium back. (Si puo ancora dire che il violino appare uno strumento normale.)

Of course I do this experiment a great injustice by not giving the full sixteen-page text.

One of your writers quoted Casals as saying that he believes the speed of the bow affects the precise pitch. I think the belief is nearly but not quite correct; bowing at a different speed we tend to use a somewhat different pressure. As this alters the actual tension of the string it necessarily alters the pitch. The effect is more noticeable with metal strings for the same reason that a small turn of the peg has a greater effect on the pitch of a metal string--less "give", or stretch, sometimes erroneously referred to as "elasticity".

Here and there I read statements about the vibrations following the fibres and tending to run out of the wood where the fibres are cut. Permit me to doubt this; I have never heard of a convincing proof. Certainly there are so-called proofs--mainly concerned with the speed of propagation of sounds with or against the direction of the fibres, but these proofs do not lead me to the conclusion mentioned.

I see I have written a terribly long and disconnected letter of which I suppose very little will interest you sufficiently for publication.

My last short for now: In reading VMJ and many other publications it is quite evident that some people favour the old masters, just as some favour the new. (Perhaps it is irrelevant that this applies also to musical compositions, paintings, and so on.) Some people, by virtue of superior knowledge, may be better entitled to an opinion than others, but there is also the question of taste, or prejudice, of honesty and much else besides. The matter is a very complex one, yet for each of us it should be much more simple. Is each of us to form his own opinion? to accept the ready-made opinions of others, regardless of their qualifications, prejudices and motives? Are our ears as good as those of the people whose opinions we accept?--better?--worse? And what does it matter if our own opinion is the one that counts? Is the virtuoso's opinion worth (a) less (b) more, or (c) the same, as the collective opinion of his audiences? If I were to say (purely for the sake of example) that I like Ricci's Guarnerius and dislike Stern's, who could prove me wrong? It would not be due to my ignorance; it would be purely a matter of taste and the characteristic of Stern's violin that irritates me might be the very characteristic that my friend admires. I never give an opinion on the tone of my own instruments unless I am asked, because I assume that my listener has his own opinion and doesn't want mine.

Does playing on a Strad or Guar have any snob appeal? Of course it does, and the worst Strad in the world would sound superb to some people--provided that they knew it was a genuine Strad! The argument can be used in reverse for a modern fiddle! (i.e., a modern fiddle "couldn't be any good".) Do any of us have any reason, good or bad, for likening our instruments to those of the Great Masters?

I'd better stop! Did you read as far as this? If so, as Isaac Stern once said to me when I drove 100 miles to hear him play on a cold wet night: "I sure admire your fortitude!"

(A.N.L.A.I. --Associazione Nazionale della Liuteria Artistica Italiana)

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A FRESHER OUTLOOK

by Ed. Charlton
56 Queens Ave. Rd.
Toronto 18, Ont.

There is at present an urgent call going out for new and helpful material, for publication in our 'Journal'. In regard to this it would be of value to us, to ponder somewhat, over the very fine article written in the Aug.-Sept. issue, by Mr. Sangster on page 29. This article brings into the open something of which I have been convinced, for a very long time, and this is the fact that the ancient craft of violin making is being slowly and surely suffocated, by an overwhelming avalanche of mystery, which is totally unnecessary.

This takes on several forms, deep secrecy, false information, and, more recently, a veritable welter of pseudo-science. While constructive debate is always a good thing, the so-called scientific approach is being carried to ridiculous extremes, and results in a state of the most utter and horrible confusion. Indeed a morass or bog has been created in which we are helplessly caught, and the aspiring, searching, and ever hopeful craftsman, is finally quite discouraged, instead of being helped.

After all, how much did Strad. know about such things as Electronics! or about Metallic Rosinates, likewise it is extremely improbable that they ever knew or practiced anything even remotely resembling Micro-tuning, when at the time of the Old Masters, even sandpaper was unknown. These Exhalations are simply not good helpful and constructive debate. I am aware there are some who will not agree, but it has become high time that we washed our minds clean, and free, from all these vagaries and misconceptions, and allowed a cold, fresh, wind to blow away the fog and mists which so hamper us, and to make a new start, on more simple terms, which all of us can more easily understand.

It is my belief that no lost secrets exist, or ever did, either in construction nor yet in varnish, certainly there are some general rules which must be adhered to, in regard to thicknesses, archings, and general dimensions, but as you all know, the Masters all varied bewilderingly, in these respects. Indeed none of them ever made two instruments alike, in any aspect whater.

To my mind there is one thing left that might be important, and that is the undercoating. Mr. Sangster's theories regarding linseed oil treatment could be right, I would not know never having tried it, but the weak point here is the three months period needed in the sun, in order to oxidize the oil. At the rate Strad. produced he could never afford such an expenditure of time. If Mr. Sangster can explain this I would go along with him, so far. It could be that the oil might do its oxidizing, afterwards, while covered with varnish, it seems to me that time here, might be the controlling influence, not sun.

As for all the rest, a good choice of wood, well seasoned, and followed by good workmanship, plus a something that each maker builds unconsciously into his work, something of himself, as it were, these, together with the mellowing influences of time and use, will surely result in instruments the equal of anything produced in the heydey of Cremona. With these thoughts in mind, the craftsman of today can be sure that, though he may not live to benefit, his work will live on after him, many instruments are being made today that will in time shine and glow with an ethereal beauty of tone and colour all their own.

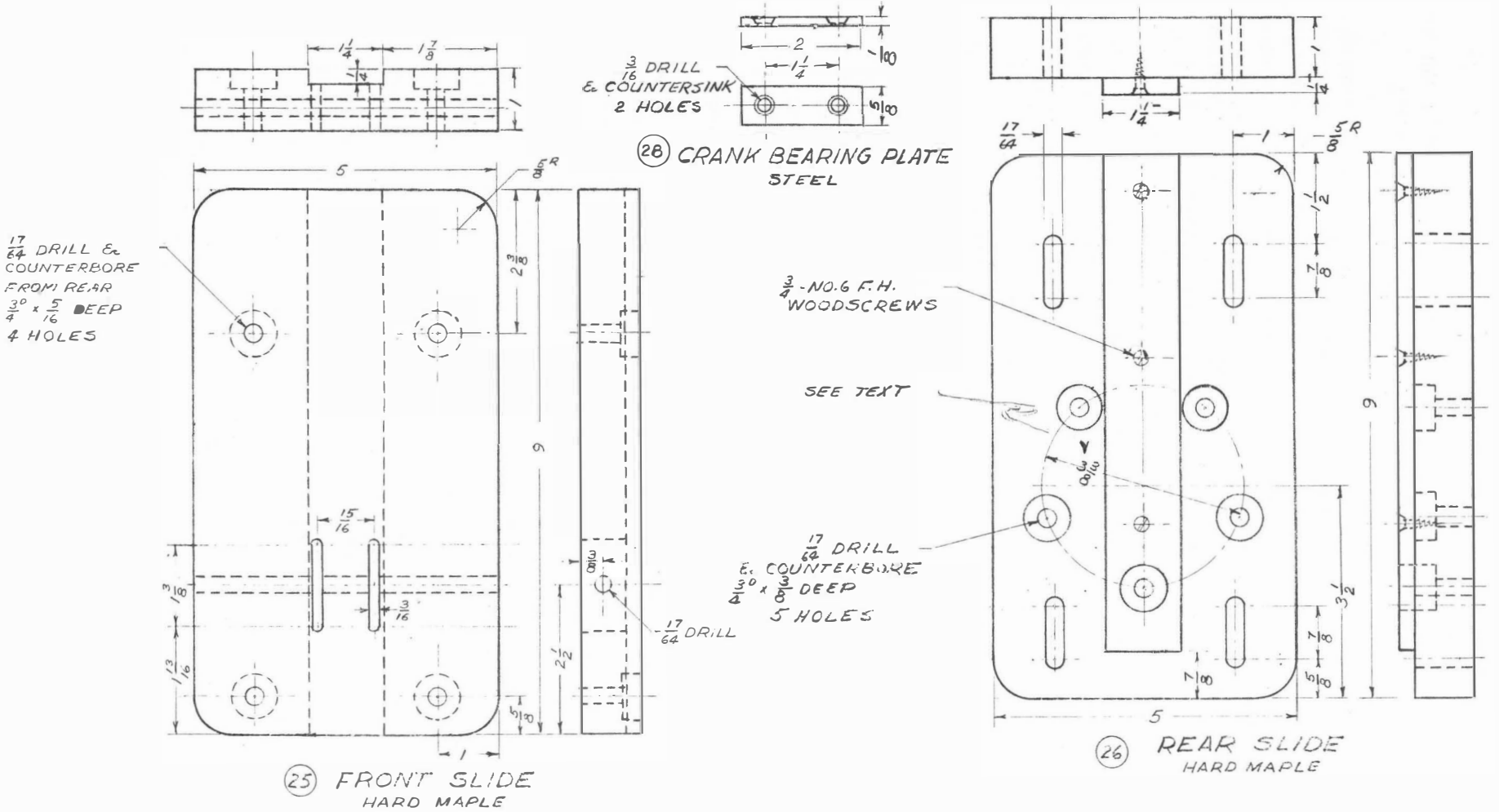
OVERARM ROUTER

For Purfling, Channelling, and Edge Thicknessing

William E. Slaby

This machine makes child's play of three of the most tedious jobs in violin making. Using the end mill bit it will cut a purfling channel in less than five minutes so that all that remains is to finish the corners. The square end router bit will work an edge to uniform thickness, and the core box router bit will cut a neat channel around the edge leaving the much desired beaded edge.

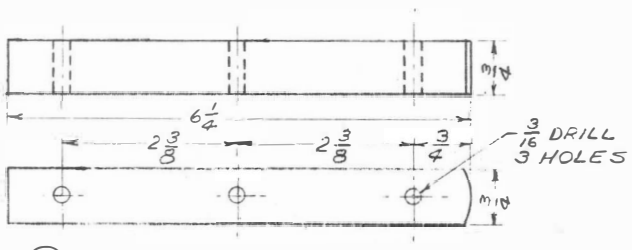
The heart of the machine is the router motor (part no. 19). I purchased this from Sears about four years ago and unfortunately they have discontinued it. It sold for about $20.00. Any high speed motor will work, however, providing it has a chuck which will accommodate tools with 1/4" shanks. The motor should turn at a high speed--no less than 12,000 R.P.M. and preferably 20,000 R.P.M. or more. Sears now sells a high speed hand grinder (Catalog No. 9M2597) that will do the job but it costs about $30.00. A different motor will require modification of the housing and the length of the vertical pipe column will need to be changed. (continued on page 22)



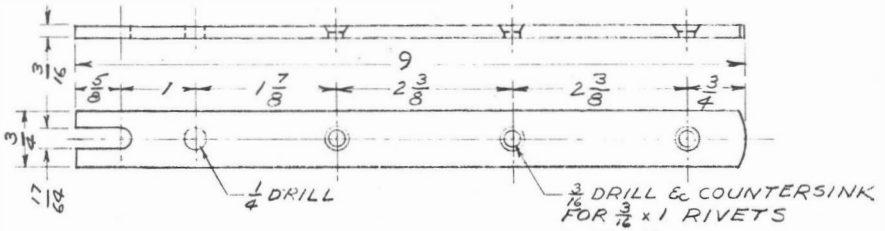
(25) FRONT SLIDE
HARD MAPLE

(28) CRANK BEARING PLATE
STEEL

(26) REAR SLIDE
HARD MAPLE



(29) SPINDLE LEVER FILLER
HARD MAPLE

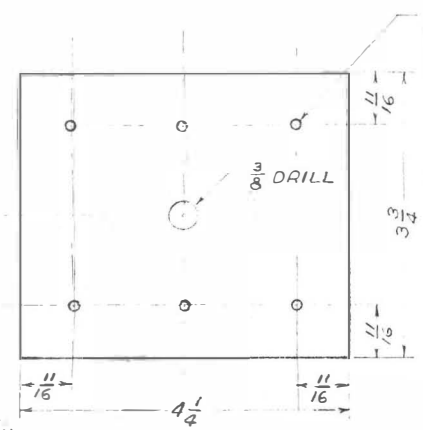


(13) SPINDLE LEVER
STEEL
2 REQUIRED

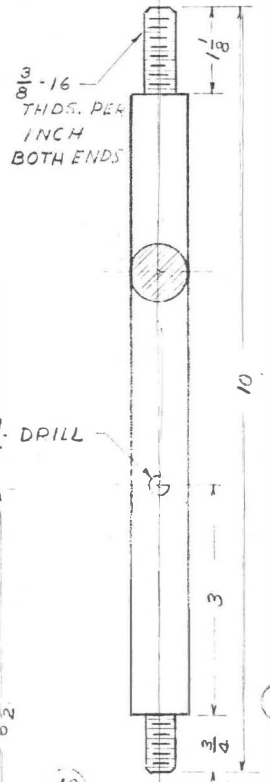
OVERARM ROUTER

PLATE 2 OF 3

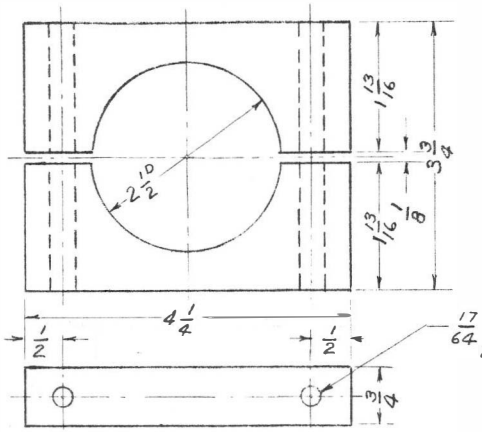
WM. E. SLABY



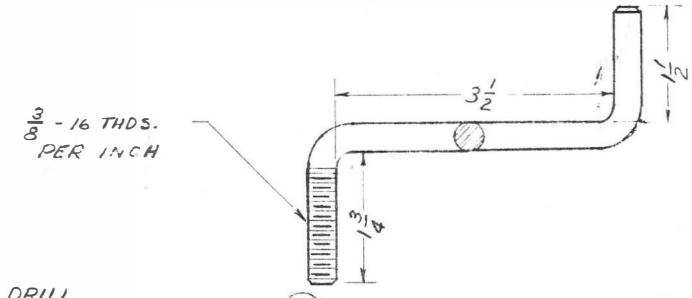
(21) MOTOR HOUSING TOP
1/4" STEEL



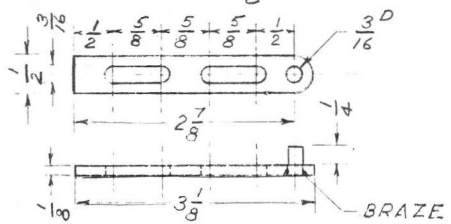
(10) SPINDLE
3/4" STEEL SHAFTING



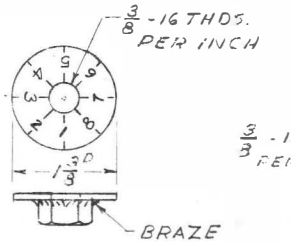
(17) MOTOR MOUNT BLOCKS
HARD MAPLE
2 SETS OF 2 REQ'D



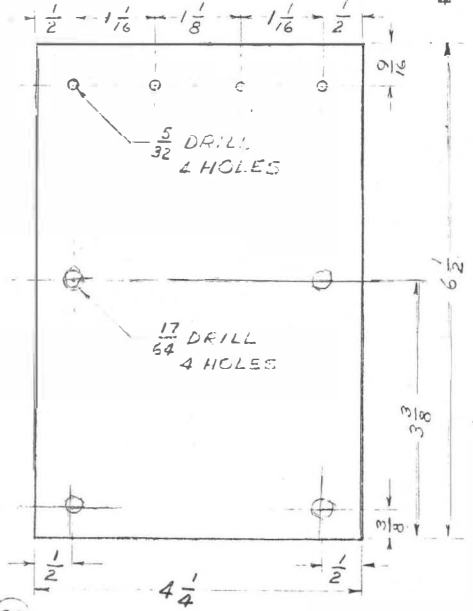
(1) SLIDE CRANK
3/8" STEEL



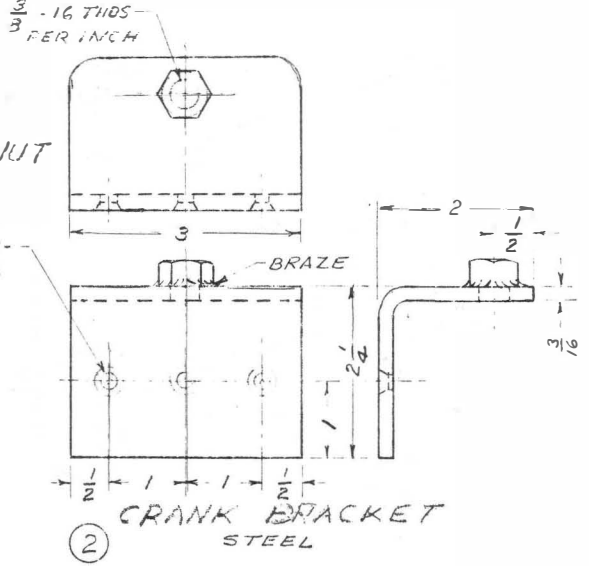
(32) PIVOT FENCE
STEEL



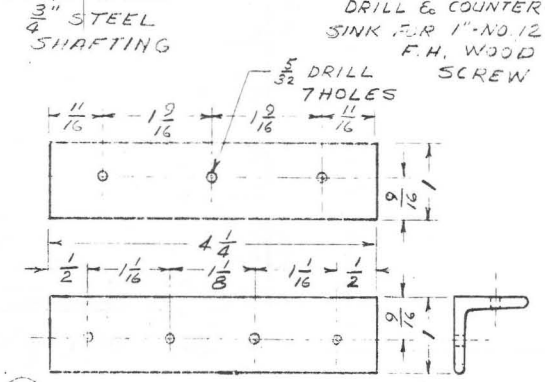
(5) DEPTH ADJUSTING NUT



(20) HOUSING FRONT & REAR
1/8" STEEL
2 REQUIRED



(2) CRANK BRACKET
STEEL

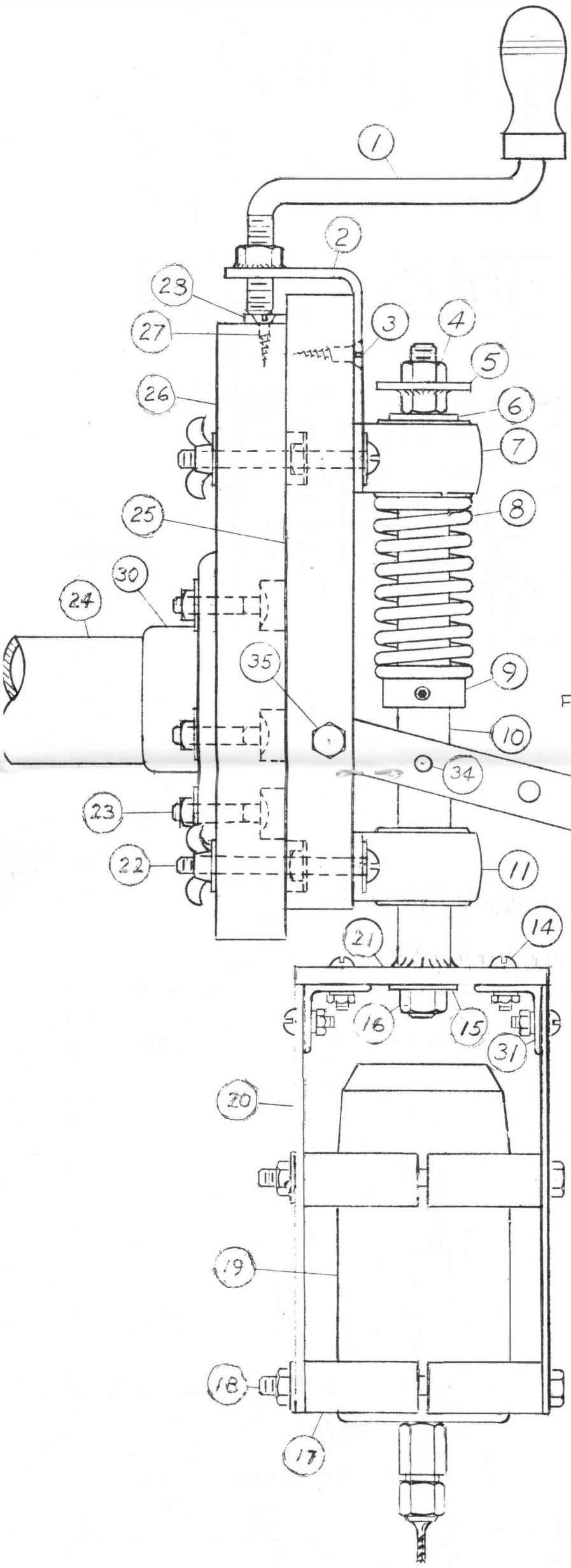


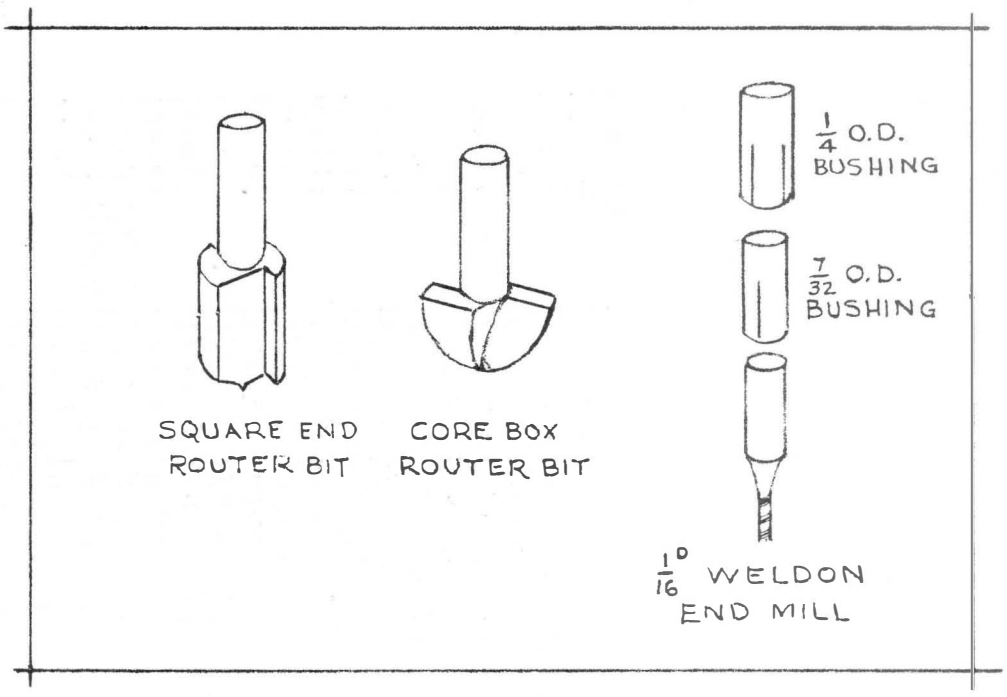
(31) HOUSING ANGLE IRONS
STEEL

OVERARM ROUTER

PLATE 3 OF 3

WM. E. SLABY



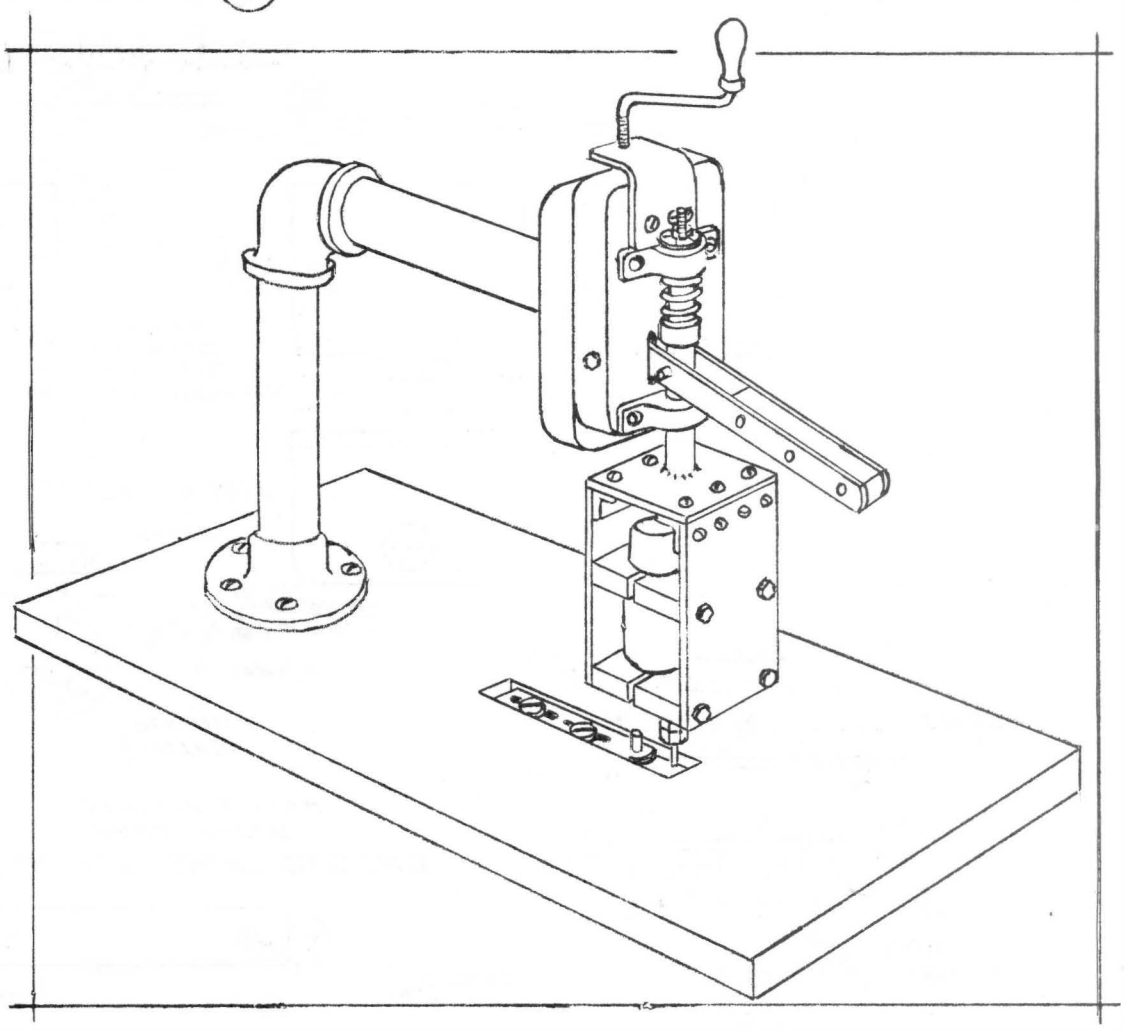


OVERARM ROUTER

FOR PURFLING, CHANNELING & EDGE THICKNESSING

PLATE 1 OF 3

WM. E. SLABY



BILL OF MATERIALS

Part No.	No. Req.	Description	Material	Size
1	1	Slide Crank	Steel	3/8D x 8"
2	1	Crank Bracket	Steel	3/16 x 3" x 4¼"
3	3	Crank Bracket Screws	Steel	1"-No. 12-F.H.
5	1	Depth Adjusting Washer	Steel	1/16" x 1 3/8"
7	2	Bronze Bearing Pillow Blocks		For 3/4" Shaft
8	1	Spindle Compression Spring	Steel	1 7/16D x 3"
9	1	Line Shaft Collar	Steel	3/4"
10	1	Spindle	Steel	3/4D x 10" Line Shaft
12	3	Rivets	Steel	3/16D x 1" F.H.
13	2	Spindle Lever	Steel	3/16" x 3/4" x 9"
14	14	Stove Bolts	Steel	1/8D x 5/8" R.H.
17	2	Motor Mount Blocks	Hard Maple	3/4" x 3 3/4" x 4¼"
18	4	Hex Head Machine Screws	Steel	¼D x 4¼"
19	1	Router Motor		See Text
20	2	Housing Plates	Steel	1/8" x 4¼" x 6½"
21	1	Housing Top Plate	Steel	¼" x 3 3/4" x 4¼"
22	4	Round Head Machine Screws	Steel	¼D x 2 3/4"
23	10	Carriage Bolts	Steel	¼D x 1¼"
24	1	Horizontal Pipe Arm	Steel	1½D x 11"
25	1	Front Slide	Hard Maple	1" x 5" x 9"
26	1	Rear Slide	Hard Maple	1" x 5" x 9"
27	2	Bearing Plate Screws	Steel	1"-No.6-F.H.
28	1	Bearing Plate	Steel	1/8" x 5/8" x 2"
29	1	Spindle Lever Filler	Hard Maple	3/4" x 3/4"x 6¼"
30	2	Pipe Flanges	Steel	For 1½" Pipe
31	2	Housing Angle Irons	Steel	1/8" x 1" x 1"
32	1	Pivot Fence	Steel	1/8" x ½" x 3 1/8"
33	2	Pivot Fence Screws	Steel	1"-No.14-R.H.
34	1	Spindle Lever Pin	Steel	¼D x 1 5/8"
35	1	Spindle Lever Bolt	Steel	¼D x 5½" Hex Head
36	1	Vertical Pipe Column	Steel	1½D x 11 3/4"
37	1	Weldon End Mill	Steel	1/16D x 3/16" Shank
38	1	Square End Router Bit	Steel	½D x ¼" Shank
39	1	Core Box Router Bit	Steel	½D to 3/4D x ¼" Shank
40		Bushing	Brass Tubing	See Text

Miscellaneous Nuts and Washers

4 3/8" - 16 Hex Nuts
4 ¼" - 20 Wing Nuts
4 ¼" - 20 Square Nuts

2 3/8" Flat Washers
14 1/8" Lock Washers
26 ¼" Flat Washers

Our Letter From Italy

I have just received the April-May Journal and was very glad to see it in excellent trim. The continuation of the Journal is the best memorial to our late friend Don. In this number, I have found an article which is of particular interest to me--it is Harold Briggs' suggestion of a longitudinal brace. The experiments which I am going to describe are for publication.

Once upon a time I was fascinated by very thin tops. The main trouble with them was a constant bulging of the longitudinal curve, so much sometimes that a crack appeared in the central joint. The obvious cause was tension of the strings. I experimented with the scroll angle and achieved some improvement. In one of the back numbers of your Journal you can find my article about this angle and the geometrical explanation of existing forces. These forces led me to analyse the effect they produce on the top plate. It is jammed between two blocks which are drawn together by the strings. If we regard the top plate as just a curved strip of wood its vibrational movement can be explained by the simple diagram of Fig. 1. When the bridge point A goes up and down both ends must go in and out as indicated by the arrows. The movement of the ends of the plate outwards is restricted by the tension of the strings working on both blocks inwards. This force is counteracted by pressure of the bridge downwards, but only partially. According to Heron Allen the end forces are 68 lbs. and the bridge pressure only 26 lbs. Therefore the belly is jammed and the movement of the ends outwards is restricted. We can actually ignore the bridge pressure as it is converted into vibrations when the strings are bowed. Hence we have only half of the possible movement of the belly used for the production of sound. Hearing of the brace stuck between the blocks increasing the power of the sound, I made a few experiments. The brace could counteract the tension of the strings, but if too tight will produce an opposite tension which is as bad as the first one. A fine adjustment therefore is imperative. I made the brace the length of which could be varied, as Fig. 2 shows. Opposite the ff holes I drilled a lot of holes 0.025" in diameter across the brace. A wire adjuster, Fig. 3, can be inserted through the right f and the brace turned. As the fiddle I was experimenting on was of no special value, I cut a hole in the right rib of the upper bout 3/4" x 1", so that I could ascertain the firmness of the brace in its seat.* The upper end of the brace was made hemispherical and the hole in the upper block to correspond. As the sole purpose of the brace was to counteract the tension of the springs, this hole and the other end of the brace were placed as nearly to the belly as possible.

(cont 'd. on next page)

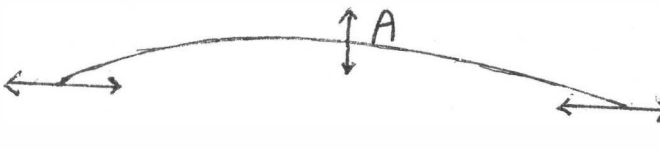


Fig. 1

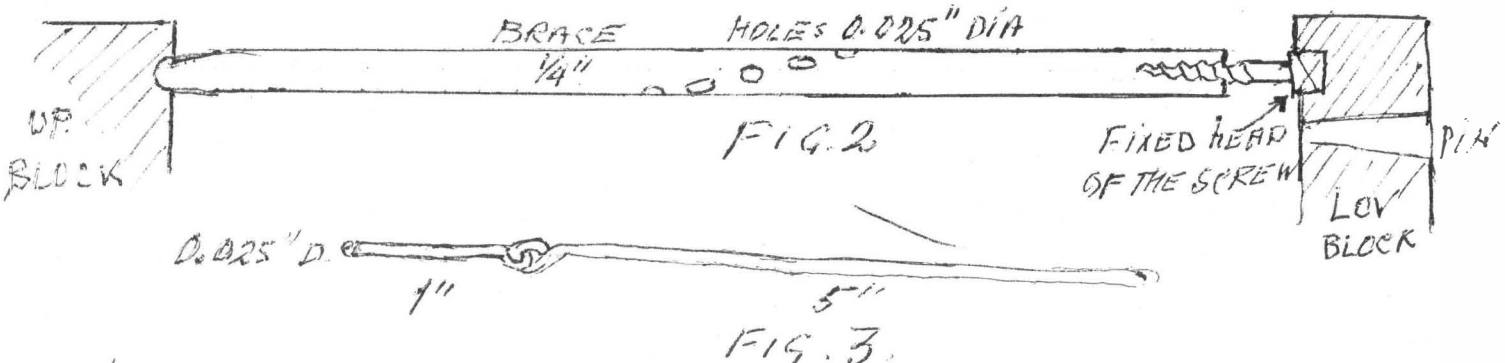


FIG. 3.

*) Interesting result of this hole was lowering of air resonance from D# to B on G String.

N. Nicholson

The final adjustment of the brace length is a very tedious job--it gives positive improvement of the strength of the sound at the right moment, but goes off if carried too far. It would also not stand one hour of continuous playing. My impression is that this device is cumbersome and not very reliable.

Another way to reduce the effect of string tension is to make the edges of the belly thick all round and let them take all the stresses imposed by the strings, leaving the central strip of the belly free to vibrate. I have made a violin on this principle and it is quite loud.

(Overarm Router - continued from p. 15.)

I shall not discuss construction of the machine in detail but will instead explain a few points that the drawings do not make clear.

The front and rear slides (part nos. 25 and 26) are necessary to give rough vertical adjustment to the tool. Since the three cutting tools are of various lengths some latitude in the vertical adjustment is necessary. The front slide has a 1/4" x 1 1/4" dado cut in it and the four holes for the pillow block bolts are counterbored from the rear. It will be noted that the pillow blocks are fastened to the front slide by the four square nuts which lie in the counterbore recesses. The bolts, however, pass right through the slots in the rear slide and serve as a clamping device, by means of the wing nuts, to hold the slide firm once it is adjusted.

The pillow blocks are manufactured by Congress and have bronze bearings.

The rear slide is, for simplicity, made in two parts. The 1/4" x 1 1¼" strip is worked to a sliding fit in the dado of the front slide, and is then fastened to the rear slide with the three 3/4"-No. 6-F.H. screws. The pipe flanges which I used have five equally-spaced holes in them. I note, however, that pipe flanges are not standardized, so do not drill and counterbore the holes for the pipe flange bolts until you have purchased the flanges.

The crank arrangement is largely self-explanatory. The bearing plate (part no. 27) is desirable to prevent wear on the end of the rear slide. The wood handle with a ferrule is for appearances only.

The compression spring (part no. 8), which holds the spindle down, I am told was an auto engine valve spring. If a shorter spring is used it is only necessary to raise the collar (part no. 9) on the spindle. The spring should be under slight compression when the spindle is in its most downward position.

The depth adjusting nut (part no. 5) is composed of a steel disc 1/16" x 1 3/8" diameter, a 3/8" hex nut, and a white plastic disc on which the eight numbered divisions are drawn in ink. The nut can be brazed to the disc using a propane torch, "phosgene No. 6" brazing rod, and "Sil-Flux" flux. The plastic disc is cemented to the steel disc with contact cement such as is used for fastening formica counter tops. The depth adjusting nut provides critical vertical adjustment of the spindle. One-eighth of a turn will move the spindle up or down 1/128". The jam nut (part no. 4) prevents the depth adjusting nut from turning when the machine is in use. It need only be tightened by hand.

The spindle (part no. 10), a piece of 3/4" steel shafting, is raised by the spindle lever (part no. 13) which works on fulcrums consisting of the 1/4" x 1 5/8" spindle lever pin (part no. 34) and the 1/4" x 5 1/2" bolt (part no. 35) running through the front slide. A shoulder is turned on each end of the spindle as indicated and 3/8 - 16 threads are cut on the shouldered sections. The housing is fastened to the spindle with a 3/8" nut and washer after which it is brazed to hold it securely. Be certain, for sake of appearances, that the front edge of the housing top plate is in line with the hole through the spindle before brazing. This brazing job necessitates an acetylene torch since it is too massive for the propane torch.

The two motor mount blocks (part no. 17) are each made in one piece after which they are cut in two on the circular saw. In assembling the housing place lock washers on the 1/8" x 5/8" stove bolts.

The 3/16" diameter x 3/8" steel pin in the pivot fence (part no. 32) is fastened by brazing. To do this, countersink the hole for the pin on the underside of the pivot fence plate. Braze on the underside and then file off flush.

The pivot fence slides in a recess cut in the table and is held by two 1"-No. 14 R. H. wood screws. The heads on the screws are filed off until they clear the table. It will probably be necessary to deepen the slots in the screw heads with a hack saw.

When the machine is completely assembled, the pipe joints should be made secure by brazing. Again

an acetylene torch is required.

The purfling tool is a 1/16" diameter Weldon Double-End End Mill. R. H. Cut, R. H. Spiral. Catalog Number XE 2-1. It can be obtained from a distributor in your area whose address must be obtained from the Weldon Tool Company, Cleveland 4, Ohio. The price is moderate. This tool is double-ended, but as such it is too long for the router chuck. Cut it in half on the circular saw using an abrasive disc and you have two purfling tools. Since the shank is 3/16" diameter and the chuck will only accommodate 1/4" shanks it is necessary to use a bushing. I used two pieces of telescoping brass tubing available at model airplane shops. One piece is 7/32" O. D. and the other 1/4" O.D. Cut four equally-spaced slots half the length of each piece of tubing.

The square end router bit and core box router bit are standard items available at any dealer in woodworking tools. They are made by Stanley, Porter-Cable and others. Sears sells a square end bit. The core box bits come in various diameters. I have used both 1/2" and 3/4" diameters and prefer the latter, but it is a matter of taste.

In use I first work the fiddle plate edge to thickness with the square end bit. I keep checking my work with a micrometer, and remove no more than 1/32" at a time. Next I cut the purfling groove. To prevent the inner corners from breaking off I apply a thin coat of Elmer's glue in this area. After the plate is purfled I cut the channel using the core box bit. I stop cutting a fair distance from each corner and finish the channel across the corners by hand. This bit tends to burn the wood so a light cut must be taken and repeated several times. It will not work with fibre purfling since the heat generated softens the purfling and causes it to peen over. For this and other reasons I prefer wood purfling.

Practice using the machine on a piece of 1/8" thick waste stock. Similarly, when adjusting the fence, use a piece of waste material. A ratchet-head offset screwdriver is a convenience in adjusting the fence.

In conclusion I should like to say a few words in defense of the use of machines in violin making. I know of many makers who frown on the use of anything other than hand tools, and they have my respect and admiration. I have always contended that a mechanic should be a master of the hand tools of his trade. And I pride myself in my ability to use woodworking tools. But once the fundamentals are mastered, I see nothing wrong in the use of machinery if it will save time and do the job as well as hand methods. We all know that in violin making a considerable portion of the work must be done by hand if a quality product is to be the result. (Bill of Materials and Diagram, see pp. 16-20.)

A B. C. MAPLE VIOLIN

by
Bill Thomasson
102 Municipal Bldg., Chattanooga,
Tenn. 37402, U. S. A.

You might report to the members that I have just finished, in the white, a violin using Vancouver, B. C. maple. It is a one piece back--fiddle back wood, and cut on the slab. I got it from David White.

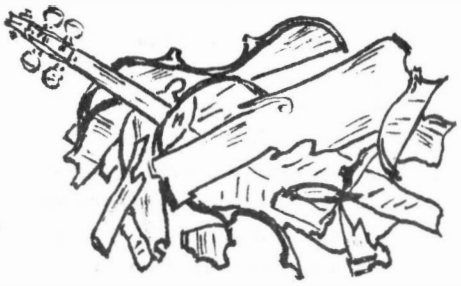
The tone appears to compare favorably with a good violin I have which was made by Amedee Dievdonni. I wonder if this man is not recognized as a good luthier? His violin is very well made, one piece, wide flamed, and Strad. model, it appears to me. He has apparently written his name on the under side of the top (in the upper bouts). It has a big brilliant tone.

My new violin has a thin centered top (7/64 at center 8/64 edges with the 8/64 extending part way under the fingerboard and below the lower F holes), and a thick centered back--(11/64 center tapering to 6/64 at edges--except left thick 8/64 (about) to match the top under the fingerboard).

I tried checking the top and back using Mr. Skou's microtones but am not too sure they are correct--at least they are approximately the same.

This violin, my seventh, is by far the best one I have made, and I feel I owe it to the help I have gotten from the Journal.

Thank you for keeping this publication in print.



Fiddle Fix.

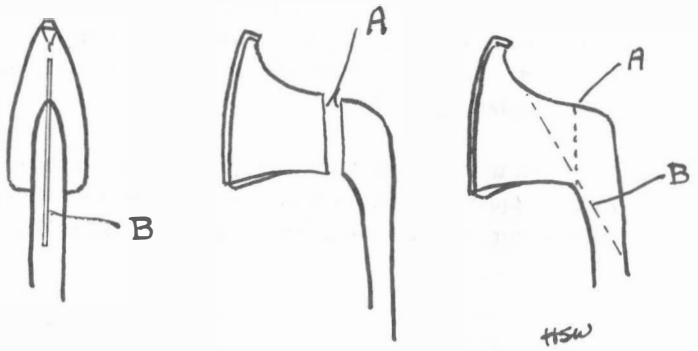
By H.S. Wake.

Bow Head Repair

Should a bow be accidentally dropped on its tip (this is how they usually land), particularly when the hair is under tension, the chances are that the head will break off clean in the area adjacent to the stick as shown at A-A in the sketch; under ordinary circumstances when this happens the bow is finished because the pull is so great at this point that ordinary glueing will not hold it, and also it is most difficult to devise a method of clamping the two parts together; usually in the past it was customary to discard the broken off head, trim the stick to a long taper and splice on a new head with the taper continuing down the stick for about six inches. This type of repair would usually hold because of the greater contact surface area for the glue, but the operation is most difficult to perform because the pernambuco wood contains a natural oil, or has absorbed a certain amount of oil over the years and this makes the glueing difficult; then the new wood has to be stained to match that of the old stick, and finally the head must be shaped to the exquisite curves of a master craftsman; now if this is not accomplished the identity of the maker is lost and the new spliced end of the bow will stand out like a sore finger; no matter how well this work is done it can always be detected and even though we are not trying to deceive anyone into thinking that it is a perfect bow we do want it to look as perfect as possible; however, no matter how good a playing stick it may be after the repair, it will have depreciated in value by at least fifty percent. We are fortunate in this age of endless wonders that we have the 'miracle' cements for jobs like this, and through their use we now don't have to make the long splice mentioned above; furthermore, we can save the original bow head, make a repair that will hold for the life of the bow and can barely be seen, and best of all retain the original 'character' of the master bow maker's art.

You will need a very fine toothed (25 per inch) thin blade small tenon saw. The 'Exacto' company put out a pair of these with detachable handle. They are cheap and good. You will also need twin tubes of 'Epoxy' glue and about one square inch of hardwood veneer. This veneer is about forty thousandths of an inch in thickness, so with a little sanding it will fit snugly into the sawcut; but we're getting ahead of ourselves.

Prepare a small quantity of the 'Epoxy' by squeezing equal amounts from each of the two tubes and mix thoroughly with a toothpick; spread a thin coating on each surface of the break on the bow head indicated at 'A' in the sketch; press the two surfaces in contact with one hand and



while doing so wipe away the excess glue that oozes out with a damp cloth. This is most important because after this cement has set it can only be chipped off and this would surely damage the head. No clamping will be necessary, just make sure that the two surfaces are in proper contact. Squeeze them together and set aside in a safe place for eight hours with the ivory face uppermost.

You must now devise some means of securely holding the stick in the vise with protective packing around it so that a clean saw cut can be made as shown at B-B; this is not as difficult as it looks and a clean start with the saw can be made if a small nick is cut first right at the peak of the head. With this much accomplished it remains now to sand down the piece of wood veneer so that it will push snugly but not tightly into the slot you have cut. Now with a pair of sharp scissors cut the veneer diagonally across the grain and try it once more in the saw cut. You may have to trim the angular cut a little to bring the insert so that the grain will run at a right angle to the grain of the bow head; if everything looks right you can now mix up another small quantity of Epoxy. Work some of the cement down into the saw cut and spread thinly on both sides of the veneer insert.

press this now right down into its place and as before carefully wipe away all oozed out cement with a damp cloth and leave for at least eight hours to set. Now with great care you must trim away the superfluous veneer wood and with a very fine pointed brush stain the new wood in the bow head to match the surrounding area. Polish with oil and rottenstone on a piece of felt and your job is done. As a final note, the word 'Epoxy' I believe means 'without Oxygen', indicating that the cement does not need oxygen from the atmosphere to complete the drying process. However, it is well to leave the repair for a couple of days or so before rehairing and putting any tension on the stick.

Harry S. Wake.

Bow Tip Repairs

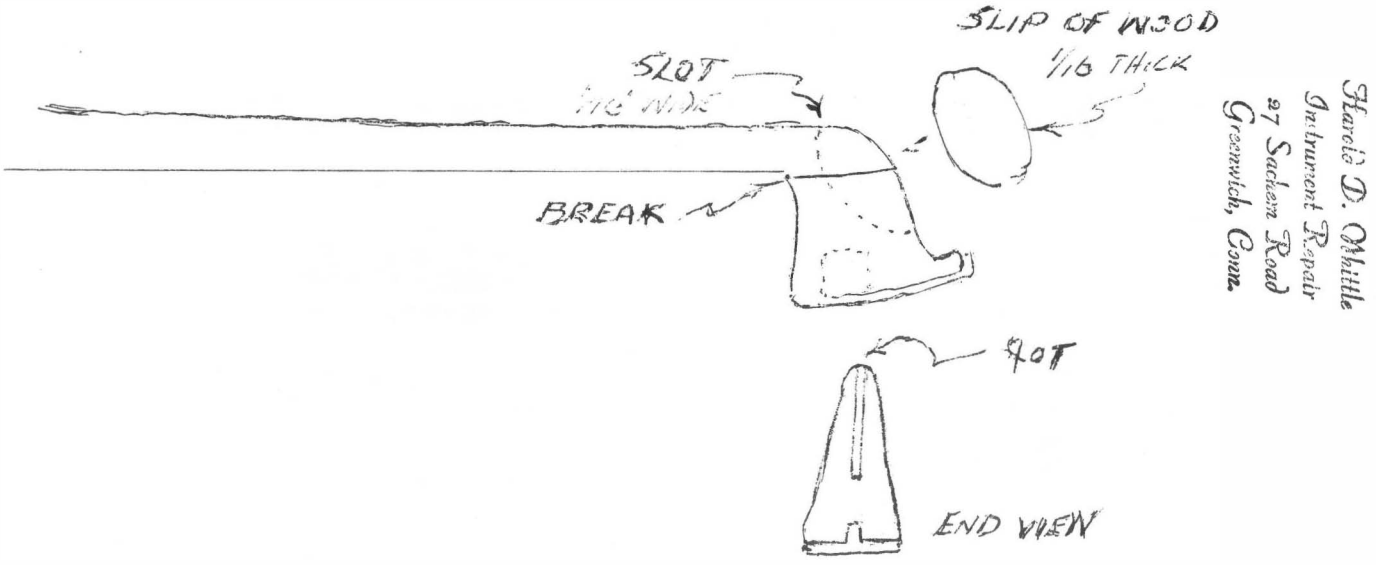
I have been repairing instruments for about ten years, but have yet to make my first violin. However, I do have the forms and have bought some wood, so you can see that the bug is about to bite.

After reading some of the scholarly and professional hints and discussions in the Journal, I hesitate to add my feeble efforts, but here is one hint for what it is worth.

I do considerable school instrument work and the students are particularly hard on bow tips. Until recently, I found them almost impossible to repair because the oily pernambuco wood did not glue well. I find, however, that if the joint is washed liberally with acetone before gluing, the results are excellent. Also, I use a flexible shaft grinder with a small saw blade to cut a slot in the end of the bow. See sketch. Then I glue in a slip of wood, either walnut or mahogany, with the grain at right angles to that of the bow. This actually makes the tip stronger than the original, and doesn't affect the bowing quality at all.

Keep up the good work!

Harold D. Whittle
27 Sachem Road,
Greenwich, Connecticut



An Alcohol Lamp

A small alcohol lamp finds many uses in the shop, particularly in bow rehairing for burning off and sealing the ends of the hair after cut-off; these lamps are expensive to buy and are larger than is really necessary for this work, so why not make your own lamp of a size to suit your needs.

Take a small open mouthed bottle or jar of about two to four ounce capacity having a screw on metal cap; a vaseline jar is just about right for this. Punch a small hole through the center of the cap (c Fig. 1) from the outside. We will open up this hole later. Now look through

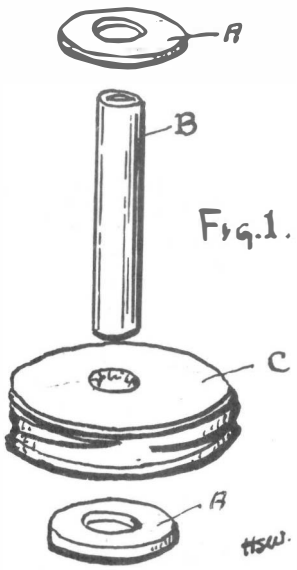


Fig. 1.

Fig. 2

your junk box and find a piece of thin walled metal tubing about a quarter inch outside diameter, and one and a half inches in length (b Fig. 1). You will also need two washers (a - a Fig. 1) to slip snugly over the metal tube. Open up the hole in the cap and insert the tube, place the washers on the tube, one on each end and push them in close contact with the cap leaving about a half inch of tube to the outside, secure the assembly with 'Epoxy' cement. When this has set it only remains to push a tight bundle of common white string through the tube and cut off short on the outside leaving sufficient length on the underside to reach the bottom of the bottle (Fig. 2). Fill the bottle two thirds full with alcohol and go to work. Any type of small cap placed over the wick will prevent the Alcohol from evaporating when the lamp is not in use.

Harry S. Wake

BUILDING A STRING BASS

by Rev. Geo. R. Wright
4163 Sophia Street
Vancouver, B. C.

Part 1.

I have had a strong desire for many years to build a Bass Viol. In fact I made a start in 1912, but never got beyond going out into the woods and cutting a big spruce tree down; then cut a block out of it at about 80 feet up the tree. Also split out a few wedges which my helper took to his home to put away for seasoning. Then, in 1913, I moved away from that area and have never been back, nor seen my friend since.

So this fall I realized that if I was going to build a Bass, I had better get started, as I am in my 80th year.

I did not know anyone who had plans and specifications for a Bass and I didn't like the price one has to pay for them, so decided to go ahead on the "Fit and Try basis".

To start with, take an old, green window blind and cut off a piece 4 ft. long. Then find someone who has a Bass. Lay out your window blind on a smoothly made bed. Lay the Bass back down on the window blind and press down so the edge of the Bass touches the blind all the way round.

I used a white lead pencil, fastened to a small, straight stick, long enough to touch both edges of the back and belly, so as to transfer a true image of the outline of the Bass on the blind. I traced all the way around, although you only need 1/2 the outline.

The following photos will be self explanatory.

No. 1 shows full shape of Bass, drawn on window blind, and cut out. Notice - left side is cut out 3/8" smaller than the right to provide proper size to make the form.

No. 2 - is template of 1/8" plywood, of one half, taken from the window blind.

No. 3 - is back of form made from template, of 3/4" plywood, with lines marked for internal framework which is fastened in place with 1 1/2" screws.

No. 4 - shows top end of forms, cut off to be replaced by end block.

No. 5 - is cage, which forms a back-bone for strength, made of 3/4" Spruce. Notice the slots in sides to provide a way to use screwdriver, to fasten corner blocks to the backboards, for supports.

No. 6 - shows cage in place on back of form, which provides a backboard at each end for the anchoring of both end blocks, into which is inserted 5 - 1 3/4" screws.

No. 7 - shows 4 corner and 2 end blocks, ready and fitted to be fastened into position.

We will mention the dowl pins later.

No. 8 - is neck and scroll made of two pices. This simplifies making the peg box, also gives a definite centre line on both sides, for guidance.

No. 9 - I featured this centre line, by inserting a strip of black walnut veneer in it.

No. 10 - shows the backboards, to which are fastened 5 - 1 1/2" screws.

Notice - Be sure to square everything with the back of the form because that is the foundation of your job.

This should suffice for Part One.

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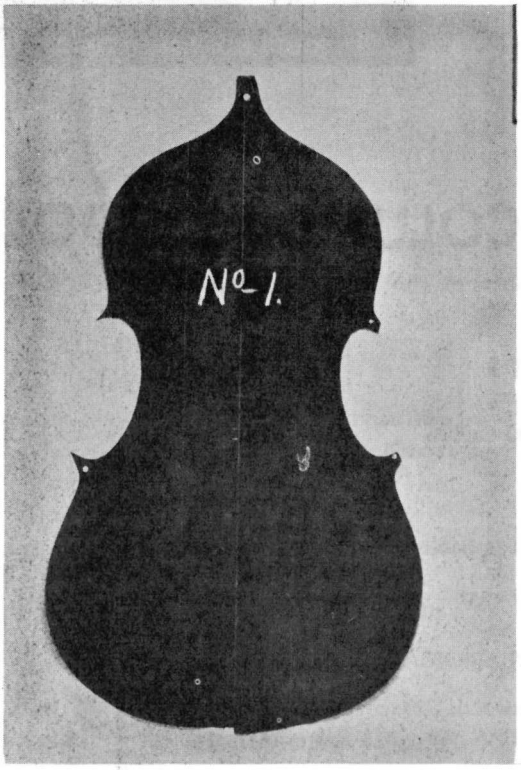

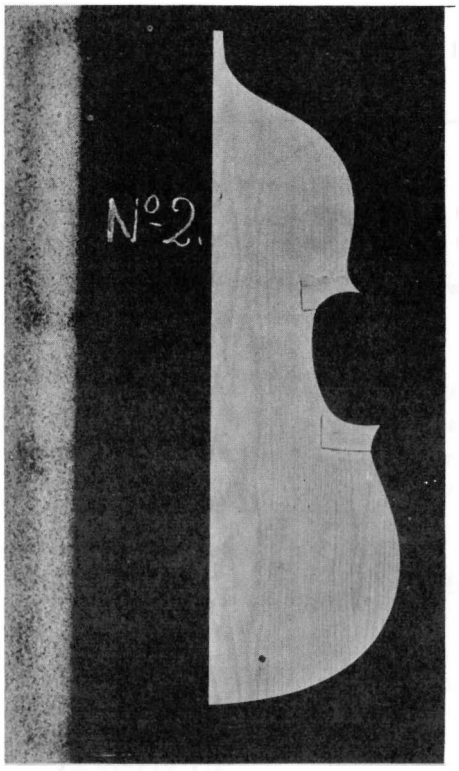

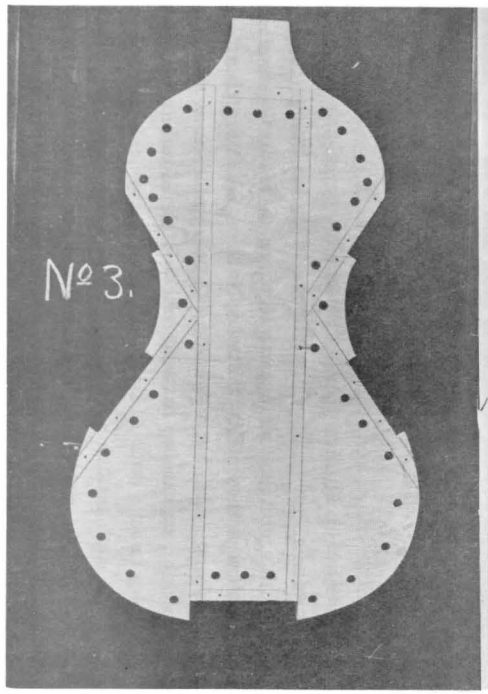
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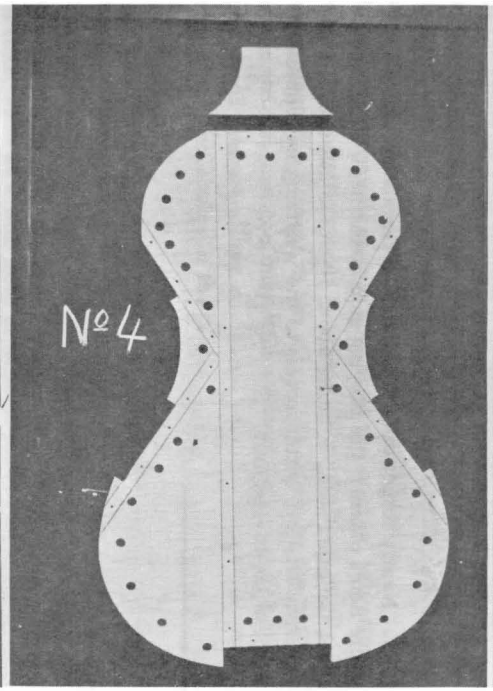
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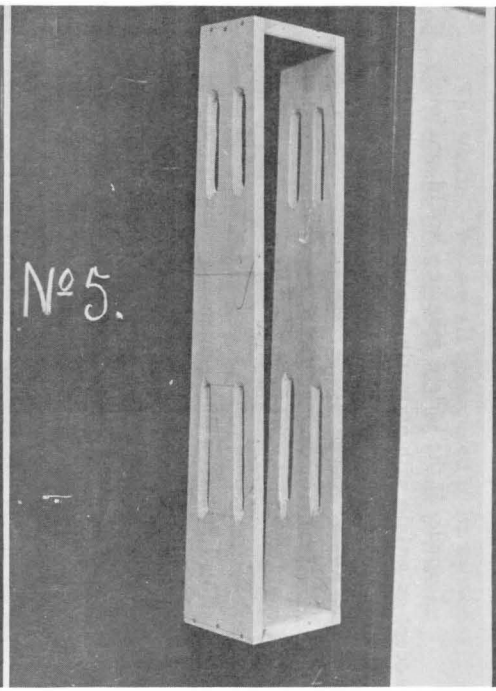
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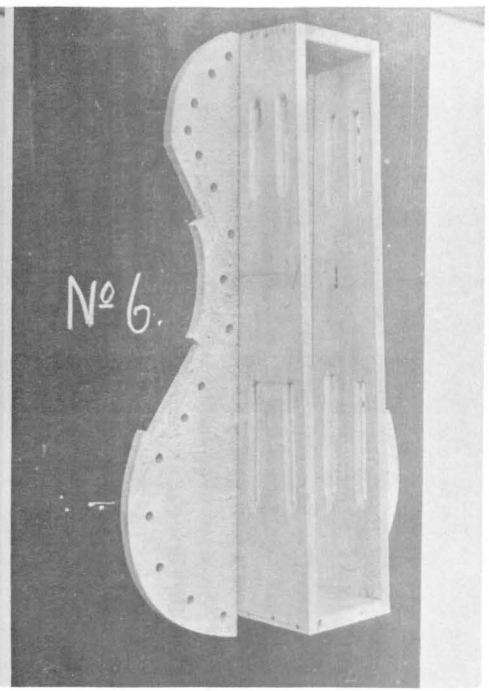
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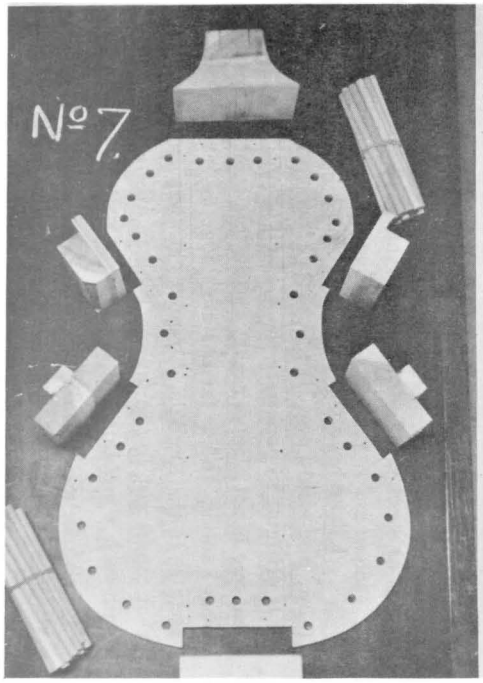
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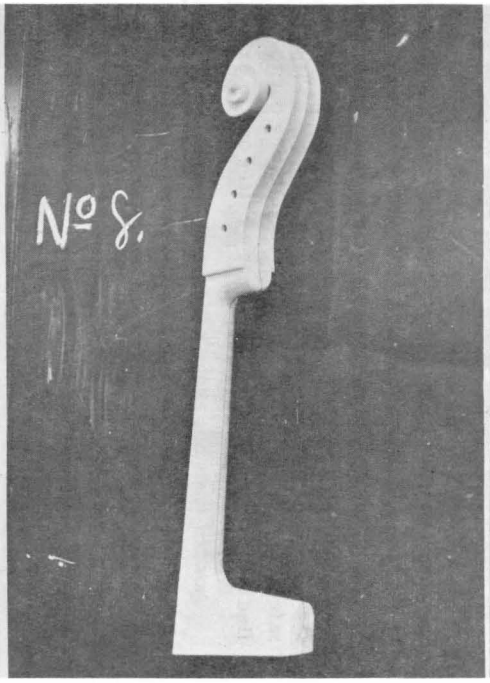
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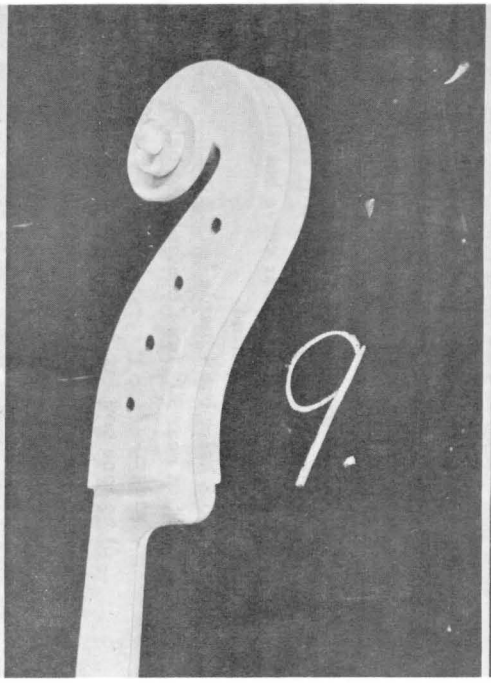
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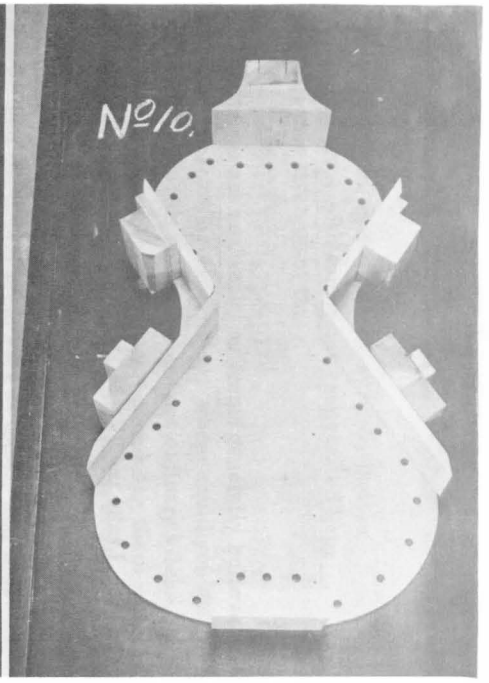
№10.

A PATENT VIOLIN

by

J. V. Battram
3304 Military Street,
Port Huron, Michigan

I take the "V. M. J." for the purpose of learning enough about this hobby to keep my instruments in adjustment--not to make a new one. After toying with stringed instruments for years I have found and own a violin made by a grand-uncle. He patented some radical features in 1904.

1) no scroll--but capo-de-astra for raising pitch.
2) 5 strings
3) aluminum headed pegs that still bind.
4) fingerboard with regular curve but tilted toward playing hand.
5) no F holes but 4 maple leaves cut out at about 6" at near 90° from center point below the bridge.
6) no tone post but 2 holes about 1/2" dia.; one behind each bridge foot and inside a yoke shaped tension bar regulated by a screw that goes through the back-head outside.

A violin maker could find other deviations no doubt from the outlines and dimensions of the regular violin.

If he made one, which he gave to a nephew, it is safe to say, he made others. I am soon setting out to find out from cousins if there is not a better one in existence. If this search turns out as I expect, I might prepare an article on the "All Canadian Fiddle" with tongue in cheek. I certainly don't expect "Italian-tone" and I wonder if it has any volume.

I wonder if the serious members would graciously accept an article with no motive except the humor of the situation.

Notions are commencing to churn within so that I just could attend the Western Exhibition next August, for I am a born Canuck with a foot on each side of the International Boundary line. Been attending Toronto "Ex" for years. Get to Stratford Festival for one week end each summer as well.

Western Exhibition--Why not? Could carry uncle Ben's fiddle along.

Good wishes,

J. V. Battram

P. S. Nearly forgot one of the most noticeable features in uncle Ben's patent: the playing side at the neck does not meet the other side, it being about 1" shy to allow the "country fiddler" better access to the whistling harmonics--ne cest pas-bi-lingual.

VIOLIN PROBLEM

by

Wm. Kirkwood
2 Canmore Street,
Forfar Angus, Scotland

I have been pondering over the violin's many problems, and would now like to write some more about them. It is difficult to penetrate the violin's scientific aspects and one is not always right, and in this respect I just write what I think, and as far as I can judge by reading the articles in the Journals, I cannot get away from the fact that others just do the same. We can all be a bit wrong with such a problem; all the same it strikes me strongly, how in this day and age the workings or aspects of the violin can be viewed in what is apparent traditional thought.

What an illusion again it seems to me, that the adherents of this thought when viewing a violin being played. Its plates must appear to them as dead as a door nail, although they still adhere to, in imagination at least, that they are somewhat vibrating, though not seen as such, as something pertaining to those of a visible nature.

In such traditional thought there must appear a sort of a blank, something not admitted, or admitted with reluctance, and still clinging to the idea of vibrations

of a general known nature. This is all very well, as some express their views, they don't want to bring in too much science, others if the violin's real scientific aspects were known it would spoil all pleasure in violin making. For their comfort I can only say it will be a long long time before such can happen. Old Strad must have been a mighty genius of away back in his time; he knew all about it, as some seem to think. I have no grudge against the old masters, the words from Gray's Elegy may be approximate to many of them: "Fair science frowned not on their humble birth and Melancholy marked them for her own."

The violin. We are all enshrouded in its mysteries and what is the use but admit it, but by sound persistent thought these can be penetrated. Nothing is ever denied a well directed effort, but there is no use sticking to what seems well worn out thoughts about it. These should be apparent to everyone. In an abstract sort of way electric devices may tell much, but these are not just a telescope, showing up the very nature and shape of its various waves, how they can cross one another without interference, permitting any number of notes to be played at the same time, which would be impossible with ordinary known vibrations, where in opposite phases they would kill one another.

Many have it that the resonances of the plates and of the contained air reinforce or amplify the vibrations set up by the strings. This is a wrong or a mis-statement, the plates cannot reinforce or amplify the vibrations set up by the strings, but act as a unit of amplification, inherent in themselves, but not above the original vibration strength of the strings. As for the contained air, it won't even reach the strength of the vibrations set up by the plates, or the strings, and can only take a strength of what its proportion of pressure allows compared with the far greater pressure of the molecules in the plates.

Vibrations of a free or foreign nature cannot occur in the plates and in the contained air of a violin, only the vibrations delivered to them by the vibrations of the strings, unless those of an accidental nature, out of period or tune, such as a wolf note or at least part of it, nothing free containing similar periods of any notes or partials can occur.

Literary as regarding amplification in the strings, plates, and contained air, traditional thought is somewhat vague. I have never come across anything concerning their respective and perhaps various relationships, and it seems to me there must be a lack of thought somewhere; surely it must be apparent that these have different characteristics and not fully brought forward or discussed, so are the molecules, sort of half believed in then pushed gently aside.

Does it not seem that tradition is very well filled up with discussions on wood, fillers, varnish, Italian wood and tone, etc.; with somewhat exaggerated haps between the worst and best of these.

The strings are not weak, as seems generally believed. Talk about verification by experiment, where could you get a better verification that the plates are not ordinary vibrations (and that in the violin itself) than comparing them with the vibrations of the strings which are themselves ordinary known vibrations. Surely this must be grasped somehow as all the sound originates in the plates, which seem dead to one's vision, and the strings seem void of sound, and with their strength and force the cause of the sound. As I have said before, you can get force and strength without sound, and you have it here in the strings, whose molecules are only yielding and have no right molecular disturbance as in the plates, which are too rigid by being bound by ribs, blocks, etc., to give this yield without sound; the only source of all sound.

What about violin design itself. Well, for one thing, the size of the violin is important. I feel fairly sure few realize this in its full impact. If of the right size it has a double benefit; it fills up the plates with a stronger force of vibrations and insures that the plates themselves are of the right firmness, where if they were of a larger size they would be more loose, and if smaller they would be too firm. These apply, of course, if the plates are of the right thickness in proportion to their size. Take an exaggerated example, put the violin strings on a cello, say they could be set up somehow exactly as in the violin, 13" length of strings, etc., etc. What would happen? The vibrations would have a pretty scattered, long and free run to the edge of the plates, and by that time they would be pretty weak with little power or reflection for returning (these cannot go over the edges and must exhaust their own force), whereas with a violin of the right size, the vibrations when reaching the edges would be reflected back, and that in opposition without hinder, and fill up the plates in equal or about equal strength throughout, but not above the strength delivered by the strings, the reason for this being, the vibrations have a freer run and are under the string strength until they are reflected back from the edges.

How could the strings transmitting their force to the plates be exceeded in strength by the plates? A bit impossible, isn't it? as the waves given by the strings would lag in strength behind those of greater strength in the plates, and this imagined greater plate strength would die out, although their respective wave amplification would remain the same.

What I have said about amplification and all I have just said following are just my own thoughts concerning these, and anyone must just judge for themselves, but I cannot help feeling myself, I am even more than substantially right. To anyone's senses and vision the plates look

perfectly still. When you place your finger on them when the violin is being played, or even when it is not being played, but another violin being played beside it, you will find what you think is an appreciable rise in the plates. I am certain this is an illusion. What is happening here is that the molecules in the plates are acting with or vibrating with the molecules in your finger. What do text books on sound say about the violin? Very little, if they approach its vibrations. What they say is undoubtedly short or vague. What did Savart and other eminent acousticians say about it? It is believed generally that these eminent acousticians unravelled a lot. Well, if they did we should hear a great deal more of what they unravelled, because it seems that all we hear about them is some such remarks, as of their great help to the understanding of the violin without much depth of real knowledge to show its various real principles and also to make it interesting.

What does even the dictionary say about resonance ("or sound), echoing, resounding, continuing to sound, reinforced or prolonged by vibration or reflection; (of bodies, rooms, etc.), tending to reinforce or prolong sounds especially by vibration." Note here it is very cautious when it says reinforce, but still thinks resonance can be reinforced, meaning I take it to be the original vibration strength or transmitted strength, or inherent in any particular part by exceeding its own power, which seems an illogical muddle, but apparently accepted by tradition, somewhat analogous to perpetual motion which is impossible. The original vibrations cannot be exceeded in strength by the vibrations it transmits, such as in the case of the violin strings transmitting to the plates. Reinforcement and resonance would seem to one an intermixture as far as being understood by many, who seem to believe as I have said before, that reinforcement occurs in addition to a vibrations actual or transmitted strength.

How is the seemingly wrong traditionally idea of violin vibrations persisted. Simply because there is an element of truth in the matter and tradition seems to stick to that. Put it this way, this fact must persist or we would not get molecular vibrations. It is the tendency of the violin plates to vibrate as ordinary, that forces the molecules to take over and they could not do that without this tendency, and follow in a way the same path as ordinary vibrations, although they in a measure have greatly different characteristics.

Say we had a medium of matter in length with gradually increasing elasticity or density (density with the same nature or properties). We can get the same density with different elasticity, right from the nature of the violin strings up to and beyond the elasticity required for violin plates (but not beyond what we would constitute as wood) each variation upwards, would have more molecular action, and less lateral swing or amplitude until it reached what constitutes the violin plates. Beyond that we would get more molecular action and even less swing or amplitude (we would be approaching more solid wood) than required for the violin. (We may call this a third phase, where we would be approaching a higher velocity of molecular travel, with a consequent reduction of sound, and also approaching the molecular speed of 15,000 feet per second as in solid wood. (Violin vibrations don't travel at that speed or velocity). In the strings we don't hear the molecular action but we see the vibrations, and in the violin we hear the disturbance of the molecules but lateral swing or amplitude is not visible, and is negligible, and of molecular dimensions only.

In any position upwards on this length or graduation I have just mentioned, or just when you come to the faintest audible sound, these sounds would all be we may say, violin vibrations, although you would see the soundless ordinary visible vibrations of the strings.

Well, these are my thoughts and I don't see where anyone can dispute them if they really understand what I mean. (It is a difficult subject just to be logically correct owing to its intermixed nature) but surely if the strings have lateral expansion or amplitude with no sound, and if this lateral string expansion dies out gradually on an increasing medium of elasticity until it reaches the mature of the violin plates in this respect, or even above them, with no lateral expansion, then it must be clearly apparent to anyone that the sound cannot be caused by lateral expansion alone or just ordinary known vibrations. Logically I admit my statements may seem a bit contrary but not if you understand what I mean and to give a more definite meaning may bring in complications. Further, these laterless plate vibrations are the only vibrations which will create violin sound. <u>The molecules;</u> again note the strings in this connection <u>no sound.</u> Further note the contained air in this connection also; no use without the drive of the plate molecules. Air waves alone with little molecular action, such as caused by a fan or likewise have little sound. What about the contained air, as many believe, reinforcing or transmitting power to the plates. Well, excuse me, but it would be like someone hammering on a large log with a boxing glove.

I have written this article on the violin, but don't claim perfection by any means and would like to hear the views of others.

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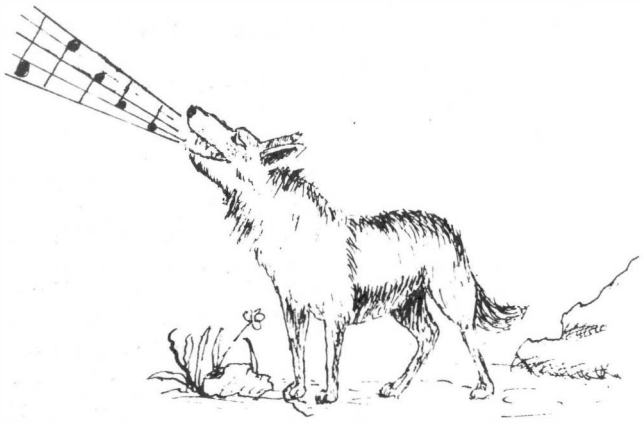
Wolf Notes

by The Editor



41 Butterfield Place,
Brockville, Ont. Feb. 11/64

Dear Mr. Cooper:

You will find enclosed my check for $4.25 for the Journal for 1964.

I have recently purchased a Phono record released by Decca number dxe 179 entitled "THE GLORY OF CREMONA" and in my opinion it is truly so. It is played by Ruggiero Ricci on 15 different antique violins (Andrea Amati 1560-70, Nicolo Amati 1656, five Joseph Guarneri, six Antonio Stradivari, Gasparo de Salo, and Carlo Bergonzi. The solos are classical and a different number is played on each instrument with piano accompaniment. A small 7" bonus record is included on which the soloist plays a short phrase from Violin Concerto in G Minor (Bruch) on each of the fifteen violins.

I think this record is the answer to a violin maker's prayer, in that it will give him the opportunity to hear and compare these instruments at his pleasure. A short history of each instrument is included and the insured value of the 15 was 750,000.00.

The record is available here in the east at 4.95 or if the association is interested I can arrange for them to be obtained wholesale in lots of ten at 3.71 each.

I am a rank amateur having just completed my third violin. In this one I have used sitka spruce for the front, bird's eye maple for the back and Canadian black cherry for the ribs and scroll. It is sealed and varnished in the clear and it is really a beautiful instrument. Tone is good.

It is a Guarneri model as described in Heron Allen--Violin Making as it Was and Is. Have made arched patterns from the drawings and with the aid of a homemade parallelagram and a router I can make the plates ready for finishing quite quickly. In the same way I can rough out the scroll. With an outside mould I can use the router to cut the purfling channels in a matter of minutes.

I use ready made sealer and varnish because I think that present day know-how can prepare a better product than any amateur. I use eight coats of varnish, rubbing down every other coat. This preserves the edges. May I say that perhaps too many of the articles in The Journal may have a tendency to discourage a great many from enjoying the Art of Violin Making.

Yours very sincerely,
"Fred T. Shaw"

P. S. I have also made up a unit salvaged from an old violin playing machine in which the violin can be placed securely and adjusted so that all four strings can be played at one time by small electric motor. One hour on this is the equivalent of ten hours hand playing and maybe is the reason I am able to get good tone in a short space of time.

* * * * * * * * *

A reply to Mr. H. W. Ratcliffe - March 16th, 1964

On page 12 of the June-July issue of the V. M. J. Mr. Ratcliffe commented on my article "The Case for the Modern Violin" and while I must admit that it is comment I am seeking in order to learn the thoughts of others on this controversial subject, I had hoped to see comments from readers who would try to understand what it took me so long to say.

Mr. Ratcliffe remarks that I stated an aversion to common rosin without saying what my aversion was; this would be indicative of the fact that Mr. Ratcliffe has looked through my contribution without reading it, and I suggest that he read it again with more diligence.

For his guidance, I nominate the following parts relating to his statement that I denounce common resin without saying why:

June - July issue: page 23. par. 6.
Sept. - Oct. issue: page 31, par. 5/6.
" " " page 32, par. 2 and 7.

To quote Mr. Ratcliffe, he says: "He goes on to mention a

resin which has all the necessary elements".

At no time did I claim that these elements were necessary, but reiterated the claim of Joseph Michelman that these elements are a means of identification for establishing the origin of the varnishes which contained them, namely, the varnishes of Cremona. These elements are contained in Gamboge in the form of air-borne impurities, and are not present in any varnish made from colophony, which eliminates this cheap material as a basic ingredient of the Cremonese varnishes; I therefore claim that any varnish formula which do not contain these elements, and which are prepared from common resin, are not consistent with the old Italian varnish.

Mr. Ratcliffe continues: "It is the colouring that is the difficult part, etc. etc." The substance of my whole article was related to the colour problem, and I have stated that the red colours of the old varnishes were not added to the formulae in the form of pure colours, because no such substance ever existed. These colours (the reds) were the result of metallic elements in contact with the gambogin (mainly copper and magnesium) and I went to considerable lengths to show that Gamboge is the only natural resin which reacts with the metals to give either a red or brown colour - every other resin gave a green reaction. If Mr. Ratcliffe can prove me wrong in these statements, I will be glad to retract all that I have said on this subject.

I would herein like to join with Mr. Ratcliffe in his estimation of Joseph Michelman; at no time have I endeavoured to ridicule or denounce a man who must be considered foremost in these matters; I am merely trying to reconcile two extremely conflicting quantities. Mr. Michelman has nominated these "Tell tale" key elements as belonging to that great period of glory in the violin making art in Italy of long ago, and yet he favours common resin as the basic ingredient, which does not have these elements present. If this is not an anomaly, would someone please explain and end my confusion!! I must admit that it has not been my pleasure to read his book, but have read all the articles published in the Strad Magazine, the Scientific Journals, and, of course, the V. M. J., and maybe I have misunderstood or misinterpreted his statements.

If this is the case, I would appreciate being corrected.

Most sincerely,

"Ced Welstead"

THE ROMANCE OF FIDDLE HUNTING

by

Bertel Skou
822 Jimeno Rd.
Santa Barbara, California

I started with a 75 cent broken, unglued French factory violin, condemned by the U. S. Army. The numerous pieces were taken to a violin shop in Manila, Philippines. When put together the bill was $8.50, and the tone was good.

I asked a Filipino who played in a cinematograph to break it in. He not only did this but took it with him, when he shortly thereafter went to Saigon, French Indo-China, without telling me. He findally came back for a visit, and when I heard of it, I went and got my fiddle. He was then forced to fall back on his old Jacopo Brandini.

I then imported a fine Marc Laberte from France, which came in a sealed zinc-lined case. This instrument I lent to another Filipino to break in. He soon returned it and begged me to lend him the restored 75 cent violin. He said it had carrying power, which the Laberte lacked.

It seems I will never get any sense, because he then proceeded to leave the country and took my violin along without my permission as did the other musician. He played a while in Hongkong, then in Shanghai, and finally settled in Kobe, Japan. There I traced him down several years later when I returned over Siberia from a trip to America and Europe. He promptly handed over the violin when I went to a cabaret out in the country where he played. Later on I sold it to an American in Manila.

The first musician I mentioned went back to Saigon and after some years got into financial troubles. He then borrowed $100. on his fine old Italian violin and a gold and tortoise shell mounted French bow from the Filipino pianist in his orchestra. This pianist went back to live in Davao, the most southern city in the Philippines. I learned he would sell the violin and bow for what he had lent the owner, who was unable to redeem it, so when my assistant went there on business, I gave him a check for $100. to pay for it. He, however, brought the check back and said the violin was worthless because it had become unglued in the humid

tropical climate, and a mouse had enlarged one of the f holes so it could get in and build a nest. A year later I went to Davao and was glad to get the pieces at the price asked.

Whenever I crossed the Pacific on a President liner I always arranged to take daily violin lessons from the orchestra leader. He would then visit me in Manila when his boat got in port after I had returned. On one of these visits I showed him the pieces of this old Italian violin. He recommended a skilled Russian violin repairer in Shanghai; so I let him take it along and leave it on his way to San Francisco and bring it back repaired on his return. He played it from Shanghai to Manila, and when he brought it to my house he started to shout from excitement at a distance: "This violin has a human voice; it is the best instrument I ever played." Due to the great depreciation of the Chinese dollar, the repair bill was less than $20.

When at the end of the war the Americans were forced to burn the city of Manila to get the Japanese soldiers out, this violin along with most of my collection went up in smoke.

From the above you will understand that when a Jacopo Brandini violin was advertised for sale in Santa Barbara a few years ago I was interested. I only had a few minutes to try it, and the owner had no certificate that it was genuine. In spite of this I foolishly made an offer of $150. against the $250. asked and got it.

It turned out later not to be a genuine Brandini and it had a booming C on the G string that could not be corrected, nor could the tone be made beautiful. To me it became a $25. violin and a complete disappointment. In the belief that other collectors may have had somewhat similar experiences, I am going to tell how the Violin Makers Journal helped me change a hollow box into a violin with a voice which I think is more beautiful than that of my valuable Sebastian Klotz.

Kristian Skou told about using the Don White bar in a viola and a cello with such wonderful results that I wrote him and asked if the viola was for sale, which, I am sorry to say, it was not. The counterfeit Brandini had a high thin top that was deformed from the string pressure on the bridge; the back was also high and thin. I thought it might be the right kind to try this bar on, so I used a 3/8 inch dowel rod and a 1/4 inch brass bolt with 20 threads to the inch for adjusting the end pressure of the bar. As already told, the result was such that this worthless violin has now become so valuable to me that it is not for sale. The change is not entirely due to the bar, but partly due to the bridge. which differs somewhat from the shape arrived at 200 years ago and is supposed to have been proved by this long experience to be the correct one. I shall soon write about this modified bridge.

As a postscript I should like to settle the question whether or not the old masters treated or filled the wood of their instruments. I asked Rembert Wurlitzer this question shortly before he died. He answered that if they treated the wood, it was with something so evanescent that it could not be detected. When later I told this to the man who repairs the Strads from the Paganinni Quartet, Matizs Starcinco, he said the inner surface of famous old violins is often water-repellant, but this could be caused from a thin film of rosin dust gradually deposited during a century or more of playing.