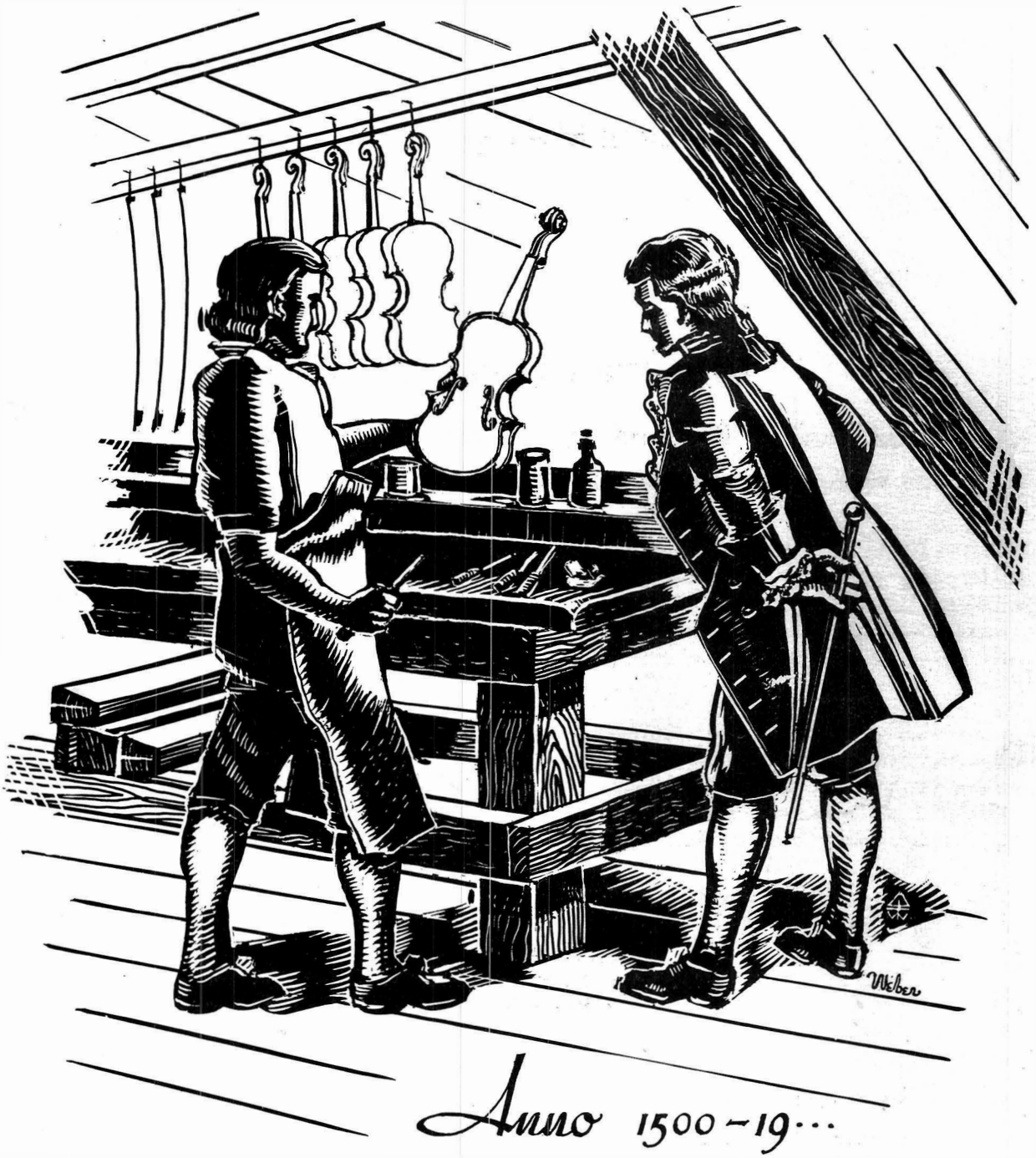
INTERNATIONAL
VIOLIN, GUITAR MAKERS AND MUSICIANS



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

Violin and Guitar Makers Association of Arizona

Violin Making Taught

INTERNATIONAL VIOLIN , GUITAR MAKERS AND MUSICIANS

official monthly journal
non-profit

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INDEX

BASS BAR CLAMP

BY B.J. Rockwood
15 Echo Drive
Nevada City, Calif.95959

I would like to express my appreciation again for the work you and your wife do to put out the Journal (not to mention other members of the family and Harold Briggs). It takes real didication to do this kind of a job month after month. I know that a person in your position must get a little discouraged at the seeming lack of appreciation for all the work done. I am sure everybody is
we forget
tude to the regular contributors who share their time and knowshow with the rest of us . I would not dare try to name these contributors for fear of hurting some one's feelings by leaving his name out, but I think you all know who they are.

*to

I wish I had more contribute but my know-how is very mlimited. I have , however , made some tools that might be of some interest. I never came out quite ri
to try maing one of my own invention. The enclosed drawing is the results and should be self explanitory. The pencil is one of a package of pencils I bought at the dime store and are used for score keeping at bridge. They have to be cut do n to the diameter of the hole but that is not difficult.

I agree , store clamps are expensive. I bought own some years ago and recently made several similar to it . I am enclosing a drawing of my model which should be self explanitory.

There is one request I would like to make . I find joining two pieces of wood together without any gaps very difficult. I have used an 18" plane with out complete success I don't have a jointer so I can't say if that method would be successful. The only successful method I have found is useable only on spruce. After planing the various surfaces flat I place both pieces of wood on a flat surface with a piece of carbon paper between the edges to be jointed. I rub one aginst the other then scrape down the places that show up as being high. By reversing the carbon paper both edges to jointed get scarped for high spots. I check frequently bY holding the edges to be jointed together against a strong light . With hard wood this method is extremeby slow.
efficent way of making this joint. How about some one wr
great detail. I realize tha
how to go about it in the most efficient manner is the first condideration.

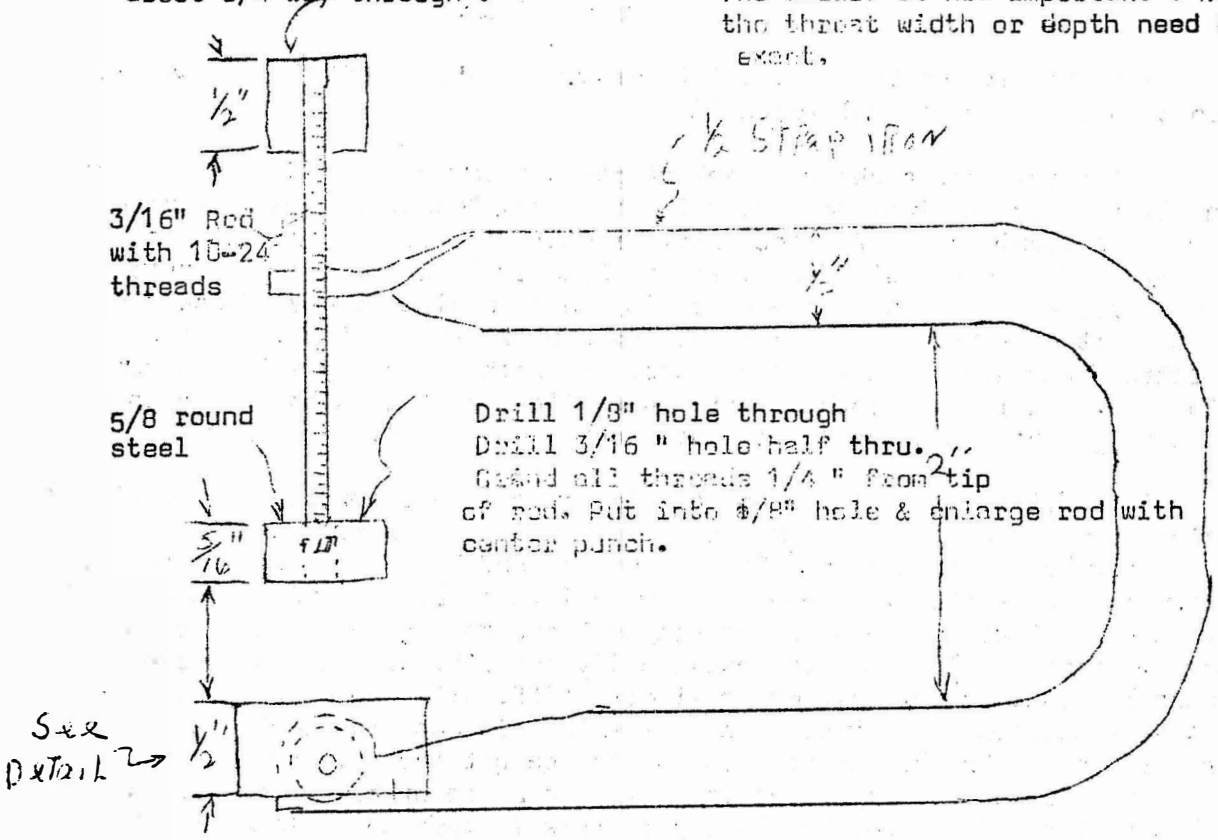
It would be interesting to have an article run on how to make a mandolin as well as where to get the material to make same . The flat back would undoubtly be the easiest to make.

May I say again how much I look forward to reading the Journal.

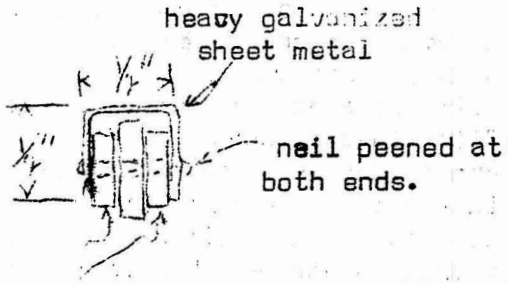
R. J. Rockwood.

½" round steel . Drill & tap to-24 threads . Tap only abo8t 3/4 way through .

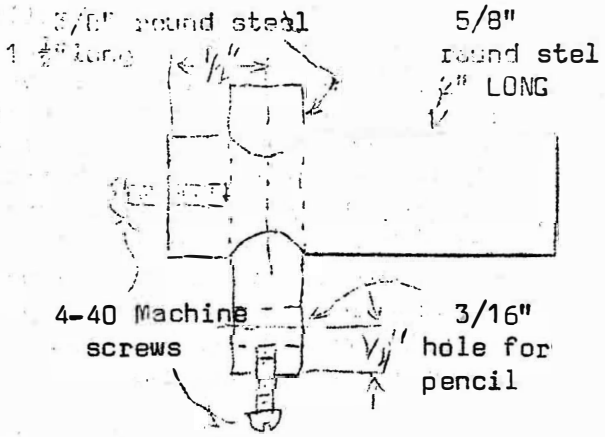
I heated the strap iron with a propane torch & bent it in a vise The radius os not important . Neithet the throat width or depth need be exact.



Throat depth can vary with the proposed use of clamps.



3/8" dowel for washers.
Cut into approx. 1/8" width to fill gap.



Edge marker

B. J. Rockwood.

SPECIAL PURFLING ROUTERS BITS

BY Samuel W. Waddle
1446 East 1st Pl.
Mesa , Ariz.

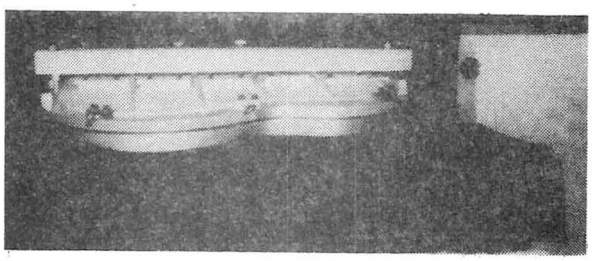
Here is more on the " Spec ial purfling router - bits" tht you wrote about in the June Journal -page 12.

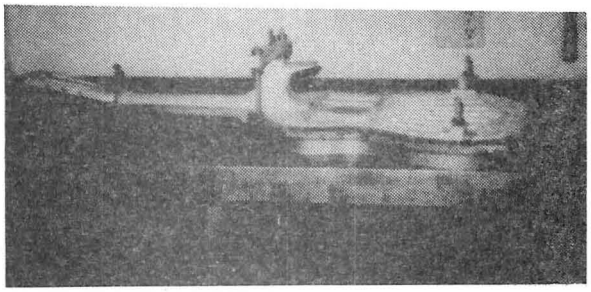
After burning up about a tank of gas and one set of tires by calling on all the Machine tool Companies in the Mesa, Chandler , Phoenix area I found a local supply for the little router bits you mentioned. It is " Garrett Supply co. at 2950 W. Thomas Road in Phoenix, They seem to have a rather complete supply of tools and I am glad to have found them, even if it did cost me all that gas and a half day of time . The tool I purchased was just like yours but made by another company - The Putnam tool Co. It is 3/16 inch at both ends with a 3/16 inch shank and is Number B_2A and known as " Two Flute Bouble End Mill".

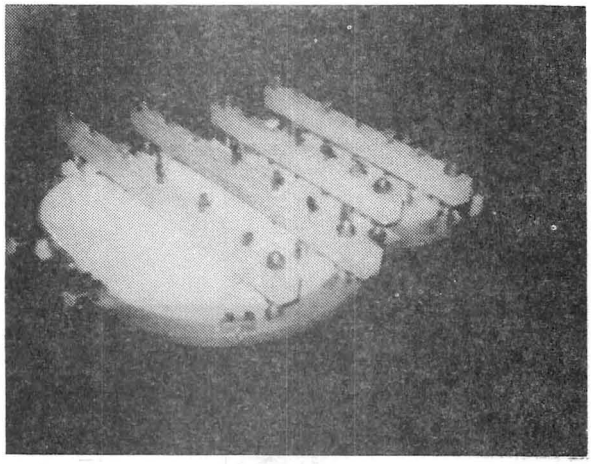
I find that using it is not as simple as it sounds but did succeed in doing about as good a job (maybe better) than I can with a set of knives such as I have been doing . The use of the End Mill sure is much easier and very much faster . I hope that by a little more practice and possibly finding a better way to hold the corpus I can do a good job some of these days .I dont purfle until the back, belly and ribs are assembled and the edges in final shape. This makes it more difficult than purfling a single plate. I devised the method of gaugaing the distance the purfling is set from the edges by the construction of the gadget shown in the picture . It is just a piece of ½ inch doweling set in a piece of board the size of the table on the drillpress. On the top of this is mounted a flat piece of ½ inch plywood cut in a "U" shape with two pieces of 1.4 inch dowel protuding from the bottom of the "U" piece on each side for the plate to ride aginst and give the proper depth of cUt. The chucked End Mill is located in front of the vertical dowelling the distance the purfling is to be set in. Then by holding the corpus so that both edges are in contact with the vertical dowelling , the top of the corpus is against the two protruding 1/4 inch dowels and the corpus is at all times tangent to the direction of cut a nice groove is made in the plate. I turn the press at about 2000 RPM but suspect that a higher speed will do a better job. The groove produced is just right for some purfling that is about .040 inch but needs enlarging for the purfling that is about .055 inch thick. The trick to this procedure is holding the corpus in the proper position while moving it for the cut. The tool is sharp and cuts easily even in hard maple and disaster can strike fast but I guess this is one of them things that make us want to try harder.

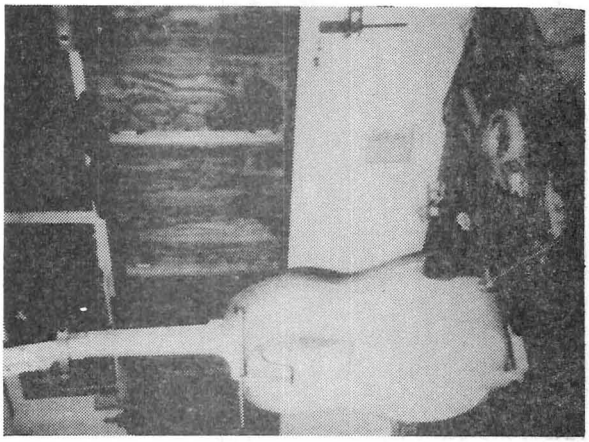
AN IMPROVISED RIB SANDER

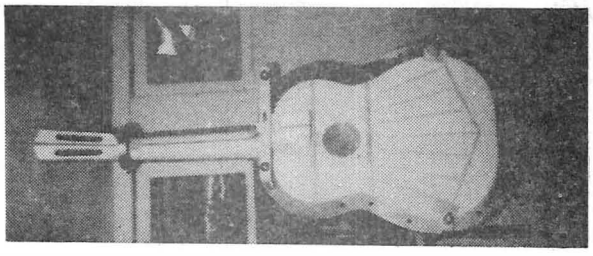
The following describes a method of sanding rib material that requires very little that isn't generally found in the ordinary home shop-assuming that it contains a drill press , either floor or bench model. Besides the drill press, a drum snader about 2 or 3 indhes in diameter and about 2 or 3 inches long suitable to being mounted in the drill press, a drill press vice(similar to No, 9k 2753 in Sears Catalogue)

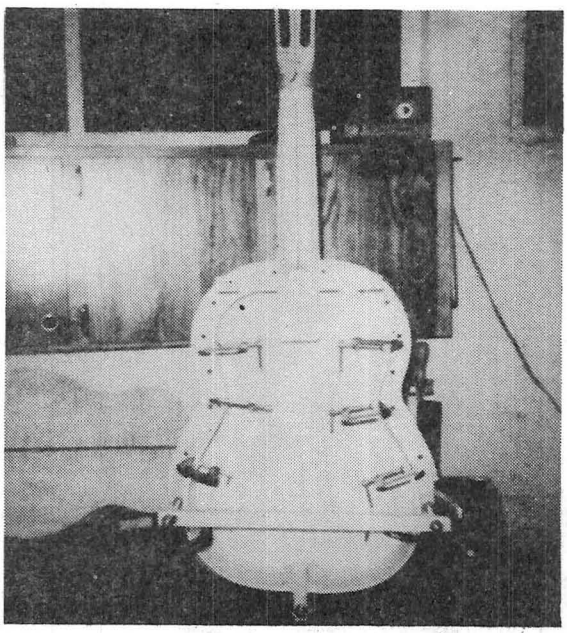


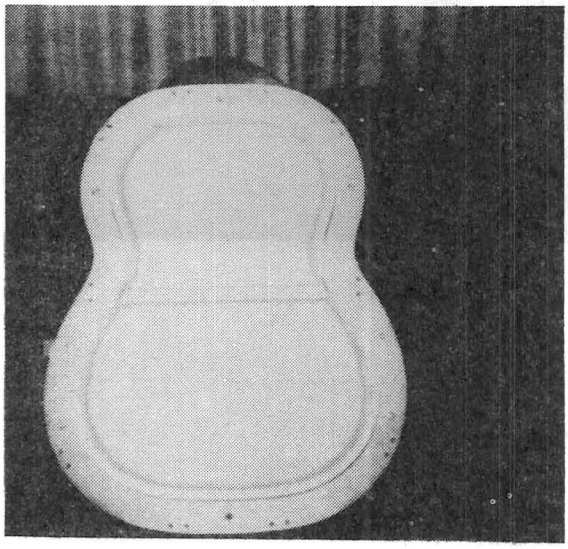


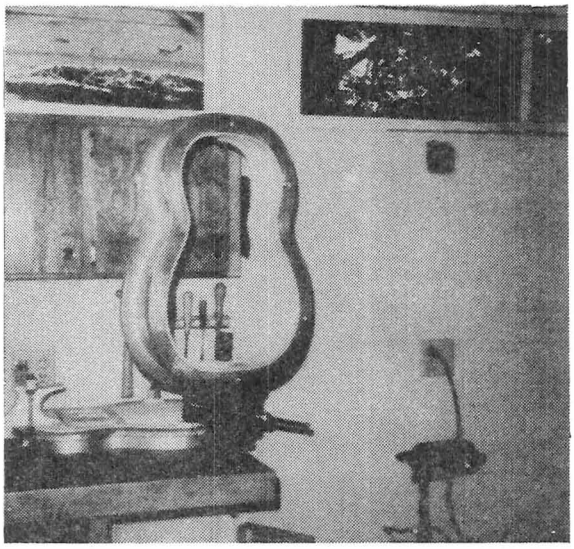


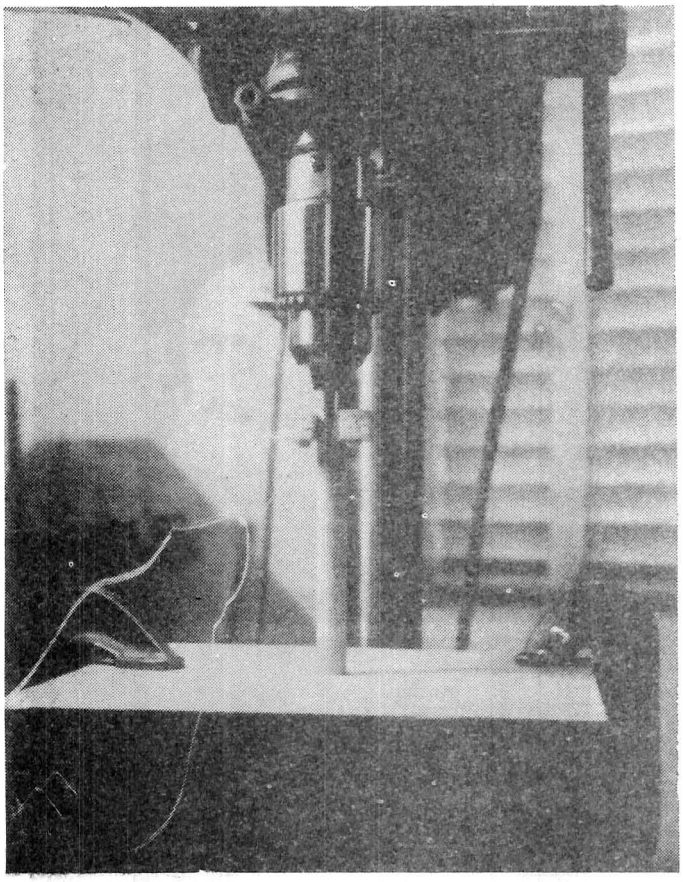


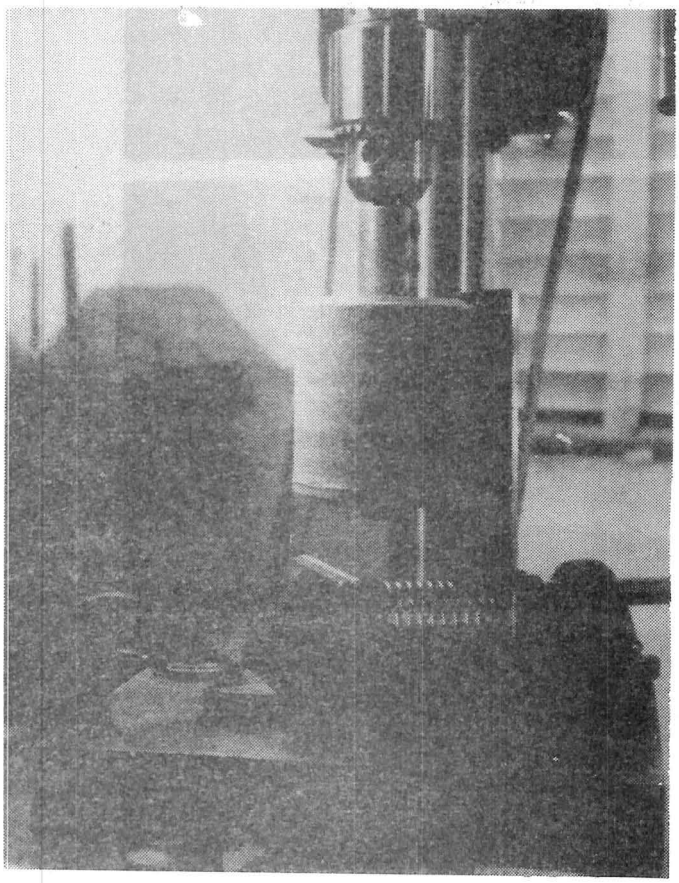












two strong compression springs about 3/4 inch in diameter and about 2 ½ inches long and a piece of sheet metal at least 1/8 inch thick by about 2½ inches wide by about 5 inches long are required .

PROCEED AS FOLLOWS:

1. Remove the linings on the sliding jaw, held by two flat head screws. Drill the sheet metal at one end to match the removed lining.

2. Attach the piece of sheet metal in place of the removed jaw lining. This makes a vertical extension on the vice jaw.

3. Mount the drum sander in the drill press chuck.

4. Open the vice jaws to the end of their travel and mount the vice tempoarily on the drill press table by use of "C" clamps.

5. Place the 2 compression springs in the vice jaws and move the traveling jaw to compress the springs .using a block of hard wood between the fixed jaw of the vice and the springs if they are too short to provide good pressure on the moving jaw. This takes all the play out of the traveling jaw and provides rigidity to the vertical extension of the moving jaw.

6. Relocate the vice so that the face of the sheet metal is about 1/16 inch from the sanding drum.secure the vice to the drill press table again with the "C" clamps . The sheet metal extension of the traveling jaw may now be moved closer or farther away from the sanding drum by screwing in or out on the vice screw to abtain the desired setting .

7. Set the drill press for about 2000 RPM and you are in business . The foregoing is shown in the attached picture. Maybe some one else can use this idea.

Samuel Waddle .

Two old sailers were sitting in their favorite barroom . The old place had been completely modernized . Both old tars fell to reminiscing on the good old days .

Said one old salt: " I suppose it's all right , Bill , these new-fashioned trappings, but I miss the old spittoom."

" Yes" answered the other , " you always did , Jim."

" He's continually complaining thaat no one understands him."

" Well ,that's the most natrual thing on earth. His father is a train announcer , and his mother is a telephone operator.".

SHY AWAY FROM A COLD FIDDLE

BY Fr3d Craig
155 Van Buren St.
Twin Falls , Idaho

I noticed in the June issue of the Journal about doing things day before yesterday , and then says , " This sounds like Fred Craig." Ha. He has me completely reversed! I am more likelly to think in terms of next week and then postpone it. If I am expert at any thing it is procrastination.

Have been real busy though work. Then, on the side , I got involved a little , We had a fiddling contest for the championship of the state and I got into that. Oh no, I didn't play. I was one of the judges.I could get into the money that way but could never make it if I had to compete with those good fiddlers. Then after that there was a benefit show with a lot of good fiddlers and singers and I was Master of Cermonies for that one . The redeeming feature there was that the accoustics were bad and they could'nt hear us very well, so we went over real good.

Of course , after each of those events I had to take my shoes off amd just relax and relive the whole thing and enjoy it . So all the way around , my time has been pretty well used up and my thinking about work is in terms of next week.

Sometimes in the past, I have taken a dim view of theories and ideas expressed in the JOurnal. Even to down right opposite views.Naturally that leads to contention or to ruffled feelings and that is something I always want to avoid , so I determined to stear clear of all such things . I found that in doing that I must not mention any subject that has been discussed in the Journal and the only way out of it was to do as I have done in the past two months ;just not write any thing for the Journal. That was O.K. because Bob said he was getting plenty of material.

But now he says " Get with it , Boy . I'm pl junk you write and we need something to keep the good articles from rubbing together ." maybe I'm to be a sort of a buffer and absorb some of the friction. Any way, I don't want to discredit any one, and I don't have a dislike for people who may have opinions different to mine.

I am quite weary of the subject of tap tones, but it seems there is considerable thought expended along that line. Now I have read where it was mentioned that the temperature might affect the tone and a plate tuned at a low temperature would have a different tone than it would when moved to a warmer spot. Of course that is true , but I think it should not worry the violin maker very much. Especially if the top and back were tuned at nearly the same temperature ,and it is likely that they will be.

We hardly expect violins to be made out in the wood shed with one maker working in 110 degree weather and the other in zero weather .They will mostly be in a comfortable shop with a controlled temperature of close to 70 degrees.

4

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And it is reasonable to suppose that the violin will be played at about the same temperature , because that is a comfortable enviroment for human beings . (Assuming that covers violin makers and players).

Of course we all know what happens when a violin is left out in an automobile for several hours in zero weather , and then taken inside and played for a dance. The fiddler has a tough time for a while but after th violin gets warmed up it " comes to life" and becomes a " musical " instrument again. It takes no great powers of perception to see what was wrong with the violin. I have known fiddlers who couldn't even write their own' names , but they would say, " You cain't play on a cold fiddle ."The remed y is obvious.

Even Dave Rubinoff would shy away from a cold fiddle , and I've been told he will try about any thing ! He was here in Twin Falls last wniter and didn't even come out to the house to see me . Imagine that!

I have been making fiddles . Have one now with four coats of varnish on it and another is just hatching . It will be " in the white " by this evening . Making a top for another one that was sent for repairs, and I have one started that is to be the one to shame all the other fiddle makers at the contest this fall. I hope to correct that statement that Peter Paul Prier is the only violin maker between Kansas City and San Fran-- cisco ! (I'm sure he didn't write that .)

I understand Bob Juzek now has a real nice non-slip peg. He says it can be installed without special reamers and can be removed and the conventional peg put back in if you don't like it . Also cheap enough so they can be used on school violins. Might be worth havigg a look at. A boon to " unstrung" music teachers!

This violin making racket is quite the thing. You think you are goin to be a big pronoun, maybe even be famous , and you end up just being notorious!

Fred Craig.

In reply to Brinley True.-- In the JUne issue of the Journal , page 11, I read " Reply to Fred Craig", and you say, " I am at a complete loss to find a reason why you attribute to me the asking of what you call the 64 dollar question."

My reason can be found in your article in the January Journal, page 29 , paragraph four, which reads
yardstick of violin making , when a violin made in Arizona is played in a colder climate? My opinion of tap tones is that they are quite useless." Tap Tones are sounded when the plates are able to freely vibrate . Ubfortunately for this system, this condition for free vibration is immediately eliminated when the plates are glued to the ribs."

You may refer to your article and see why I attribute it to you. I am very sorry if I missread it .

Fred Craig.

ME AND MY VIOLIN MAKING

BY Willis H. Barnes
1089 Arney Rd.
Sherwood , Mich. 49089

Dear fellow violin makers and violinsits, who writes so many fine articles pro and con on the art of violin making and finishing . I have been wabting to try my hand at writing an article on different phases of making violins.

They say you do not have to know much to write articles, so this leaves me in the minority group. But I will start like this.

In the fall of 1961 , through a round about way I become acquainted with a violin maker in Battle Creek , Mich., and just sort of hinted that I would like to make a viooin for my self.

First, to see if I could . I always wanted to , but as I say if a person is not taught how the right way, he is in trouble from the beginning. I am talking about the inside of a violin. It would take a long time to learn how to make a real violin by ones self.

Second, I was nearing t
so that I would have something to do to keep busy, as I always have been interested in arts.

First I bought some wood from his brother and started to work. When a man starts up in this business he needs tools of all kinds, also jigs and patterns. I bought a floor type drill press, and started my endeavors.

The cellar in my home was my first work shop. Well , you know how that is , not the best in the west, but it was a start . Down there I started making patterns and designs . The hardest thing for me to make was a nice scroll on the neck. I think that if anything should look nice on a violin it should be the scroll.

After I finished making and varnishing my first violin, my wife and I took the violin up to my teacher one evening so we could string it up together and see and hear what I had. To his great surprise and mine it ha d a fine tone and plenty of power. Talk about beginners luck. This violin is now five years old. A friend violinist of mine came over yestarday to see what I had new. I had plenty of them for him to play. I had him play my first one again and it just sounded great.

Now I have my shop in one section of my garage, with lots of room. I could not run back and forth from my shop to the living room to sound tap tones on the piano, so I decided to buy a piano for my shop . We went to all the auction sales around and finally bought one for $4.50. The keys were half gone, the finish was in a bad condition and it was out of tune about 1½ turns. It was so heavy I had to get in half the neighbors to help unload it . I cleaned out the inside , then a piano tuner friend of mine rebuilt and tuned it and now it is a fine and dependable instrument.

Now I am on my twenty-first violin. In fact I am making five new ones this winter , including one that is my own design. I hope to take it with us to the violin convention in Miami this coming fall. My wife calls it " The Swinger." We are having a lot of fun with it , and hope to have it varnished and ready to play by the first of May . Right now I am giving it the sun treatment.

I wish I would have known about magazine several years ago. I probably would not have
Pooy of Vicksburg. If I never receive another copy , I wouldn't take a lot for the fourteen copies I already have. ----

Let's start with fillers. I know it is a touchy subject with violin makers, but I might as well get in my two-bits . When I started finishing violins, I was under the impression that you had to slap on a lot of filler and sand it down a couple of times , use a lot of sealer and then pour the varnish to it . I have learned a lot since then. One of the violins I made last year I didn't use filler, and as far as I am concerned I never will again. I have read a lot about linseed oil , and different styles of application. I have changed varnishes several times and I think I am on the right track now .I was having trouble with rubbing my varnish to a high gloss , of which mow my troubles are all over on that .

Since I read the article on sun curing the inside and outside of the top and back plates, by BEn Harris
is the real answer to better tone and beauty of finish. We will wait and see. That article came out just at the right time . The other four violins I am making were ready to graduate for tone .

When I read that our friend , Fred Craig , offered to send any one a copy of his graduation patterns for the asking. I waited until he got home from the hospital and then I wrote to him. He sent me a full copy of his violin pattern inside and outside. This I am grateful for . I didn't like the ones I was using .They were very difficult to understand and use, although I have never made a violin with wolf tones, and I never will. Fred's patterns are easy to use. Now we will see how I come put with them. Before I glued the violin up I made two racks , Each rack holds two violins the top and back plates. I put a wire loop in one end of the rack so I can hang each rack in the windows to catch sunlight on the inside of the plates. This will take quite a while to accomplish , as we haven't had too much sun this winter. My friends ask me if I have enough patience to wait it out . Sure, I have more patience than money. I have lots of other violins to play.

When the insides are all tanned up to my likeing , then, I will glue them up, and by that time old Sol will be out good and hot. Then is when they will get the works.

I make five different designs of violins and sizes . Two Strads. , two Guar

I am getting as bad as the auto makers on changing models

7

down , I'm having a good time doing it .

Believe it or not , my best violin so far is the 1732 Guar., of which it is a big violin. I have always admired the photograph of Jascha Heifetz's 1742 Guar. violin , and decided to do something about it . I took the photo to a photographer and had it blown up to full size, then I made a pattern of it . I haven't been sorry. It is a beauty and the tone is out= standing, so I will keep this model.

For anyone who might be interested in the different sizes of my violins , they are listed below.

1705 Strad. Le. 14 3/16"- U.6 5/8" C- 4 3/8" L B 8 3/16"
1688 Strad.Le 14"- U. 6½" c-4 3/8" L b 8 1/8"
1732 Guar. Le 14"- U .6½" C- 4 7/16" L b 8¼"
1742 Guar. Le 14" -U.6 9/16" C-4½" L b 8"
1968 Barnes Le .14 1/16"-U.611/16" C-4 5/16" L b 8 3/8"

Now other people like to mess around with making varnish , which is fine. Everyone can not do the same thing, and I wasn't cut out to be a chemist. I am more interested in making gadgets, of which I have plenty of them. I have found a good varnish and I think I will stay with it as far as I KNOw now.

For the last two weeks I have been nursing the flu and dreaming up a machine to put these four violins on next summer, to keep them turning in the sun. Here iswhat I come up with . So many good ideas in drawings and otherwise have been printed to help someone ELse, so I am sending in these drawings, so that maybe all together we can come up with a real dandy.

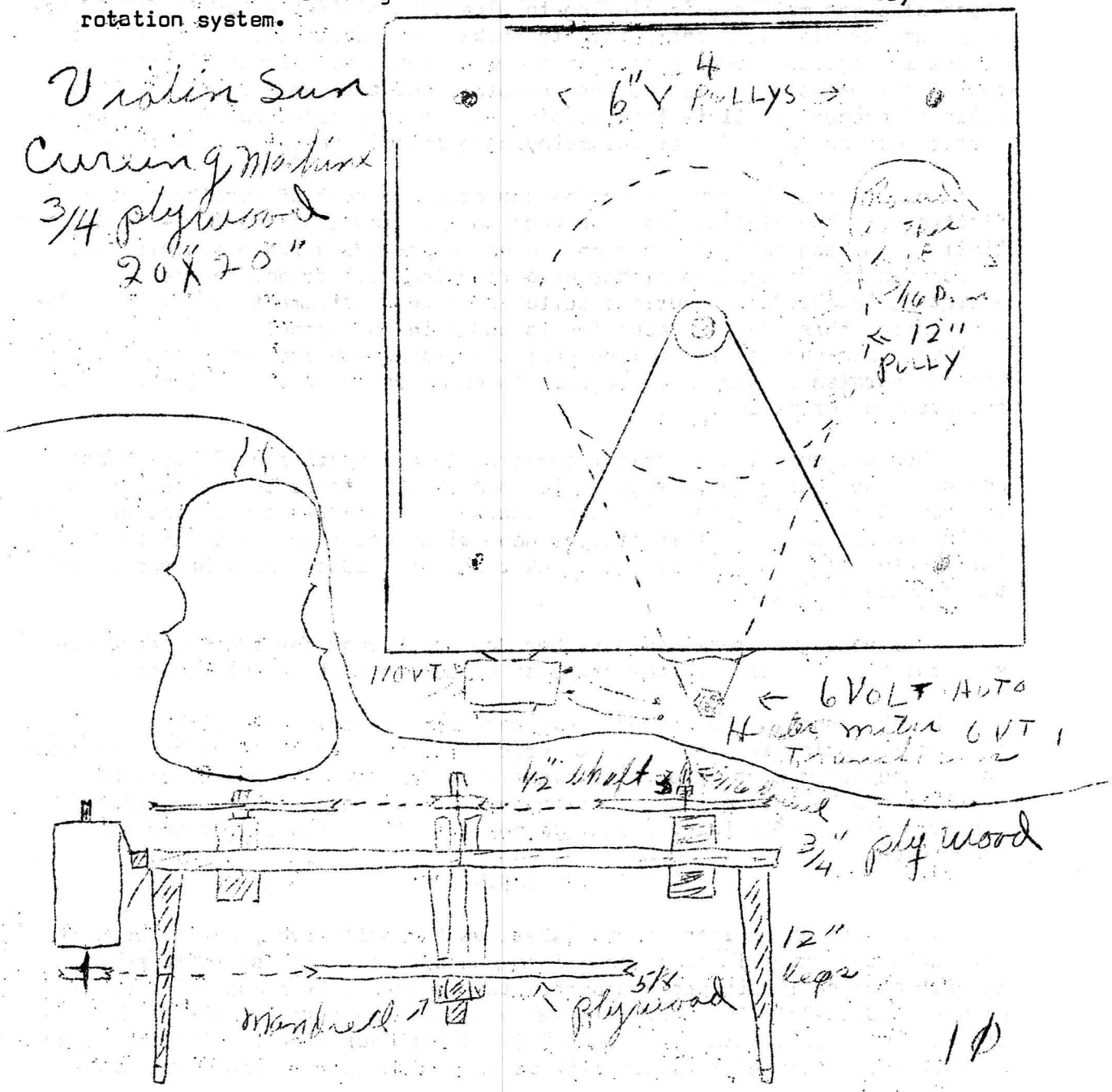
What we want is something to keep the violin turning in the sun so that the curing process will be even and keep the top plate from cracking in the process. Just like the man said, you try to pick up a crowbar that has been laying on the hot pavement for an hour, you will drop it quick. But keep it moving and You can handle it all day .The same idea should work with the revolving of the violins. I will now try to explain about some of the materials used in the making of this machine . Let's start with the table which should be a piece of 3/4" plywood 20" square or you c can make it round which suits you best. Use 4-1" dowels for legs . Next we have to have four ½" hafts about 5" long , with bushings to fit . Then each of these bushings or boxes have to be bolted to a wooden block on the top side of thetable near each corner is bolted and glued to the table. Each one of these shafts have a hole drilled in the top so you can fit a dowel in it to hold the violin uptight from the end pin hole . You should taper the wooden dowel to fit the hole , so that the violin will not flop around.

Now we have to have a mandrell in the center of the table. So we bore a hole large enough for this , then a block on each side of the table x Bes to be fastened , to
threded on both ends for the V pullys to be fastened to . Next we need a motor to run this machine.

I happen to have a 6 volt auto heater motor that I use with 6 volt transformer . That way I can adjust t
operate. Of course one can be purchased most any auto junk shop.

We are ready for pulleys and mandrell. I bought mine from Sears , and I guess Wards have them too.You need 4-6" V pulleys, one pulley 1½" for th e top of mandrell , one 1" pulley of which has to be made for this small motor shaft. One 12" pulley of which can be made of plywood "½" thick and the V cut in on a turning lathe.

Last, but not least , are the belts I use. They're old type sewing machine belts liek Grandma used. -- The total cost to make thss machine should cost less than 20.00 --Well I guess this will be all forthis time . It should be interesting try this rotation system.



COLOR OF VARNISH

BY Artbur Johston
13 Cooper St
Karori, New Zealand

The violin makers do not need me to tell them the most important factor a violinists wishes is his or her instrument is capable of good tone production when efficiently handled - The next thing we can easily agree is the bow must be suitable , " Then the instruments antique beauty of form shall be finished with a fine varnish of attractive colour. All makers with some artistic colour sense may happily agree an instrument can be beautigully coloured with light coloured and transparent varnish which also one may vary in tinting to please ones sight - again the instrument shapes also lend their form to darker and beautifully toned reds or browns in various shades-I have at times used a medium shade of brown then flattened the varnish surface smoothly and then used spirits with a stain of deeper red tint- this tinting can be very beautiful for the clear varnish may be applied over the methylated colour tinted under varnish .

In applying the tinting shades the previous coat of varnish must be flattened so the tinting has a surface to take the tint smoothly- After th e tinting has been applied then on top of the tinted surface another coat of varnish may be applied either as a finshing coat or one can get a variety of beautiful colourings suitable to the instrument form . In applying tinting this way , no adhesive is added to the methylated tinted medium so that when varnish is applied over the stain both the stain and covering coat of varnish become in appearance as one varnish of varied transparent colouring of great depth.

When the question of colour comes up in a competition perhaps those who have the judges job,I suggest to them that whatever the colour of an instrument is , to judge , to judge whether the maker has made the best use of the colour chosen. This will, I hope allow for fair variation in diffe fernt natures which colouring the maker has preference for , he should get some understanding .

As I have just received November Journal I read the scores added up- so I think U.S.A. will be the greatest producers of fine instruments.

Further should the members ,say each one subscribe an article . The records being in the U.S.A. congressional Library will not be lost like those Eurppeam makers were . Now right from New Zealand and Australia. What say you to this message ; write some of your experience in making , Send an article into the journal. Do not sit on the fence. It can be blown down.

SUCCESS WITH INSIDE TREATMENT

A warning about linseed oil I believe I should give , having used it for sixty two years in such conditions where it was most suitable such as in oil painting landscapes and portraits -House painting and still use it on axe handles-BUT NEVER SATURATE ANY musical instrument that has wood in its make up. In reading back some " Old Strad journals, a writer mentione d a maker who saturated a violin with as much linseed the wood could take-

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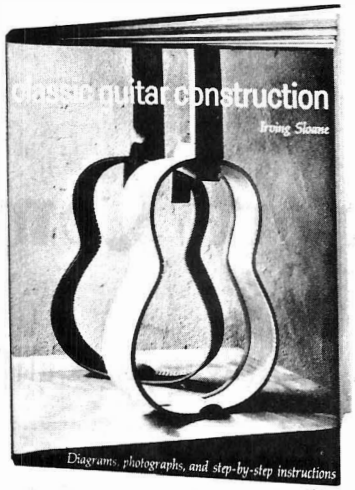
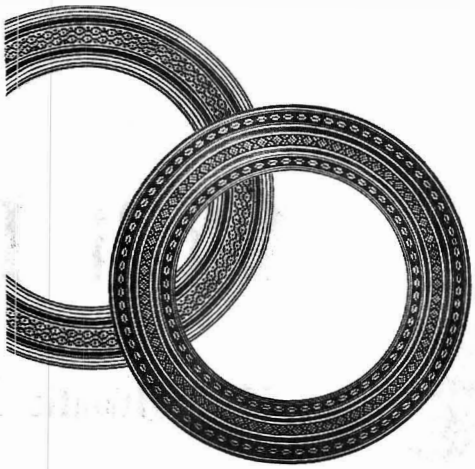
BOOKS—Old editions and those most recently published

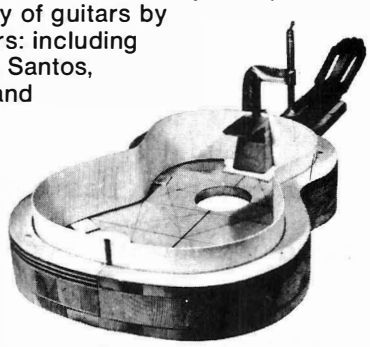




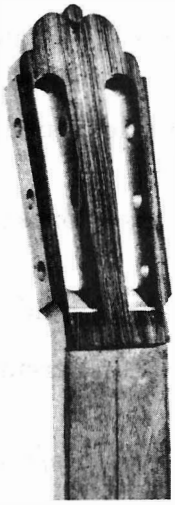
classic guitar construction

By Irving Sloane

This unique, comprehensive book gives all the information necessary for the building of a fine, classic guitar. Handsomely illustrated, it is an indispensable guide for the novice *luthier,* and conveys much of the romance of the Spanish classic guitar, gives a brief history and discussion of guitar construction theory, and provides a picture gallery of guitars by the great makers: including Torres, Hauser, Santos, Esteso, Arias, and Barbero.



The author's method of construction conforms to classic guitar-making principles and is superbly well-suited for the amateur craftsman. Specific diagrams and 125 clear, professional photographs illuminate each step. A simple wood 'sandwich' yields the principle elements of the basic forms necessary to build a guitar: A mold, bending form, purfling forms, and template. The author tells one how to make his own clamps, purfling cutter, and even the rosette (the sound hole mosaic inlay). He explores each aspect of guitar construction, and includes a directory of suppliers for wood, tools, and all guitar-making accessories.



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The results would be of course naturally; The instrument is ruined for ever. Why ? Linseed oil take up to seventy years to dry under normal conditions also the tone production is dull and muddied up as well for linseed oil is gradually changing in condition ov er many years . To saturate a violin with raw linseed oil is ignorance of the worst kind. In a previous article I meantioned smearing the inside of violins first with French polish- Only smearing it on first- Then rubbing down with smoothest abrasive paper to remove any roughness. Next I smoothly smear a good varnish followed by more smoothing down with fine abrasive paper- The violins I have done inside are slightly shiny over every part of the inside. The violin built last year was also treated .Over the past few years instruments so treated stood up to the severe changeable weather of the last few years and in fine co ndition the violinist Alan Lovejoy Strad opened up a crack in the front . The amount of polish and varnish used is very slight and the surface inside is made very smooth. It is also a protection against boring insects.

Also the tone production is not harmed like soaking linseed oil into the instrument. The time taken in actual work is very little but I allow such instruments a week before top is glued on. I make it a practice to do all glue work and varnishing in a warm room.

Some times I have put the electric heater on all night . As that by time breakfast is over the varnish is kept free from dust as far as is possible in such windy locations.

Arthur Johnston.

" What sort of a man is Brown?"
" One of the best."
" Trustworthy?"
" Oh, completely."
" Would you lend him money?"
" As to that , I can't say, I've never loaned him any . Iv'e only borrowed from him."

Did your father ever preach the same sermontwice?" a visitor asked the daughter of the minister."

" Yes, but he talks loud and soft in different places, so it dosen't sound the same ."

The bedraggled vagrant thought to win the judge's sympathy by admitting he had been loitering , but that he " was down and out."
" You may be down, but you're not out ." corrected the judge. " One week in jail."

WALLO'S DETAILED INSTRUCTIONS

BY

Wendell Pratt
Academy Rd.
Suncook, N.H. 03275

In the March Journal Raymond J Miller promised an article on guitar making in the near future and to encourage him to do so I am writing the following ; First I would like to say that I have only made two guitars and am only writing this to help others who may want to make one . Both of these were classical guitars amd made according to plans obtained from Joseph Wallo whose add is on the back of each journal. He seems to be the only one who had a set of full scale plans and corresponding book of instructions . I found his plans and book very good with detailed instructions on most all points of construction. I also have a copy of the Home Craftsmanmagazine of June 1956 which has a good article on making a classic guitar and has been an inspiration to me to make one ever since I saw the copy on a newstand . I have A.P. Sharpe's book" Make your own Spanish Guitar " which has been useful in several instances and Irving Sloanes classic Guitar Construction which is also advertised in the journal and has some wonderful pictures . His methods are quite different than the other writers. I also have " A complete guide for making a classic guiter" by H.E. Brown and W.O. David.

Some of these instructions tell of making a guitar in 40 to 60 hours. I find that it takes me well over 100 hours and so far I haven't taken the time to bind the edges or inlay the edges. The form its self takes quite a few hours to make . I used well seasoned white pine 2" plank glued up to size with ½" plywood for the top side . This plywood gave me a good plane surface to work from amd to guide from to bevel the back side. I have used Mahogany for back , sides , and neck and spruce for the top do far but plan to use rosewood for back and sides on my next one. I have only soaked the sides in a bath tub in hot water before bending them on a violin making bending iron but have a tin trough now to boil them in 30"x6"x 4" deep . I also have made a bending iron as shown in Wallo's book as a violin bending iron dosen't have a wide enough surface . I use a propane tourch to heat the iron and get good control by regulating the flame. I use plenty of "C" clamps and strips of wood to clamp the sides into the form.

I have used very fine grained spruce (native red from old building timbers 100 years old) for top and bottom blocks with the grain running the same way as the sides . I think next time I will use basswood to cut down the weight. For top and back linings I used keyed white pine which I moistened before gluing in using spring cloths pins for clamps . I think I would like to use willow for linings as I believe they would bend easier but as basswood is more available will probably use that next time . I also want to use a solid lining on the back rather tha n a keyed one and shape it after gluing it in .I shall also use "C" clamps to clamp the linings as cloths pins aren't always strong enough. It will also permit me to clamp in the lining without raising the sides out of the form as is necessary with cloths pins.

By the way * has some nice * clamp screws tht can be used to make your own clamps. * Wallo * knurled

I have been going by thickness only in scraping down the top and back but some one should be able to work out some weights and tones the same as for a violin .

On my first guitar I purchased a set of strut material that turned out to be basswood but seemed to have a pretty good ring so used them. On the second I used spruce . On the fan bracing I had an old piano sounding board from a piano about 60 years old. Not all of this sounding board is good even stratight grained spruce but certain parts are and I have used the rest with a wood vertical grain.

I purchased a ready made sound hole ring and chisel out the wood for the required depth. I glue it in by using a small screw jack screw with the top on my work bench and the jack screw and a 4"x4" under a floor joint in the way of my basement work shop.

The necks for both have been make from one block of mahogany . I bought a piece of ebony for a fret board for the first guitar but it turned out to be ebonized and the stain kept coming off so I used a piece of balck walnut from an old piece of furniture which was very true and stable. On my second I used a rose wood piece for a fretboard. On the first my violin making small bench saw was just right to saw the keys for the frets but on the second on which I used larger wire frets I had to purchase another small saw and even then had to remove a little of the set by rubbing a whet stone along each side of the saw teeth to get the proper width kerf.

I use Elmers Glueal through and have had no trouble with it holding , as my shop is about 70 degrees most of the time I find that a little too cold for hot glue which I think works best with everything 75 to 80 I only work on guitars in the cold weather and my humidity is around 20-30 % and even lower at times .W've really had cold weather this winter with more than 30 days with the temperature 0 of below.

I have used Wallos primer and spitit finish on both instruments . I ueed paste pore filler on the Mahogany of the second one but wonder if the time was worth it as I put on two caots.

I purshaced a ready made bridge rosewood with plastic saddle and decoration and an ebony nut made from am old piano key-also use some ebony from the same source for the button on the neck.

For the cross grained spruce strips for the joint in the back I use waste from top wood .

I have used #320 and #400 wet and dry paper with commercial rubbing o oil to rub down the last coat of finish . For the final polishing I used Constantine's rubbing and polishing compound. I still have got a lot to learn about finsihing as I still don't get a perfect finish. My trouble may be that I dont apply enough coats to get a good level surface .I spent about 8 hours rubbing down as it was.

I hav e purchased wood and accessories from several firms incl[u]ding Wallo , H.E. Brown Co. H.L. Wild and the last from Oliag AG Pianobesandteile, 8703 [E]rlenbach, Switzerland successors of W.L. Laubi who use to advertise in the British Columbia Journal. Then best top wood for guitars is only $6.76 and has a wonderful ring to it and has the bear scratc hes in it . It does take a long time to receive an order as I placed one in the last of December and received it the first of April . [A]s I want be using it much until next fall it will have plaenty of time to get over its ocean trip.

It gives me quite a thrill to make a guitar as my daughter ,a teenager plays some and it dosen't just set around . I do not play and have no musical ability Besides being left handed .

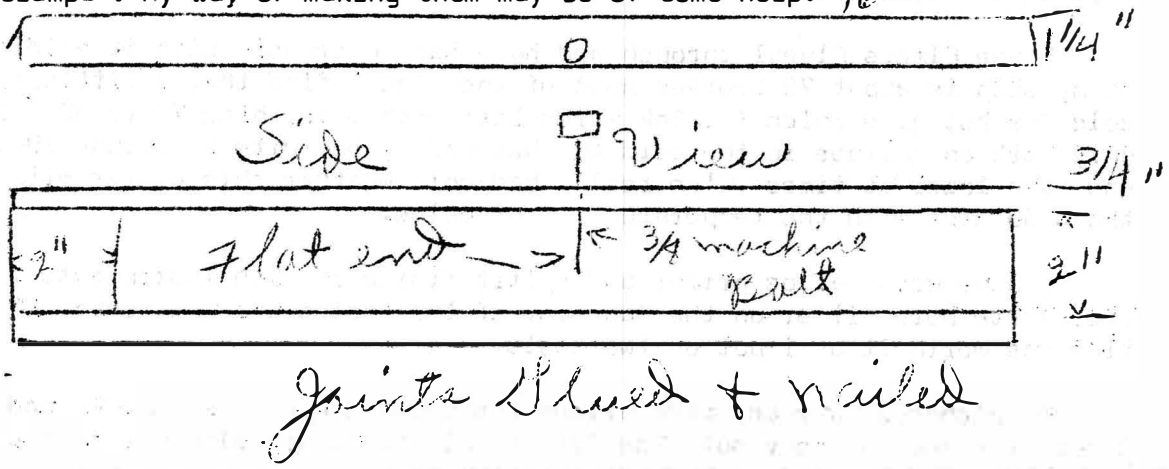
My biggest difficulty has been in mortising the neck into the top block and getting everything straight and in line . I put the fret board on after setting the neck.

NowI hope this will encourage someone else to write an article on guitar making so the heading on the journal will really apply.

Wendell Pratt.

Cross Bar Clamp

In the March Jurnal , page 12, there is a question about bass bar clamps . My way of making them may be of some help.



Make oak frame , make bolt holes a little more small than the bolt to be used soit will cut threads when it goes through.

When I read an article , I like to know where the author lives even if I have no desire to write him; naturally . I want their addresses given.

If a person does not want to be bothered , he can have his address withheld.

Beck Hawkins
9910 Fern St
So. Elmonte, Calif 91733

16

COMMENTS

BY Joseph Reaid
R.R. 2
Grimsby, Ont.

Mr Carmen White's article in Feb. issue certainly has many items worth thinking abbut. It is one thing to state that so and so has endorsed a certain idea- quite another to get it down in writing and still a more difficult one to prove the idea at all /

Much in violin lore is opinion and many - too many loose opinions are taken for granted as gospel truth.It is wise to add a grain of salt to anything we hear -even our own opinions.

One of best tests I ever heard was arranged by the late REmbert Wurlitzer . He assembled about 12 genuine Italain violins and had the same controlled test played on each one , by the same player. A few bars was played on each one - the same short passage- then later on the recording a complete number on each ome- all different (Played by Ruggieri Ricci) Here at last one could judge by listening . Since each of us hear and see and think differently - each of us would have a different opinion of the relative tonal merits of each violin. My impression was this . All except one violin sounded amazingly similar . One however, was different- here we heard one violin standing aside from all the others. It was the Duk Guarnerios a violin I was fortunate enough to have examined and which is considered by a famous firm to be the worlds greatest fiddle I am certain that the great violins are quite easy to play- requiring much less physical effort to get the same result-thereby enabling the player to get his inner self into the music.

On page 6 of Journal Mr Carl R. Lystad mentions a work bench. I have had a marvelous German made cabinet makers bench for over 10 years . It is long and of medium width made cut of 4" thick beech glued together in sections. It cost $125.00 delivered from Montreal Quebec and it has been of the greatest help .A good work bench is half the battle . It has two vices and is assembled by lowering the heavy assemblyed top over two dowel pins in the leg assembly. I will send you the name of the Montreal Dealer if I can find it. I'm certain it was Gentmantel . I can personally recommend this bench.

Refering to Ben Harrison's first paragraph on page 13 May I point out that William Lewis & Son of Chicago has an excellent catalogue in which they list recommen ded standards for setting up of the violin-a real step forewards .As Ben has well said ,you will not find many players who like identical bridges - strings etc. Each generally has his own peculiar tasts. This applies to bows also /

I feel that climate and soil conditions are main consideration in what controls tonal qualities of wood. In this part of Canada- near Toronto our maple is not good for tone . Some of the curly maple is very hard and I use it for neck blocks only. I bought a gorgeous slab of curly burly maple from near Ottowa Canada 10 years ago. The tree must have been 4 ft in diameter.

This was at a saw mill . They informed me it was the only curly maple that came down the river in 50 years.

I feel that wood is something like wine, you can bring the grape vines from Italy and plant them here in Canada- in our cold wintery climate and short summers and the grapes are bitter - the same grapes were sweet in Italy. Thats why all knowing Italians here in Canada import grapes from summie California. The grapes are sweet and make better wine. Our grapes are tart and not as sweet as the California grape.

I wonder what would happen if Canada maple was transported to Italy. I'll bet the tone would be different.

Bob Keep up the good work on the Journal - the articles are getting better all thetime .

Joseph V. Reid.

SOME COMMENTS ON THE APRIL JOURNAL
BY H.S.Wake

Reading my April issue of our Journal I find a few items of interest deserving of futher comment. Referring to page five and the artticle 'Sound post patch' by Burton Hardin,I agree with him completely. His comments are well stated, and how true! However, I don't quite go along with his method with the small cleats used in reinforcing a crack. Turn to the last page of the Journal and the last paragraph of Henry Ashley's article. He explains the why's and wherefore's of small cleats better thatn I can in these few lines and I know he is right. I guess I have opened hundreds of good old violins in the past fifty years and have seen some beautiful repair work(and some too horriboe to mention). I don't recall ever seeing in good repair work any cleats with parallel grain, always crosswise to the grain of the fiddle top and never inlaid. One thing that never ceases to amaze me, I occasionally open an old violin which has exceptionally fine tone and carrying power and discover that the underside of the top is just about covered with cleats. Of course, you know that these cleats are well executed (crosswise)--- The repair problems projected by by Ben Harrison's article on page seven should bring forth interesting answers! I could add a couple of dillies to his list----I see by Fred Craig's article that Dr. Grand still maintains his hot line to all points, and and speaking of violas I just acquired a fine old German viola by Robert Ballot who, the records show came to this country in 1891 and settled in boise ,Idaho. This instrument is eighteen inches long- one inch longer th than the accepted standard . Fred says it's easy to make a violin - well he's partly right , the great difference is to make a good one-- In noting the information given by Anthony Barbuto regarding the availability of gums and resins I might add that the old fashioned Herb Co. at Pasadena, Calif. are an excellent source of supply in small quanities and reasonable prices . They have Dragons Blood of top quality , also Gamboge , Red and Yellow Sandalwood , Madder Root, Copal,Sandarac etc.etc.--- The request of William Broers (page 17) for information on glueing cracks in fiddle tops and backs could not be properly covered in less than a few pages of

this Journal and as to the touch-up work when the gluing is finished, this is where the true artist comes in and goes to work.First a neat and clean job of repair and then a blending in of the work with the adjacent area by clever touch up. Don't try to cover up a poor job with a heavy dark stain, some work such as inlays just cannot always be hidden so the work has to be good. The inlay being of new wood must be colored carefully to match the adjacent area before any varnish is put on it . The problem is that when the varnish is applied the color that you thought was a perfect match, isn't a match any more . For this reason all colors should be tried on scrap pieces of wood first.--- Klunkers yes. Conrad Nelson (page 14) his the mail right on the corner block This lack of corner blocks is the trade mark of a cheap German factory fiddle ,Genuine ' Manurius ', Funny thing is that some of them look quite presentable on the outside , but what a horrible sight on the inside . These fiddles almost always have a bass bar of sorts that is integral with the top wood , and of course no corner blocks; the cheapest of cheap fiddles .No need to worry about tone because there just isn't any worth speaking about--- Referring to Ed Stuekerjuergens comment (page 14) he didn't quite catch my point . I stated tht Coal oil , or kerosine as we know it , is called Parfin oil in England and some other European countries.--- Also on page 14 Conrad Nelson asks about using powdered water stain on the wood before sizing. Don't ever put any stain on a fiddle before sizing or sealing the wood. Gamboge ,when used for sizing, does carry a light yellow color but this is not objectionable . If properly used it will accent the grain slightly and add some depth to overlaying coats of color varnish .--Dr. Ed Walker's question (page 14) about violins having the neck and top block in one piece brings out another characteristic which nails down the origin of an old fiddle at once . This is typical German construction of the early 1800 period. It had some advantages (to the maker) but it didn't catch on outside of Germany---- Dr. Stockley's short article (page15) mentions electronic tuning of violin plates. I feel that more articles on the subject would be welcomed by our readers because more and more of us are beginning to realize that this is a new and most efficient tool for the violin maker.I am at present in the process of setting up the equipment and learning how to use it .I'm fortunate in having some assistance from Bill Fulton who has had some experience with it, and Physicist Dr. Fred Ross. The articles of Carleen Hutchins and the " Newsletter of ' The Cat gut acoustical Society' are a sgreat help as would be expected . A couple of articles by Bill Slaby in our Journal some time ago described his layout and some basic information . These are the kind of article we need from our readers so we can all derive some benefit from the exchange of information. Let's hear from some of you fellows who have something to say on this subject and I promise to throw in a little something when I have sometning to day

Some questions on store varnish . You just have to take as you find it. One person I know varnished a ' Cello with oil varnish purchased from Vitali Import Co. of Maywood , Calif and did a magnificent job .He mi mixed dark brown with yellow and the color was just right . Of course we don't know how it will stand the test of time but as I said . It sure looked good--

Refering to the question by Odd Cox (page 22) about the ' Schweitzer' vidlin , original hand made instruments by this maker are very seldom seen ut there are literally thousands of factory made violins floating around

which bear a ' Schweitzer ' label similar to the one described . They are usually 'Amati' copies although I have seen others . They are well made for a factory fiddle ,have a dark brown varnish with golden undertone, medium width straight grain top wood , the grain reads being quite prounounced---

Fred Artindales sound post gage (page 24)Should make a hit . It is similar and practical but Fred , seventy six threads per inch ! That is really a fine thread . Why not make it say forty TPI which is standard. Sizes 4-40 or 5-40 should be OK. then one complete turn of the screew woul d be twenty five one thousandthof , a half turn would be less tha n 1/64 of an inch.

In closing these comments I would like to remind all my Journal friends that I have changed my address to 4334 Voltaire St. San Diego, Calif. 92107. I have sold ' Luthier Lodge' and am now living comfprtably ' Out of the high rent area.

h.s.w

ANSWER

In re; The Schweitzer violin question in the April Journal .

Dear Mr. Cox;

I was interested in your article in the journal and didn't waist time going thru some of the books I have . I have found your violin maker listed in " Practical History of the Violin" by H. Bauer Music Co , NEW York Published in 1911 Schweitzer is listed and we have a Photographic reproduction of the label which reads .JOH. BAPT. SCHWEITZER FECIT AD FORMAN ANTONII STRADIVARII PESTINI 18- The corner where the date was torn off the label and dosen't show which year it was made . The commnets by Mr Bauer -" Very fine falt violins."

The fact that this label mentions ' Stradivari " and your label " Amati" proves that he copies the masters and didn't confine himself to one master. The type of letters used in the label are very similar to the type used in Strad labels .Hope this gives you a little to go on . No doubt some of the other members will have more information for you .

I was also one of the unfortunate ones to miss the convention . Had made plans to go but couldn't make it . I intend to make it this year and surely hope I can. Don't think I'll bother to bring any fiddles if you're going to take all the prizes . I would be glad to hear from you pr any other member so I'm saking Bob to publish my name and address.

Guy J. Fooy
Rt.1
Vicksburg, Mich 49097

---

a Priest found himself in a long line of cars at a service station.
" Sorry about the delay , " said the attendant . " Everybody waits till the last minute to get ready for a trip they knew they're goinf to make."
The priest answered , " I know . I have the same problem in my business".

PEG BUSTERS & PEG DUSTERS

BY E. J. Stuekejergen
2925 Ave K.
Ft Madison, Iowa.52627

The article in the N v. Journal by Beck Hawkins was a pretty good one. So now I know that there are peg dusters and also peg busters.

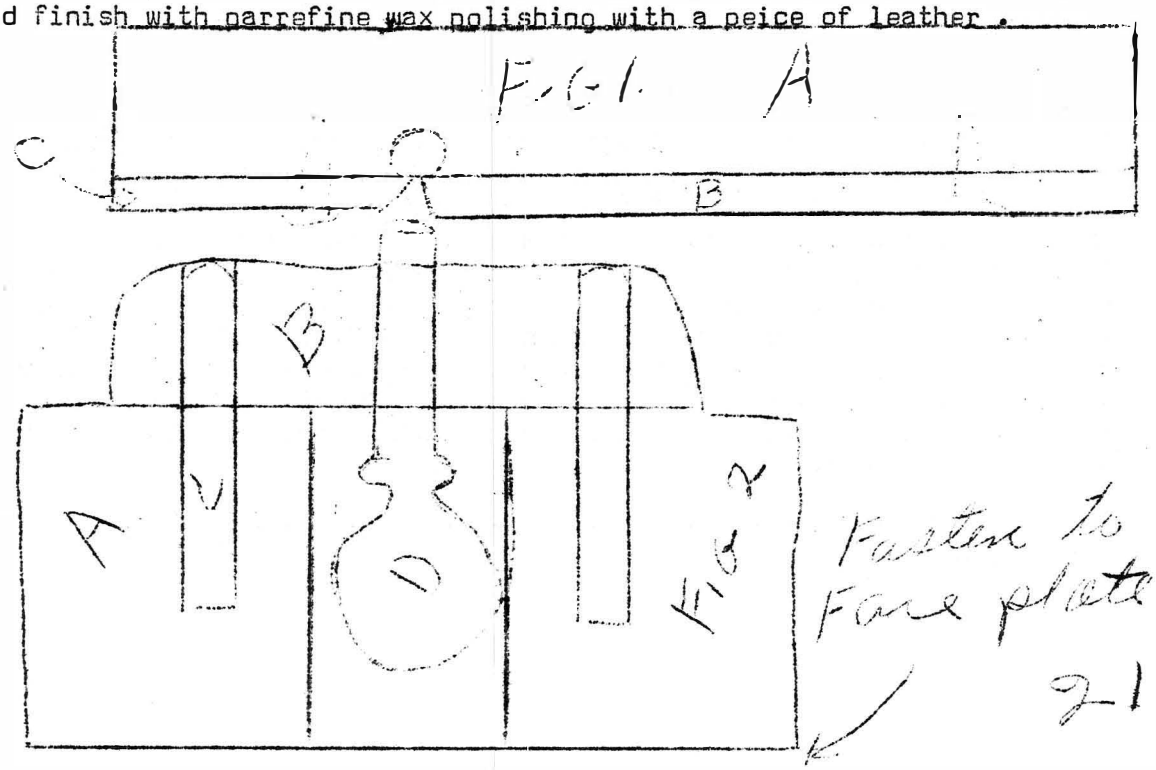
Wether the title was a misprint or not , it could not have hit the mark any better. I had a peg buster too some years ago that would not work right no matter how much you tried to make it work. So I made my shaper as shown in the sketch. What I consider most impottant or as some would call it / The secret, is the hold-down spring B in front of the knife. Since there were a number of planes in the journal , there is no need to go into details. The sketch should make this plain of what I have in mind.

HERE is a plan of a peg shaper I have been using for years and it works fine

FIB 1-A is a piece of hard maple about 3/4x1 7/8-5 $\frac{1}{4}$
" B is a wood hold-down spring $\frac{1}{4}$ x 1 7/8 - 3 7/8
" C is the knife . The hold-down spring is an important part of the shaper as it holds the peg down in the bottom of the shaper and keeps the peg from getting out of round.

FIB- 2 is a cross section of an attachment to be used on a lathe or any other spindle for rounding and polishing the ends of the violin pegs. The drawing is actual size but it can be varied to suit , make the body A the diam. to suit the lathe face plate the 2 dowels C can be glued into the body C, the holes for them in the piece B should be a snug sliding fit for the dowels C. The center hole in B naturally should be the size and taper of the violin peg.To insert peg B slips off the dowel C. insert the peg end slip B back in place on the dowels C and you are ready to go .

I always use a file for rounding the peg, then use fine sand paper and finish with parrefine wax polishing with a peice of leather .



THE PEGS

BY BEN F. HARRISON
23071 Sherman
Oak Park, Mich.48237

If I were asked to name the one area of the violin that could use some extensive research and redesigning , I would unhesitatingly say , " " The Pegs . Back in the days when the violin first came into being, the simplest way was usually the best way.That holds ture in most cases in the present age, but in the area of the violin pegs, it seems a little ridiculous to go along using such a haphazard method as we do.

Some years ago , there was a machine head on the market and many violins seemed to be equipped with them . These quiet similar to those seen on mandolins and guitars, being composed of a metal peg, a worm gear and wheel assembly to which was attached the peg fingerpiece . These are still used on bass fiddles and so far as I know , always have been. I cannot remember ever seeing one with tapered pegs in it . These machine heads were not especially beautiful, but they did a job that the tapered pegs don't do, which is hold a violin in tune . I have had many violinists tell me that their most frustrating problem with a violin was to get it in tune and keep it in tune once they managed to .Tapered pegs depend on friction alone to hold then once the pitch of the strings has been set . This is toue of any straight through peg. However, with the worm and wheel, ther is a locking action that prevents the peg from reversing itself. Of course, this does nothing in regards to stretching of the string.

Some work seems to have been done in this direction and there are several patent pegs of the straight through type , but these , too have their draw backs,the primary one being wear on the bushings or friction rings that initially prevent slipping . Herron-Allen describes several of this type peg and it is interesting to study their design. However , they are not much different from other patent pegs I have seen. I have no falling out with some of the more recent designs, for they seem to be heading in the right direction and gaining favor with some players . However, the majority still seem to perfer the old straight thru, tapered peg and that is what this srticle is about.

In gerneral , the thoutht of fitting a peg leads one to say it is a simple thing. I have never thought so, since there are many factors entering into a well fitted and operating peg. First off is the taper of the peg and the matching taper of the hole. This is of paramount importance and befoere using a shaper to cut a peg, the reamer should be inserted in the shaper to check and be sure that they match. I have seen pegs fitted with a small amount of error between the hole and thepeg and while playing , the peg would suddenly spin and jsut about fall out of the hole . In othercases , the mis-match is such that the peg is very hard to turn at all . In this case,the error is enough to cause the two tapers to bind . So, before starting to peg an instrument , check and adjust the tools as closely as you can.

There is a relationship between the size of the peg and the ease with which it can be tuned.

The smaller the peg, the more likely it is to spring when string tension is applied. This springing causes binding much like a loaded beam that is supported at each ehd . Of course, this is not obvious to the eye, but it is there nonetheless. This , in turn, leads to a wearing of the peg box holes so that instead of being round, they wear into an ellipical shape and this compounds the trouble. If a smaller peg is to be used , it seems to be better to rebush and start a new hole . The bushing should be of a harder density wood than the peg box in order to offset somewhat the wearing of the hole . There was once an article in the Journal in regardsto using ebony bushings. You should dig through your back issues and re-read. Suppose that you have cutters numbering 1.2.3.4 and that 4 is the largest . Even on a new violin, you should use 2 or 3 and for ease in tuning , 3 is much better than 2. This will leave you with only one larger ream size should the instrument later require to be repegged . After that , it would call for a bushing job before the pegging could begin. After the lead holes have been drilled in the peg box, the reamer should be carefully entered to avoid any splitting . Turn the reamer slowly taking very ligh t cuts. Heavier cutting can cause chatter which will produce a hacked up hole. Check the peg frequently in the hole to be sure the shank does not go in too far. You will have two "Key" pegs that should be done first. These are the G and the E . From the cheek of the peg box to the outer tip of the pegs should be 1½ inches. Note that this is to the outer tip of the peg and not to its collar. These pegs should be set into place first, since the D and A must match the outer tips of the thumb pieces of the other two pegs. This means that for a given shank length, the D and A pegs will be a slight bit longer than the G and E since the lower end of the scroll is narrower. The D and A holes must be reamed with extreme are in oeder to not get them further in than the G and E . If this should happen, the G add E must be entered a bit more in oeder to even up all 4 pegs.

Once done , remove one peg at a time and give it a good dose of peg dope and work it around in the hole to get the peg box coated well with it. This doping allows the peg to slip into the hole further than it does when dry After all 4 pegs are doped and seated in their proper holes , one or more holes may have to be touched up a bit with the reamer, but this will be very slight . Once seated at their full depth, the distance from the peg box to the outer tip of the pegs should be about 1 3/8 inches , though a little more is of no consequence . However , do not let the pegs stand too far out or you will be unable to get the instrument into a shaped case.

With the pegs in snugly , mark with a pencil right up against the peg box. Remove the peg and saw off the excess. Use a grinder and grind the end into a sweeping radius, which will make the end of the peg somewhat oval. Finish this end finely with a piece of fine sandpaper and when all the scratches are out , stick it to your tongue and then rub the tip of the peg on a piece of coarse canvass cloth . This is all the polish you will need and the end of the peg will be very bright . When put back into the reamer holes, the end of the peg shank should not protude ourside of the peg box. There will be just the radius sticking out so that it looks like a black button on the side of the peg box. This same proceedure is carried out for all four of the pegs. When this is done you are ready to drill the string holes in the pegs.

Some pegs come from the dealer with a hole already drilled in them. I would suggest that these holes be filled up with toothpick glued in them. trim off the protruding end of the toothpick and proceed to lay out the holes so as to clear well with the adjacent string when the string is wrapped on the peg. Usually, one hole is all that is used in a peg, but this can often times allow a string to slip on the peg and this is sure to happen at the worst time possible , which is right in the middle of a solo. To prevent the slipping , drill two holes in the peg so that they are side by side . The string is pushed through one hole and then doubled back through the other one . Then, as the string is reeved onto the peg, the running end of the string rolls on the peg over the part that is lying on the surface of the peg. As the string is drawn up , the pressure increases and there is no chance for the string to slip off of the peg. As the string is drawn up , the pressure increases and ther is no chance for the string to slip off of the peg . The holes themselves should be drilled so that there is very little clearance when the string is ieserted . The E on a violin should never be drilled over 1/32 diameter and it is better if you have a drill a bit smaller than this . The 1/32 will work well for the A string , while the G and d will probably require a bit larger diameter. You should check this with the strings you are using and make a note of the diameters of drills required for the strings . But , keep the string and hole clearance as small as you can. A large hole will do nothing more than cause trouble .

When the holes have been drilled , take a round needle file and place it at right angles to the shank of the peg, laying across the hole . Cut a small " U " shaped groove so as to knock off the burr and give the string a smooth float onto the peg.

In gernral, we have three materials for pegs . These are ebony, boxwood and rose wood. Of the three , I think the boxwood is the better , but this is just a matter of opinion. It has been my experience that a properly fitted boxwood peg will turn easier and require less peg dope. The easiest tuning of the three is rosewood , but it seems to be smoewhat softer and becomes grooved by the E more rapidly than does boxweod or ebony Here is a question Bob can add to the question list he has going .How do you stain boxwood? After shaping and the shank, it usually is back to its natural color and I have never found a suitable stain for it , as anythin g I have used dosen't soak into it .

Now back to the first part of this article. I think there should be some way a violin can be pegged so that it looks like the straight through peg, but has the locking feature of the machine head. I am aware of the present pegs based on the expanding bushing principle, but these are also friction pegs, This is a good project for some of the experimentors and if they should ever come up with a really good answer to it , I would like to know how it is done. It is for certain that we are going to have to continue using the type, or a " look alike " type of peg. The violinists demand it .It is amazing , though, how many violinists attempt to tune a violin by turning the peg as though it had a locking device on it . Few of the every day violinists and even fewer of the teachers seem to relize tht they must turn and push the peg at the same time . Even fewer seem to know what the micro adjuster on the tailpiece is for , since once it has been

screwed down as far as it will go , that is the last time it is used until l the repairman backs the screw off for them . But one thing is quite noticeable and that is that a good player never takes long to get his fiddle in tune. There seem to be some around however that spend time in tuning and can go on and on forever twisting the pegs and sawing with the bow.

Since we are going to have to use the straight pegs, we may as well do as good a job on them as we can. Tht is why I decided to write this . You fellows who fits pegs every day aren't likely to find anything new in this ,but for those who do not fit many pegs , this may be of some help. Like everything else on a violin , they are important and should not be just stuck in the holes haphazardly.

Ben F. Harrison.

TONAL BALANCE

BY William H. Frush
Box 35,
Atwood ,Ind.46502

The combined weight of the top , bass -bar and bridge should exactly balance to the weight of the back. As the bridge must be in balance to the tension of the strings , each string is segregated for the adjustment of that individual part of each section of the bridge . This can be done in any sequence , only be sure to have each section in proper balance with the top upon completing the work.

The center section of the top should now be checked for balance with each of the outside sections(one at a time)and with the tension of the strings. The resistance of each of the eight main parts of the body, four outside sections , two inside sections and the right and left rib assemblys should be the same .

As the resistance is a combination of weight and tension,the pressure (pull down) and difference in the pressure on the right and left sides of the bridge and the weight,length and balance of the sound-post and bass bar must be right before attempting to balance each part to the tension of the strings.

The violin as a whole should be checked by placing in suspension and testing to center of vibration in all three dimensions with strings open and muted . If any discrepancy is found it can be traced to the section where the trouble is by proper muting. The intensity of the tone is almost entirely dependent on this three dimensional balance.

One can see now why the varnish has a very small and insignificant effect on the tone of an instrument. One can also see why there were so very few really good violins ever made as it takes an enormous amount of ability , time and patience to learn how to combine tension, weight and vibration into a beautifully toned instrument.

William H. Frush.

COMMENTS

N. Nicholas
13 Via Vittorio Veneto,
18039 Ventimiglia , Italy.

Curly maple backs are not satisfactory if untreated . I made one violin from the wood Don White sent me and it was dull voiced. I coesider there is not enough connections between the separate curls . I treated the back inside with very thin oily varnish and the tone is much better now. I do not usually treat ordinary maple backs inside. The fact of the improved curly maple violin can be accepted as a suggestion that backs also transfer vibrations , and not only reflect sound as a hollow mirrow. The inner surface was not made shiny by the treatment.

The article by Brinley True is most interesting . It is correct that the body of an instrument is mostly a conductor of vibrations towards the air enclosed in it . But Mr True does not go far enough to explain how those small bibrations produce the loud sound which can be heard in the great hall of an auditorium. When sea waves are striking a wall of a jetty those waves are reflected back. Under certain conditions the incoming waves and the reflected one collide so to speak. Under certain conditions the incoming wave and the reflected one collide so to speak, and create a huge standing wave. It is possible that the air waves in the violin reflected from the sides collide with new ones created by the movement of the body, and large standing waves appear in the middle of the instrument, and through the ff holes create the sound we hear. It is interesting to note that the sides of the upper and lower bouts are semi-circular and could reflect waves towards the center, with greater concentration of energy. This is hypothetical but let us discuss it .

NIck.

Mr. Ted Watson

I have received the forms in good order and have ribs on all of them. They are very excellent.

I read about your secret filler. You are Stradivarius ! He took his secfet to the grave with him and has had violin makers guessing for 231 years.

I'll be the last to refuse to try something new,so here is my $4.00 send me a bottle . If I don't like what it does to a fiddle maybe I can drink it .

How would you like to make a Cello mold? I have Joseph Reid's drawings . Let me know.

Norman Foster

Stan- " Is he living on a sound basis?"
Ned_ " Naturally. He's a bass drummer."

HOW I MADE A BOW

BY Alfred Slotnick

PART IV

Serew the screw eye back intothe frog and insert the slot and engage with the screw . Keep trying and turning the screw into the frog until a good fit is made. The frog must slide easily, but must fit firmly enough until a good fit is made .The frog must slide easily, but must fit firmly enough so it dosen't wobble . A loose fitting frog will eventually wreck havoc on a stick by pulling to one side when the stick is screwed up.

Right about here it would be a good idea to hair the bow. With the bow haired, you will be able to tell whether you have attained any success and will be able to assess your failures and make possible corrections.

Many books give hairing instructions , but few are of any value practically .A recent method printed in the two issues of VIOLIN & VIOLINISTS Mar-Apr and May-June 1959 by the eminent Max Moller is a rare exception an I heartily recommend it to all . It is different from the practice of most rehairers in that the frog end is haired first. I don't want to start an argument over wether it is better to start head first or frog first- both methods in the hands of the inept are worthless .However, the frog first method can be accomplished with far fewer tools and also it is a boon to the typo who often forgets to replace the ferrule on the frog when hairing head first . It is possible also to attain success on the first try.Speak to any professional rehairer and he will tell you that not till you have haired your hundreth bow will you attain success. However , once the mystry is removed and mastery attained , the whole task should be done perfectly in fifteen minutes.

With the bow haired and the stick screwed up, flaws will make themselves evident if there are any .These flaws can be the results of improper heating and bending and often a result of inherant qualities in the wood. If the latter , there is nothing to be done. But if the heating and bendin g is at fault you can redo this . Flaws you may come across include a hump at the head or a hump at the heel or curves to the right or left. Patient reheating and bending is required.

This is the point where you must decide wheter you have a bow or a peece of cut wood. Now comes the cosmetics, for unlike a violin , the varnish has nothing to do with playing qulaities of a bow.

VARNISH AND POLISH

What a joy it is to realize that if and when you have completed a bow and it appears satisfactory, it cannot be ruined by the varnish as is the case with so many violins You can varnish the stick any way you wish, any color you wish-all the way to dark chocolate , which seems to be a favorite with many makers. The master himslef , Tourte, used no varnish at all and it is a source of wonder to me how few makers have emulated him in this regard. Rubbing with oil seems to be his " secret" and I can think of nothing better.

BOW WRAPPING

To finish off the bow and to provide a grip for the foremost finger and probably most important to adjust the balance of the bow, some kind of wrapping must now be applied . The most conventional and probably the nicest , is a wrapping of pure silver wire a piece of leather about 3/4" wide at the end a tinypiece about a 1/16" at the front . The total length of the silver wrapping will be 4 inches. Keep in mind that the leather piece must end exactly touching the frog in its foremost position . Now take the silver wire and flatten out 1/8". The silver is maleable -- you can flatten it with a little hammer or even a plier . Now lay the flattenedd piece of the stick pointing towards the frog and parallel to the stick. Hold it down and begin winding the wire at right angle to the flattened piece and over it. The pressure of the winding will keep firm,bu t you may put a spot of glue on the stick. Hold the spool in your right hand and pay off the wire withyour thumb and forefinger maintain enough pressur e to make a tight and neat wrap. The bow is held in the left hand and revolved between the fingers to pick up the wire Bow makers have machines, generally of their own contrivance to do thes job. In the picture of the workshop of Lothar Meisel, in the JOurnal some months ago, such a machine was illustrated .Keep this up until you get to about five turns from the end . Take a piece of wire about three inches long and bend it in half -making a tiny loop. Lay the loop on the stick and continue wrapping so that when the last turn is made,the little loop is projecting about 1/4". Cut the wire you have been wrapping with and insert the cut end into the little projecting loop. Now keeping your finger up on the edge securing the wrapping from loosening , pull the ehd of the loop together drawing the end of the loop together drawing the cut end of the wire through the wrapping. Neatly cut the projecting end of the wire and this item is finished.

The leather piece is now glued in place over the wire . The piece must be large enough to cover the stick about 1½" . It must be very thin and edges must be thinner still so that the edges of the leather seem to disappear into the stick,

Alfred Slotnick.

EBONY WOOD
NEWS ITEM

Nowaday there is all kinds of fake ebony around. Our clever chimists have copied its blackness in several man- made plastics and ebony - black paint . But true ebony is not a synthetic substance . It is a gift of the gendrous plant world. There are at least 15 trees that belong to the ebony family , and the harndsome dark wood comes from deep inside their sturdy trunks.

The thres of the ebony family like climates that are tropical or at least warmish. Like all trees , they add new rings of boxy cells around the outside of their trunks every season. These new woody cells are very muCh alive. They buisly carry moisture and rich sap up and down the tree. The outer rings of a tree are called sapwood, and the sapwood of an ebony tree is very pale. It may be creamy white , pearly grey or tinged with pink. The oldest rings are in the center of a tree trunk . Their transportation duties are finished and their cells die, leaving only the hard woody walld of their boxy cells . The center of a tree trunk is called the heartwood .

Ebony trees manufatcture a special kind of dark , gummy resin that gathers in the lifeless heartwood. It fills the cells and seeps through their woody walls. In time it dries and becomes hard and brittle . This heartwood then becomes dark ebony. Some ebony trees produce heartwood of chocolate brown, and in others it is streaked with varigated browns. A few special members of the family produce heartwood that is blacker than balckest midnight . These precious ebony trees thrive in southern India and Ceylon.

Ebony wood is brittle and rather easy to carve , and its surface can be polished to shine like glossy metal. Artists use it to make gleaming statues. Cabninet makers use it to create graceful inlaid designs in fine furniture. All kinds of ebony are baluable , but the most precious kind is jet balck. It is used to make smooth and shiny piano keys and also handle for highpriced carving knives and forks.

Various trees of the ebony family grow in Japan and the Phippines , in India and Ceylon, Africa and Madagascar and even in North and South America. Our member of the family is the persimmon tree that grow. from Connecticut way south into Texas . It Produces delicious persimmon fruits, but its heartwood ebony is hardly worth mentioning . Its trunk never grows big enough to produce a sizable core of dark, dead , heartwood . An old persimmon tree , however , may yield enough ebony to make glossy dark heads for a number of golf clubs.

Moe : " When you proposed , I suppose she said : ' This is so sudden.
Joe; " No. She said : " This suspense has been killing me ."

Teacher - " And can anyone tell me what a ground-hog is ?"
Maxie- " Please , miss . its a sausage."

CORRECTIONS ON ADS

These prices were received too late to print , as the ads were already finished. We have to get the material to the printers early this time of year in order to get them printed by the first of the year.

Bob.

Following is the corrections for the INTERNATIONAL VIOLIN CO. ADS

Firstly there were price changes , and I naturally want the correct prices for the 1968 year. Our Luigi Nicoseco oil Varnishes now - $5.00 per pint, 90 for two ounce bottle and $9.50 per dozen bottles . I am showing the correct on the enclosed ad. This is very important . On the White Nylon Hair we reduced the dozen units price from $5.00 to 4,50 per dozen. However the unbleached Nylon Hair , which is the best grade, and which you mention in two lines below the white Nylon Hair is now $35.00 per pound, or in dozen units lots $ 7.00 per dozen.

Neutral or any color desired : per pint $5.00 2 Oz. bottle 90¢
1 Dozen Assorted 2 Oz. bottles Price F.O.B. Baltimore , Md. $9.50

OUR " CHIEFTAIN WHITE NYLON BOW HAIR " IS STRONG ER THAN THE OLD TYPE HORSE HAIR AND IS HIGHLY PRAISED BY ALL VIOLIN MAKERS AND VIOLINISTS WHO USE IT

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The same hair , but unbleached and looking like best grade unbleached horse hair , is $ 35.00 pound F.O.B. or dozen units $7.00

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Violin Wood at Big Savings. Seasoned Spruce Tops—One and Two Piece Quarter Sawed Maple for Backs. Very Select Quality

Ebony Finger Boards, Pegs, etc. Our Assortment of Violin Supplies is Complete. Savings are Tremendous. Write for Price List

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Enhances the value of any Violin. This incomparable Oil Varnish is renowned around the world for its Superior Excellence. Never Smears—never Checks—imparts a most Distinctive Finish to your Violin. Dries in one day.

NOTE THESE LOW PRICES FOR SUCH SUPERB QUALITY

Neutral or Any Color Desired: Per Pint - $4.50, 2 Oz. Bottle - 85c
1 Doz. Assorted 2 Oz. Bottles - $8.00. Prices F.O.B. Baltimore, Md.
Send for a Sample Order Todoy and cisk for the Violin Makers Supply Price List

NEW "BOW-HAIR" SENSATION — Have you trouble in getting good Bow Hair and paying exhorbitant prices? If so, try our Chieftain White Nylon Bow Hair — a 1960 revelation.

Our "CHIEFTAIN WHITE NYLON BOW HAIR" is stronger than the old type horse hair and is highly praised by all violin makers and violinists who use it.

Per Pound, Hank - - - - $20.00 ½ Pound - - - - - - - - $10.50
Per Doz. Units - - - - - $ 5.00 Per Gross - - - - - - - - $48.00

The same hair, but unbleached and looking like best grade unbleached Horsehair, is $25.00 per pound F. O. B. Baltimore.

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We now have on the shelf W. W. rosin. 1 lb. bags

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2% Alizarine suspension packaged and bottled ready to ship to anyone interested in making this varnish. The 2% Alizarine will sell for $2.00 a bottle and the Rosin for $1.50 per lb.

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