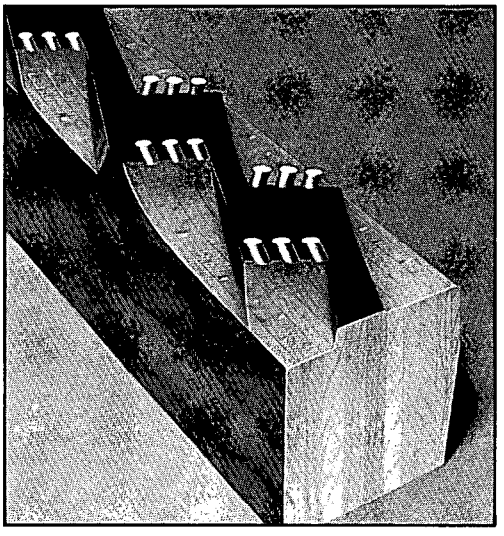
Piano Technicians
Journal
February 1987

The Baldwin Piano...
You can see why it sounds better

The bridge is a critical component of the tone-producing system. It must precisely terminate the speaking length of the strings, and it must transmit vibration efficiently to the soundboard. In addition, it must be extremely strong to withstand the force of sidebearing and to resist splitting.

Traditionally, bridges have been capped so that they can be notched easily and the height altered for downbearing by planing. Our patented AcuJust™ plate suspension and hitch pin design gives us complete accuracy in setting downbearing, so we no longer need to plane our bridges down after installation. And we now notch all bridges by machine to gain increased precision and consistency.

In addition, our research showed that eliminating the capping, in combination with the above changes, gave us a definite improvement in tone. We gained maximum tone quality, greater efficiency in transmission of vibration, and improved reliability. At the same time we eliminated problems previously associated with capping: (1) occasional loose capping, (2) checking and splitting of the cap, (3) grain direction which was not always parallel to the line of the bridge, and (4) the potential tone barrier of a horizontal glue joint in the bridge.



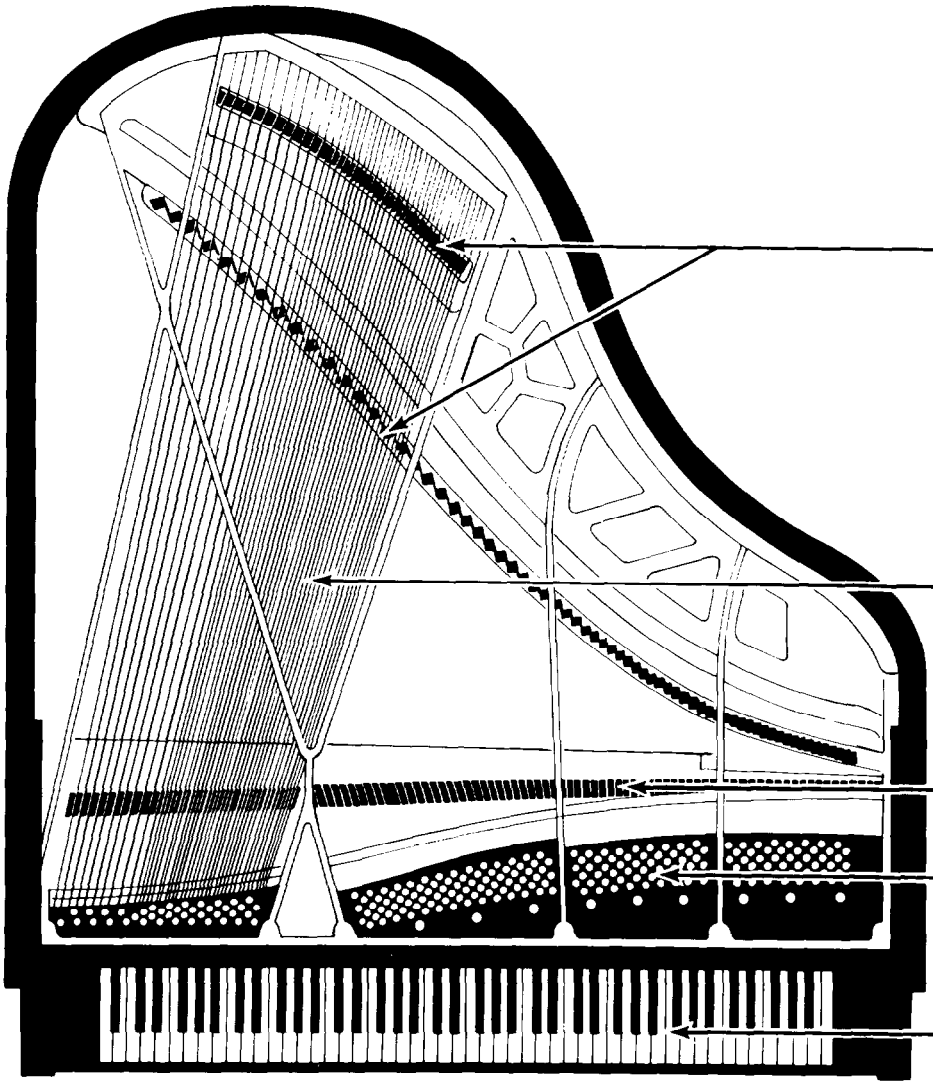
THE BALDWIN GRAND BRIDGE: Thin vertical laminations are bent for continuity of grain from one end of the bridge to the other without horizontal glue joints. Baldwin researchers have found this design contributes significantly to outstanding tone quality.

Third in a series of informative ads on piano tone published by Baldwin Piano & Organ Company exclusively for the benefit of piano technicians.

Baldwin® – *Leading the way through research*

TOTAL DUPLICATION BY SCHAFF

The only all-service company remaining in the piano industry today! All duplications controlled by the company that **CARES**! Trust Schaff with all of your replacement needs



OTHER SCHAFF DUPLICATION SERVICES...

1. PIANO AND ORGAN COVERS
2. UNIVERSAL BASS STRINGS
3. SQUARE GRAND HAMMERS
4. BRASS FLANGE RAILS
5. QUALITY QUEEN BENCH COVERS
6. "PERFORMER" BENCH CUSHIONS

THE HOUSE DEDICATED TO SERVICE

Schaff PIANO SUPPLY COMPANY

451 OAKWOOD ROAD, LAKE ZURICH, IL 60047

Prices Subject To Usual Discount
For Same Day Service Try Our 24 Hour Phone
(312) 438-4556

The Piano Technicians Journal **February 1987**

Official Publication Of The Piano Technicians Guild, Inc.

Volume 30
Number 2

In This Issue...

Plus...

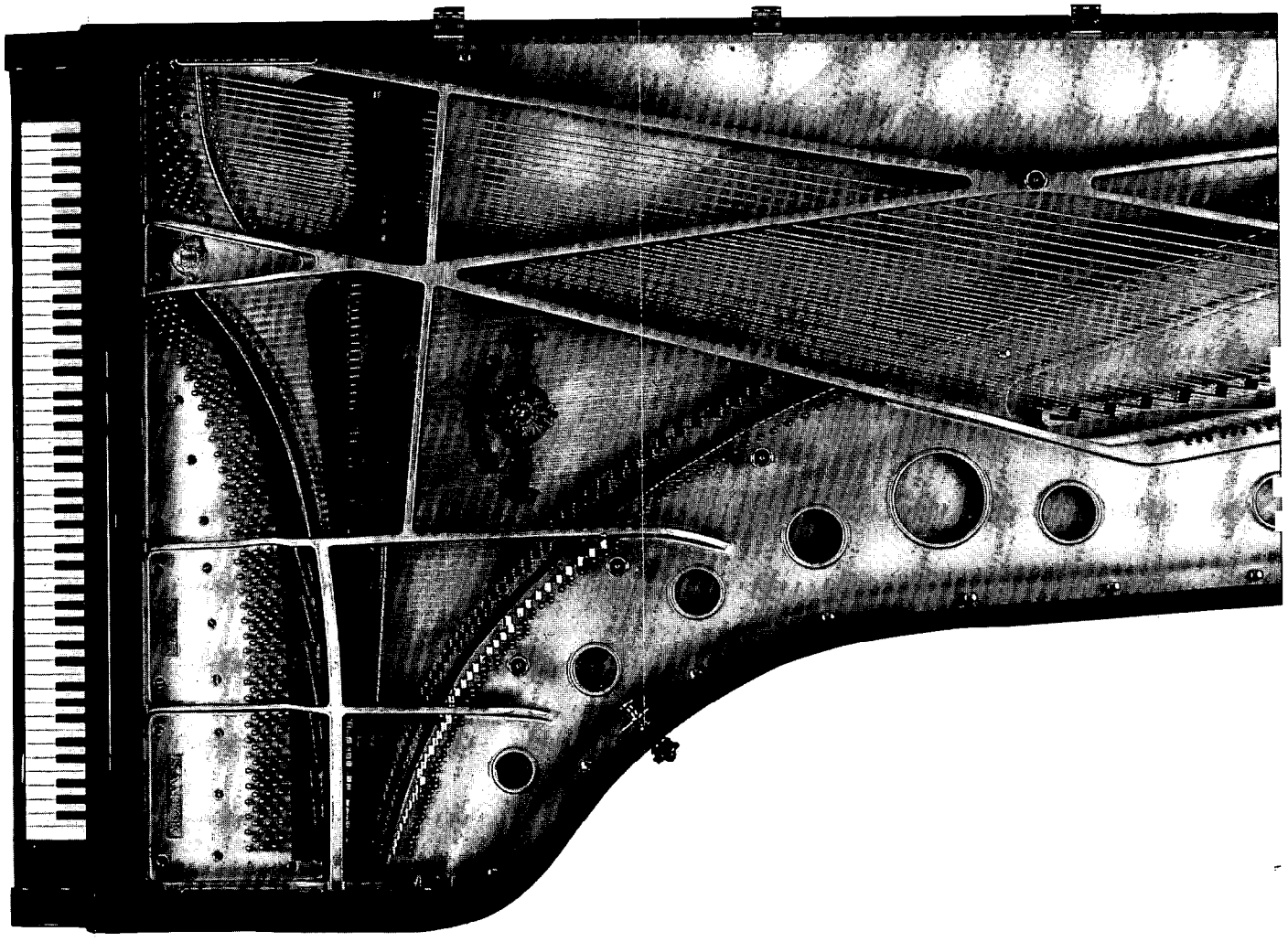
The Cover...

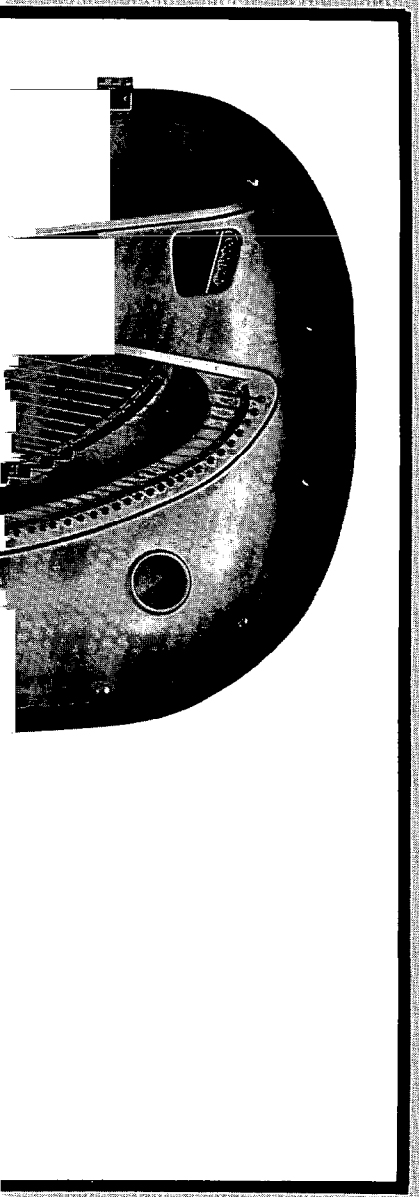
"The Quiet Elegance of a Restored 1891 Bush & Gerts," a study by Randall Woltz, a member of the Orange County, CA, Chapter.

The *Piano Technicians Journal* (ISSN 0031 9562) is the official publication of The Piano Technicians Guild, Inc., 9140 Ward Parkway, Kansas City, MO 64114. The *Journal* is published monthly, with two issues in December. Second class postage paid at Kansas City, MO., US ISSN 0031 9562 foreign and domestic. POSTMASTER: send address changes to: *Piano Technicians Journal*, 9140 Ward Parkway, Kansas City, MO 64114.

Annual subscription price: $85 (US) for one year; $155 (US) for two years; $7.50 (US) per single copy. Piano Technicians Guild members receive the *Piano Technicians Journal* for $45 per year as part of their membership dues.

German Scale Design The Heart Of The World's Greatest Pianos





For over two hundred years, German pianomakers have been perfecting the fine art of scale design. The results of this ongoing quest for perfection can be heard in the pure, rich, resonant tone of renowned German pianos like the Bechstein, the Bosendorfer, and the Grotrian-Steinweg. With the introduction of the "Imperial German" scales, the Samick piano joins the elite ranks of these legendary German instruments.

Klaus Fenner, the world's preeminent scale designer, labored for the past five years to create a unique scale that would endow each Samick piano with a tone quality and response capable of satisfying the most discerning musician. The result was the now acclaimed Imperial German Scale. (These Fenner Scales are available only in Samick Pianos).

Samick's skilled manufacturing engineers then took this design and put it into production, using the finest materials and an unsurpassed manufacturing process. Samick's seven factories blend a 4000 year old tradition of skilled handwork with the world's most sophisticated automated machinery. This unique combination of skilled handwork, advanced manufacturing methods, and German scale design has resulted in one of the finest pianos in the world, regardless of price.

Accomplished pianists throughout the world are acknowledging the remarkable quality and performance of the Samick piano. Which is one reason why Samick enjoys the distinction of being the world's fastest growing piano company.

For more information on Samick pianos, we invite you to write for a copy of the Samick Technical Manual. Samick Music Corp., 14235 Lomitas, La Puente, CA. 91746. Or call:(800) 592-9393.

Samick

President's Message

M.B. Hawkins
President

Struggle, Change And Growth

Having gotten past the beginning of the year we find ourselves in the middle of the first quarter, a good place to pause. Pause, yes. Stop, no. Pause to reflect and be sure we are headed where we want to be at the first plateau or end of the first quarter. If you are fortunate, you will have already realized that 1987 is going to be another year of struggle, and that is terrific.

You may ask how on earth can a year of struggle be terrific? Let's look to nature for a moment for the answer to that question. I think what happens to birds from the time they are hatched until they begin to fly is a tremendous lesson that man, the most advanced creature, should never forget.

After the young have been hatched and sustenance has been ferried in to sustain life and promote growth, they will soon be up and moving about. Sometime thereafter, the mother bird will know when it is time for her young to spread their wings and fly. Some are timid and dare not leave the security of the nest. After awhile the mother will no longer coax them but actually push them out of the nest. Sometimes a dead bird or two can be found on the ground beneath the nest. Those are the ones that were unwilling to struggle — too timid to even try to fly. Their unwillingness to struggle was their mistake and now they cease to exist. Those that struggled are alive.

Within the next few months when spring is upon us, if you know where there is a nest, keep track of it until the birds hatch. You will be in for an excellent learning experience and yes, we can learn much from this little nature story.

There are many areas in our development to which these principles apply. You may rest assured that there is no life where there is no struggle. Struggle is never stationary so you will always notice that struggle is in the direction of change. One must change to progress. From the beginning of our lives we do something that results in change because change is growth and I suppose that is where I'm going with this thought: growth!

We in our businesses are always looking for growth so we must be responsive to some change. This mid-quarter pause is for the purpose of allowing us to make slight course corrections if needed. That is a part of the struggle. When we set new goals for achievement, it is much easier to continue in the grooved path we are accustomed to so it is not a mistake necessarily to have to make course corrections. That is the struggle to stay on track.

For 30 years our predecessors in the Piano Technicians Guild have struggled for excellence in the field of piano service. Now it is our turn in the arena. Let's not let them down by failing to hold the banner of excellence high. That is our heritage. Surely some will fall along the wayside because of an unwillingness to stay in the struggle.

If we pass these principles along to those coming after us, we will have made a great contribution to the continuum of growth and progress.■

From The Home Office

Larry Goldsmith
Executive Director

In many ways, becoming Executive Director of the Piano Technicians Guild has been a revelation for me. I've been closely involved with the Guild for slightly more than three years now as communications director. Doing the *Journal* has given me a chance to get to know the Guild fairly well, both as individuals and as an organization — well enough at least to know that this was an opportunity I wanted very much.

I'm continually amazed at the number of hard-working and dedicated members who support the Guild. I've been involved with several other organizations, and I'm familiar with a number of others. In most such organizations, things are taken pretty much for granted. Usually an employer pays the dues, and most of the membership is just along for the ride. If things don't happen the way they should, it's no big deal. If things go right, well, that's no big deal either.

Not so here. Guild members are involved in their association and they don't take it at all lightly. Which is just the way it should be.

* * *

Perhaps you may have wondered why you are seeing so much information about the Toronto convention so early. After all, the convention is six months away, and we're already starting to hear about sights to be seen and classes to be attended (See pages 10 and 11).

For one thing, planning for this convention began even earlier than usual. The difficulties of hosting an international convention and institute are somewhat greater this year. There are customs and immigration laws to be explored, contacts to be made, rates of currency exchange to be figured, and a host of other activities to be carried out before the convention's opening session. Careful planning now means that everything will go smoothly when you set out for Toronto.

In meeting this challenge, we're fortunate to be able to call on a hard-working group of people. Institute Director Dick Bittinger has worked closely with Host Committee Chairman John Lillico and other members of the Toronto Chapter to lay the groundwork for what promises to be a great convention and institute.

In a way, the fact that this convention is about to take place represents a major victory in itself. At one point in the 70s, the Toronto Chapter had reached new depths. Membership was down, morale was low and the chapter's future could have been brighter. It took a lot of attention from the chapter's Regional Vice President and other Guild officers in the area, plus a lot of hard work on the part of the remaining core of active chapter members, to reverse its fortunes. During this process, the chapter set a goal for itself that appeared at the time to be impossible.

The Regional Vice President? Dick Bittinger. A key member of the group of chapter members? John Lillico.

Today the chapter has more than 30 members. It meets regularly. It has good technical programs. Members stay in close contact, share information and generally help each other out. In short, the Toronto chapter is definitely back and looking forward to even greater things.

Oh, yes. One more thing. What was the impossible goal the chapter set for itself? Hosting the biggest and best Guild convention ever.

I wouldn't want to bet against them.

Foundation Helps Fund 'Music And Child Development'

The Piano Technicians Guild Foundation Board has granted a funding request from The Biology of Music Making, Inc., headed by Dr. Frank R. Wilson, for staging of the "Music and Child Development" Conference July 7-11 at the Denver Center for the Performing Arts.

The conference will bring together medial and behavioral scientists, developmental psychologists, specialists in childhood music education and other interested educators to examine a variety of issues concerning childhood musical experience. Dr. Wilson is well known for his neurological studies focusing on the relationship between the brain and the individual's capacity to play a musical instrument. He has served as a special consultant to the American Music Conference and is the author of *Tone Deaf and All Thumbs? An Invitation to Music Making for Late Bloomers and Non-Prodigies.*

Discussing the need for the planned Music and Child Development Conference, Dr. Wilson said, "There is no national policy concerning the role of music in general education. Advocacy for comprehensive programs in music education has come largely from the community of professional music educators and has had little impact on public attitudes.

"The conference represents a novel, timely and potentially effective vehicle for public and scientific discussions of the issues and for developing a national consensus."

Publication of the proceedings, discussion of the results at important national forums and dissemination of information to various news media all should contribute to increased public interest and concern with the issue of childhood musical experience.

"The Piano Technicians Guild Foundation is proud to assist in this important effort to stimulate scientific study and public awareness of the value of music education," said Foundation President Bob Russell.

Foundation, MTNA Announce 1987 Grant

The Piano Technicians Guild Foundation and the National Certification Board of the Music Teachers National Association have jointly announced the availability of a 1987 annual grant of $500 for continuing education, which will be awarded to a nationally certified teacher. The purpose of the Foundation grant is to provide advanced study of piano pedagogy, piano performance or other piano-related study, subject to Foundation approval.

Any MTNA member who has been nationally certified for a minimum of six years and who will be at least 28 years of age by March 1, 1987, is encouraged to apply. The scholarship will be awarded during MTNA's annual convention in New York in late March.

Toronto — Discover the Feeling

Sightseeing In Toronto!

John Lillico, RTT
Host Chapter Chairman

A logical launching point for a tour of Toronto is the CN Tower. Soaring some 1,815 feet into the clouds, the CN Tower is the world's tallest free-standing structure. Its municipal address, 301 Front St. W., is seldom referred to as its dominance of Toronto's skylines causes few vistors to become lost.

Opened in 1975, the tower was built as a telecommunications link and transmitter site for many of Toronto's TV and radio stations. At about 17 m.p.h., you are whisked up the tower to the two observation decks and revolving restaurant — 1,465 feet high. The restaurant revolves every seventy-two minutes affording plenty of time for a leisurely meal and an "aerial" tour of Toronto.

Directly south of the tower, stretching along Queen's Quay West, from Yonge to Bathurst Streets, is the ninety-two acre Harbourfront complex. In the past fifteen years, Harbourfront has grown into Toronto's second most popular tourist attraction. This two-and-a-half-mile-long area on the shore of Lake Ontario provides a relaxing atmosphere for boating, cycling, walking and more.

Harbourfront is a shopping, dining, entertaining and living complex. The site's largest building, Queen's Quay (pronounced "key") Terminal, is a renovated warehouse, although with its highly polished marble floors and pillars, wooden crates are a distant memory. The Terminal doubles as a shopping center and condominium residence. Some of the world's most original exclusive merchandise will be found here, from handknit sweaters to imported preserves.

Stroll along Water's Edge Promenade and you'll discover antiques, art galleries, boating children's activities, crafts, din-

Continued on next page

Soaring more than 1/3 of a mile, Toronto's CN Tower dwarfs the 72-story Bank of Montreal. (Photo courtesy Metro Toronto Convention & Visitors Association).

Toronto Institute '87

Dick Bittinger,
Institute Director

As I write this article, we are nearing the Christmas Holiday Season and I find myself really getting into a festive mood. It reminds me of the anticipation and excitment of getting ready for the annual convention each year. Gee, how we look forward to seeing old friends and making new ones — the excitment of the classes and all the things we learn, no matter how often we attend. I especially enjoy the camaraderie, the small talk in the halls or meeting rooms, where all the special tips are passed from one technician to another.

This year's Mini-Class will be staffed by past presidents of the Piano Technicians Guild. Just stop and think for a minute what a store of business and technical information they will have to offer! Because of many requests, more business classes will be offered and some will be quite different. I'm sure we will be able to upgrade our business practices from these classes.

Being involved as Institute Director gives me plenty of reason to be excited about the 1987 annual convention in Toronto, Canada at the Constellation Hotel. A beautiful hotel to hold a convention like ours and believe me, it's really neat!

Are you going to plug along on your own, just going from day to day and piano to piano? You don't have to, you know. Catch the spirit, get involved, "Discover The Feeling" in Toronto this summer and take home a new enthusiasm and knowledge of your chosen profession.■

Toronto . . .

ing, movies, music and theatre, plus much, much more!

Just west of Bathurst St. is Fort York, Toronto's most important historic site. In this early 19th century fort, the drama of the War of 1812 is recreated through tours, displays and military demonstrations.

A half mile west of Fort York is Exhibition Place, home of the world famous Canadian National Exhibition and the Toronto Blue Jays. If baseball appeals to you, the Blue Jays will be in town toward the end of the convention week.

Rising out of Lake Ontario, south of the Exhibition, is Ontario Place, an entertainment, leisure and cultural complex built upon three man-made islands. Attractions include Cinesphere with its six story screen, The Forum, an outdoor amphitheater with world class entertainment, Children's Village, Wilderness Adventure Ride, plus gift shops and restaurants.

Across the harbour, south of the CN Tower, are the Toronto Islands. Centreville, a 14-acre family amusement park with its turn-of-the century town, restaurants, shops, games and rides, is a popular escape for Torontonians. Cycling, sunbathing and picnicking are favorite summertime activities on the islands.

That shimmering ball of glass and mirror, just north of the tower, is Roy Thomson Hall, said to be the jewel in the crown of downtown Toronto. Its acoustics are state of the art. Opened in 1981, its 2,812 seats, covered in a rather delicate grey, are a soothing place to watch and listen to the Toronto Symphony Orchestra.

One block east of the tower is the cavernous Union Station, the hub of the city's passenger rail, commuter and subway system. Directly across from the station sits the stately Royal York Hotel. At both of these entities begins Toronto's "underground city" — five miles of interconnecting tunnels filled with more than 1,000 retail stores that lie beneath the downtown core.

Just east of the Royal York, on the northwest corner of Front and Bay Streets, is the Royal Bank Tower. Its glass exterior appears to be gold in color and that's because several million dollars worth of gold flakes are embedded in the panes. There is no better monument to Metro Toronto's growing financial influence in the world. In Canada, Toronto's Bay Street is where the financial power emanates.

There's another form of wealth to be found in Toronto and you can find it at the Constellation Hotel from July 20th to 24th. Yes, a wealth of information awaits you at the Guild Convention, so plan now to attend. We'll treat you royally! ■

Economic Affairs

Bob Russell
Economic Affairs
Committee

Music Appreciation In The Schools

March has been set aside in our schools for one of the finest gifts given to man...*music!* During the month of March all schools will observe *"music appreciation in the schools month."* As a piano technician, what are you going to contribute to this month? Obviously something that will demonstrate your support for music and will also enhance your bank account.

Because it concerns the schools, it is natural that you will educate children about your involvement with music; i.e., piano tuning. I would like to take this opportunity to explain just how I worked this idea to everyone's advantage.

I contacted a local elementary school and set up a time, about one hour, during which I give a program entitled *"Mister Piano Tuner."* It is best to have a small group to work with, perhaps one grade. Tools needed for this class are; one school piano, one grand piano action model, one vertical piano action model, a tuning hammer, a screwdriver, Piano Technicians Guild pamphlets (with your name and phone stamped on the back), the "Music of Sound" film.

Before you begin the class, and before your audience has arrived, take the front board off the piano and get your tools ready and your action models in place. As your audience files in always have a smile on your face. You must remember, children know they have a piano, they are aware that someone called the "piano tuner" comes to tune the piano at regular intervals, but they are never at home, or are told to "stay away, don't bother the tuner." So the excitement mounts as the children see all the parts of the piano and the inside of the piano.

Following an introduction by the teacher, the class begins with a 15-minute film "Music of Sound" (from the Piano Technicians Guild Home Office). Over the years I have found this film is an "ice-breaker" for people of all ages, and it is a great beginning for your class. Following the film, demonstrate the grand and vertical action models and the basic parts of the piano. If the class is small enough, they might be able to touch the models. Your talk must be simple and interesting. Remember, they are not going to become piano tuners, they are being given general knowledge concerning the piano — just enough information to satisfy the age group you are talking with. Encourage questions, but be careful...children have more "whys" and "ifs" than a haunted house has cobwebs! This time period should be about 20-25 minutes in length.

Now comes the grand finale...you are going to show them how to tune a piano (before you start to throw darts at me, let me explain!). You go to the piano with your hammer and take one string out of tune. While you are doing this you explain to the audience that the fast beats show that the string is not in tune, and the slow beats show it is getting closer and closer and then no beats, "perfect." Do this several times and let them listen as the beats get faster and slower. You will be amazed at just how intently they will listen and just how well they are able to hear. Let them tell you when the note is "perfect."

Next you are going to give a child the chance to tune a string (with your help). Select a child who seems timid and could use something to make him/her feel "important." Be sure everyone is aware that you are going to help with the tuning, because a piano has tons of tension on it and if the tuning is not done correctly the piano could break. The only person who should tune their piano is a member of the Piano Technicians Guild.

Put your hammer on a pin (I usually tune 'middle C'), have the child hold the hammer and put your hand over his. "We" lower the string to hear the fast beats and then we raise the hammer to hear the beats get slower and slower and finally the note is "perfect." We repeat this process several times and

Continued on next page

Economic Affairs

then I announce that "my assistant" will now tune the string alone, (The child is so excited he/she doesn't really feel your hand on theirs) until you announce that the string has been tuned "perfectly." The smile you get from this child is worth all your time and effort. One child for this demonstration is sufficient, you have made your point.

You should have completed your hour "Mister Piano Tuner" program. You will distribute your Piano Technicians Guild pamphlet, "Care of Your Piano," with your name and telephone number on the back. You will receive calls over the next two months from prospective customers, because you are the "piano expert" from school. Your closing statement should contain how much you enjoy tuning pianos, what enjoyment they can receive from music, a life filled with music is a happy life, etc., then end!

This is a fun class to give. The audience is enthusiastic, interested, and alert. This same program can be given to anyone from children to senior citizens, with the same results. Everyone is interested in that mysterious job of piano tuning! The teachers, parents, and school officials will be pleased with your contribution to music education, while you will be pleased with the business and exposure, but most of all pleased with *yourself!* This class can be given anytime of the year, not just during this special month set aside for "music appreciation in the schools."

One important thing: be sure you designate how many children you expect in the class. One year I neglected to be sure...I told them, "I could teach one class." I did! When I arrived at the school I had one room, the gym, filled with the entire school, grades 1 through 6. Well, it was *one class*...and only *one room!* We made it through and everything was great and I have been invited back year after year. However I now give them the total number of people I expect! Have fun and add your talents and support to this month, and to this important cause, *Music Appreciation in the Schools.*

You have a lot to offer in everyone's musical education! ■

Correction

In January's *Economic Affairs* article on page 8, a key piece of information, the actual 1987 transitional rate structure, was inadvertently omitted. Below are the five brackets and the applicable tax rate.

Tax Rate	Married/ Jointly	Heads Of Household	Single Individuals
11%	0-$ 3,000	0-$ 2,500	0-$ 1,800
15%	$ 3,000-$28,000	$ 2,500-$23,000	$ 1,800-$16,800
28%	$28,000-$45,000	$23,000-$38,000	$16,800-$27,000
35%	$45,000-$90,000	$38,000-$80,000	$27,000-$54,000
38.5%	over $90,000	over $80,000	over $54,000

THE TECHNICAL FORUM

Changing Downbearing, Grand Rebuilding, Hammer-Hanging Jig, More Dumb Sales Claims And Reader Comments: Flange Guards And 'The Seventh Dragon'

Jack Krefting
Technical Editor

Changing Downbearing

We recently received the following letter from a Wisconsin reader:

While rebuilding a 5 ' 7 " grand piano I encountered a situation I felt needed attention. With the aid of ...a bearing gauge I was measuring for positive bearing in the front string segment and less bearing in the rear segment. This I assumed was the ideal, and it did not exist in the first 12 notes of the long bridge. I found negative readings in the front string segment and positive readings in the rear string segment...

I marked the height of the bridges by drawing a line on the plate struts where they crossed the bridges. This vertical line ended at the I " mark and also served as a guide to line up the ruler for remeasurement later. I also marked the bass bridge at each end. This was done with the piano strung and up to pitch. Measurements were made again after unstringing to see how the height changes.

I changed the plate height the only way that was feasible in this case which was to grind the plate lugs. This was done mostly on the bass end where the major problem existed. Then, having removed all bridge pins, I shaved back the bridge top with a sharp chisel to change the angle of string deflection made by the bridge top. When the gauge gave me the reading I wanted I renotched the bridge and was in business.

A word of caution: a little plate lowering goes a lot further in the treble section because of shorter string lengths and different angles. Also remember that as the bridge is shaved, your bridge pin holes move

For some time now, we have been considering adding to the *Journal* staff, partly to relieve me of some of the workload and partly to add depth and specific expertise to our editorial coverage. Since tuning is such a vital part of our business, I feel that it should be given greater attention than it has been getting under my general supervision, and that we need a tuning specialist to concentrate on just tuning. So we are adding an Assistant Technical Editor whose sole responsibility, for now at least, will be tuning. He will edit tuning articles written by others, as well as originating tuning articles and answering tuning questions submitted by readers.

Our selection for this important post is Rick Baldassin of Provo, Utah, who has written extensively on tuning for the PTJ and who has demonstrated remarkable expertise in this area. Rick is conversant with the lingo of the electronic as well as the aural tuner, and we feel that he has demonstrated impartiality between the two — he uses both methods himself — qualifies him nicely for the job. Rick will have a monthly column, beginning with our next issue. Readers desiring to provide Rick with some wood to chop are encouraged to write to him at 2684 W. 220 N., Provo, UT 84601.

in the direction of the slope of the pins. This may mean redrilling bridge holes to get the proper depth. This can also decrease your stagger angle on top of the bridge which is important and even more so if you have a negative bearing on the front side as the stagger tends to hold the string to the bridge top.

Before anyone else tries this procedure, let's emphasize some points not covered in the above letter. In the first place, our correspondent didn't say *why* there was negative bearing on the the front and positive in back, only that it existed. To start pulling bridge pins and shaving the bridge cap without determining the cause of the bearing inequity will likely do more harm than good, especially since material is being removed which cannot easily be replaced. At least nine times out of 10, this condition is caused by good old bridge roll, *not* errant plate height or incorrect bridge cap planning. If that is the case, and we have to suspect that it is, that shaved bridge will roll again, and this time it will be worse because the bridge cap has already been shaved, allowing it to roll even further than the first time.

The proper procedure would have been to carefully analyze the cause of the condition, and then deal with the cause rather than the symptom.

Without seeing the piano, our guess is that the bridge was notched and pinned before the pinblock was installed — we don't know the maker of the piano, so we're guessing here — and that the block was installed with its bass end slightly skewed toward the stretcher. Then, when the plate was installed, it had to be rotated counterclockwise slightly to get the plate flange to bear against the pinblock. That's fine for tuning stability, but causes bridge roll because the rotation increased side bearing on the rear bridge pins while decreasing side bearing on the front. Since the pivot point was the front treble corner of the plate, the discrepancy would become most noticeable the further away from the pivot; so the lower end of the treble bridge would roll toward the tuning pins, which is apparently exactly what happened in this case.

Continued on next page

Grand Rebuilding

Teardown

We are now ready for teardown, so remove the case parts that will come off, including the desk slides. If the piano is to be refinished, scratch code markings onto the back side of each hinge section so it can be returned to its original position after replating or buffing, and take notes as to which screws go where. Continuous hinge screws are usually oval-head, lock screws are usually flat-head, etc., and if the hardware is solid brass and will be buffed in the shop (not sent out for replating) the screws can be stuck into holes in a piece of cardboard to be kept in order. As each screw is buffed, it is returned to its hole in the cardboard, which not only keeps them in order but provides a fixture to hold them while clear lacquer is sprayed to prevent the brass from tarnishing.

If the screws are to be sent out for plating, your chances of getting them back in any sort of order are absolutely nil, so take notes and just hope the plater doesn't lose some of the parts. Some rebuilders simply buy new chrome-plated screws to avoid some of the hassle, but the problem there is that the plating isn't nearly as thick or shiny, so the new screws don't match the replated hinges.

Remove the dampers, damper guide rails, upstop rail, and the damper action. Keep the dampers in order — most makers don't number them — and tag all parts with the serial number of the piano, or the job number, case number, etc.

Locate the plate relative to the rim by using wedges, tooling holes, or whatever method you prefer. Before the plate comes out, you must know exactly where it was originally so it can be precisely relocated. Even if the plate position will be changed for some reason — and there had better be a good one — you need to know where it was originally and decide exactly how much it will be moved before teardown, making extensive notes if necessary.

If in doubt about whether your string-maker can duplicate the wound strings, save them or save samples and make a pattern, or both. If the windings are nice and even on the old strings, send the old strings intact for duplication; if they are jagged, you will get better results with a paper pattern and samples. Ideally, the windings should end about a half inch from the termination on each end. If no samples will be sent with the pattern, be sure to specify core and wrap diameters, and whether the wrap is of copper. Iron windings can be replaced with copper, but since the mass is different, the wrap diameter must change accordingly. The better the information given to the string-winder, the better your replacement set will be.

If the piano is a Steinway, Baldwin or Mason & Hamlin, ordinarily it is not necessary to save strings or make patterns, but there are notable exceptions: The early Steinway "O" had a straight bass bridge, while the later models used a curved bridge just like the "L," and the two sets are obviously not interchangeable. Similarly, the Steinway "A" used three different bass scales — the early 6 ′ 1 ″ with three bridges, the two-bridge 6 ′ 2 ″ that replaced it, and the 6 ′ 4 ″ that was used most recently. Baldwin has used at least five "D" scales, three "E" scales, and three "M" (formerly A and then SA, 5′ 2 ″) scales.

The manufacturers don't always change their scale designation when they change their scales, for some odd reason, which makes replacement more difficult for us. Your best hedge against this is to save all original parts until you know you have identical replacements. ■

The proper procedure, assuming our diagnosis to be correct, would have been to relocate the pinblock or plug and redrill the bridge so that the sidebearing would be the same on the front as in back. That would have pulled the bridge back where it belongs without modifying it and, more importantly, solved the problem permanently. Since the piano is being rebuilt, the new pinblock can be located so that it fits the plate flange *when the plate is aligned correctly with the bridges.*

If that cannot be done, that is, if the plate cannot be repositioned for equal sidebearing in the tenor without making the sidebearing unequal elsewhere in the scale, then the bridge must be plugged, redrilled and renotched as necessary.

One final word of caution involves the importance of the cross-sectional shape of the bridge, as it relates to tone quality. If, in order to achieve some theoretical ideal downbearing angle, we change the cross-sectional shape of the bridge to the extent that tone quality is negatively affected, we have then made the piano worse, not better. Don't fall into the trap of attaching undue importance to downbearing angles, because that's just one of a thousand equally important considerations, and is actually less important than some. Ring time, for example, is a far better yardstick of tone transmission than is downbearing angle.

Hammer-Hanging Jig

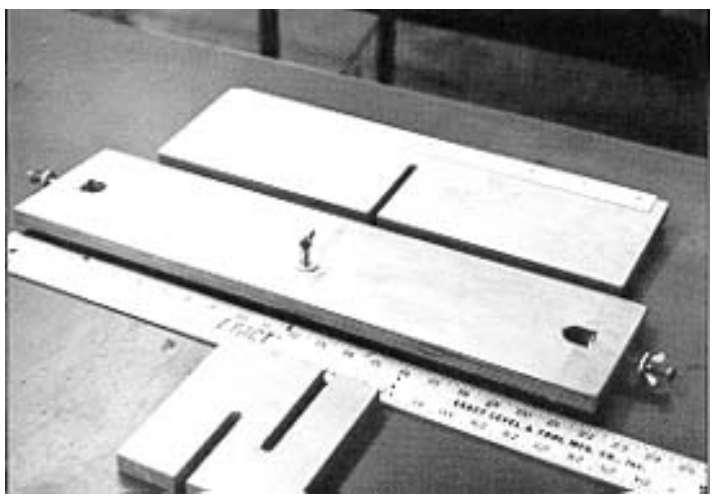
Last year sometime, Sally Jameson was teaching a class in hammer hanging and had demonstrated the use of her favorite hammer-hanging jig. Many people attending the class had never seen a fixture quite like it, and have requested some dimensions so that they could build one for themselves. We promised we would publish the information, and here it is:

As we see in *Photo 1,* the fixture essentially consists of six pieces of 5/8 " hardwood plywood, two each of the three pieces shown. The dimensions of Sally's jig are as shown in *Photo 2,* although a somewhat longer fixture might be better for the long middle section of a 20-bass, 4-section grand, eliminating the necessity for an extra guide hammer in the middle of the section.

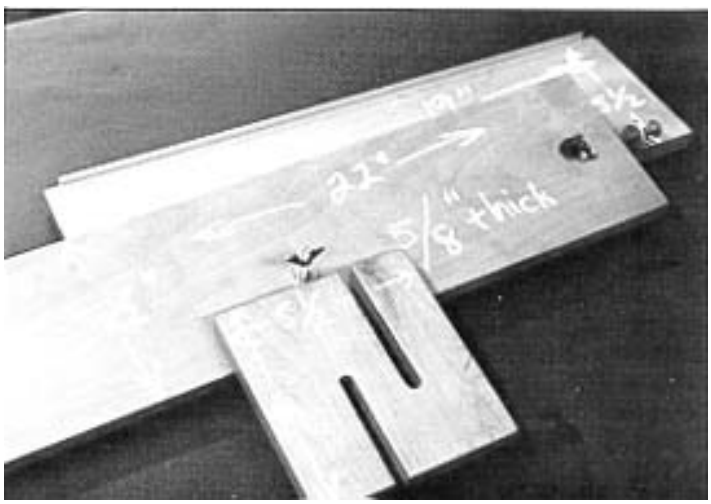
When the pieces have been cut to dimension, cut the slots and drill the holes, Tee-nuts, wing nuts and machine screws hold it together as shown in *Photo 3,* and a couple of pieces of aluminum angle are screwed to the facing pieces. These angles will be the surfaces that line up the hammers, as we see in *Photo 4.*

The piece that supports the tails is mounted to the end pieces at an elevation that allows the hammers to be hung in striking position — that's the way we do it, anyway — and then the upper pieces are mounted so that, when level in both planes, the aluminum will touch the widest part of the shoulder of the hammer, as seen in *Photo 5.*

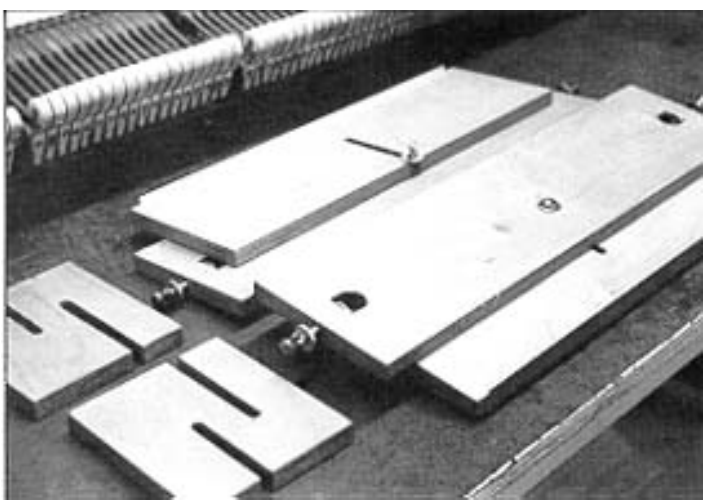
There are two absolute musts that apply to hammer hanging



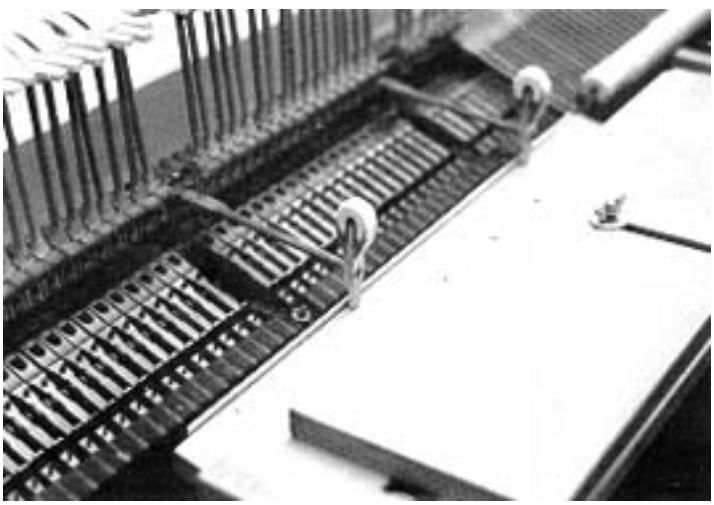
1



2



3



4

when using a jig like this:

1. The table on which the hammers are hung, the action itself, and the jig must be dead level from end to end. Don't just eyeball it, check it with a spirit level.

2. The hammers must be reamed enough that they will go into place in the jig without the least bit of forcing; if you have to force the hammer into the jig, you are actually bending the shank a little bit, and when the jig is removed the shank will unbend and the hammer will be misaligned.

If any reader has a better fixture, or one that is just as good but different, or easier to make or whatever, please send some photos and a description and we'll publish it.

The Dumb Sales Claim Contest

Earl Orcutt has a favorite dumb sales claim to share with us, together with an interesting anecdote:

I am on the staff of a chain of piano and organ stores in Eastern Pennsylvania. Over the past two years I have seen a lot of salesmen and heard a lot of sales claims. One salesman in particular has become something of a legend in our company. (He has since gone on to selling flowers for a living!) This man was a fantastic organist, but had no theory background, and could barely read music. He was a very successful salesman, however. He would use any means at his disposal to make the sale. One day, he happened to overhear a conversation between one of our teachers and an advanced student, and he remembered what he had heard. A few days later, a little old lady was shopping for a piano, and our hero had a chance to use his new knowledge. After extolling the virtues of a particular piano, he came to the clincher. "Madam," he said, "there is one more reason why you should buy this piano. This piano is special, because it can play INVERTED MORDENTS!

He made the sale.

This same super salesman would not take no for an answer. I was present when he closed one organ deal over the phone. The customer wanted the organ, but a recent divorce had left him with one expense too many — kennel fees for the family dog. Our hero found that no problem at all. He took the dog as a trade-in and closed the deal! The best fun of all was watching him try to explain this "deal" to the company owner!

Reader Comments

Flange Guards

I agree completely with your 'poor choice' for apprentices in the Oct. '86 Journal. *I inherited a supply of flange guards from a tuner who died. I've never used them to keep centerpins from walking out. They can be used, however, as a clamp when a hammer or wippen flange splits, particularly when out on a job. After applying the glue, I put the shield over the flange, and while the glue is still wet the flange can be screwed back into place. They come in very handy especially with odd-shaped flanges or those no longer being manufactured.*

Duncan S. Ritchie, RTT
Tampa, Florida

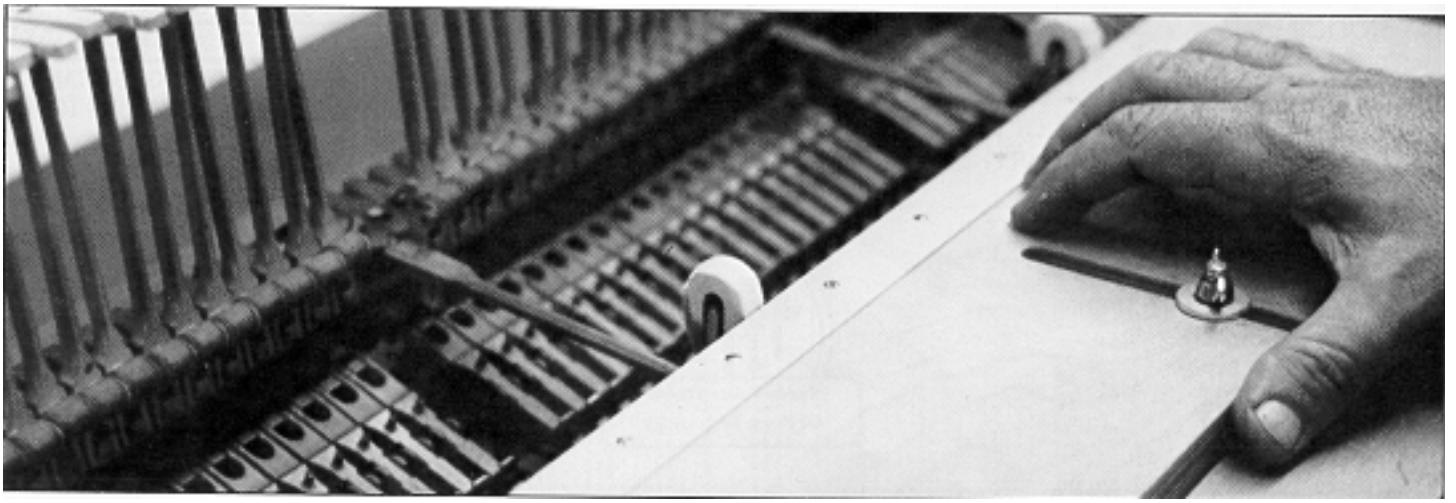
Textbook or Literature?

*...I must...protest your unliterary assault (*Journal, *Dec. '86) on Anita T. Sullivan's book,* The Seventh Dragon, *which was the 1986 winner of the Western States Book Award for Creative Non-Fiction. In your mocking attack on Ms. Sullivan's work, you called it a "non-book," and a "cute collection of pseudo-poetic nonsense designed to impress the layman." You went on to write that the work "does not do what it purports to do, nor does it contain any useful information that we can discern." I'm afraid, Mr. Krefting, you have missed the entire purpose of* The Seventh Dragon. *This book does not purport to describe piano tuning any more than Mussorgsky's "Pictures at an Exhibition" purports to describe how to paint on canvas with oil paints...*

Literature is the sole purpose of this book. Its relationship to our profession is merely the author's chosen vehicle of expression. You have scrutinized Ms. Sullivan's book with the myopic vision of a technical journalist. The fact that you did not find any "useful information" in this piece of modern literature is an assessment that would render all art, music and literature useless. There is surely no "useful information" in the piano music of Chopin.

...To avoid having my support of Ms. Sullivan's book being misconstrued, I must, as a piano technician who has read her work, add the following. While I enjoyed reading The Seventh Dragon *and I recognize the author's literary talents, it is obvious to me that her abilities as a competent piano technician may be questioned, at least in the reality I work in.*

5



...Literary criticism is a subject that I suggest you are unqualified to write on, Mr. Krefting. And, as evidenced by her Western States Book Award, Anita T. Sullivan is applauded by qualified literary critics...

I feel...that you owe Ms. Sullivan and your devoted readers an apology. I hope that you are enough of an editor to publicly admit your error and indiscretion.

— Lou Tasciotti, RTT

The tone of my review was admittedly a bit harsh and sarcastic, perhaps because of the frustration at yet another example of an unknown tuner who, not having bothered to master her craft or establish herself within the profession first, proceeds to tell the world all about the mysterious world of the piano technician. As to its being pure literature, other reviewers didn't see it entirely that way, either, one even remarking that the book "changed my idea of what piano tuning is." Because of her book, Ms. Sullivan has a high degree of visibility right now, and is in all probability considered to be typical by the average reader. This was especially bothersome to one Guild member, who wrote, "The worst part about *The Seventh Dragon* is that it reinforces the myth that we women piano technicians are flaky. We have worked so hard for so many years to prove ourselves as reliable, competent professionals, and only now are some of us beginning to be taken seriously. This book was the last thing our image needed right now..."

Please send all tuning articles & related material to:

Rick Baldassin
Assistant Tech Ed/Tuning
2684 W. 220 N.
Provo, UT 84601

All other technical material should be sent to me:

Jack Krefting, Tech Ed
PO Box 16066
Ludlow, KY 41016

GOOD VIBRATIONS

Part II: The Physical Soundboard

Nicholas Gravagne
New Mexico Chapter

Last month it was explained that the primary function of a soundboard is to accurately reproduce the complex vibrations imparted to it by the string. The general conception is that the soundboard furnishes a much larger area exposed to the atmosphere to compensate for the tiny area of a vibrating wire. The soundboard is supposed to "be the wire" on a much larger scale. Assuming a vibrating component flexible enough to accomplish this, the question is asked, why does it have to be wood? Why not metal or some other suitable substance?

Indeed, many different materials have been experimented with but none other than wood produces a timbre or tone quality deemed appropriate for what has come to be recognized as piano tone. The reasons for this are complicated but it is certain that tradition plays an important role. In general, the evolution of all stringed instruments can be traced to similar if not identical beginnings — a stretched string finding its amplification and voice through a wooden soundboard of suitable dimensions. The harpsichord, considered to be the prototype piano when originally fitted with hammers, had a wooden soundboard. And as the piano evolved to its present form it retained this wooden amplifier. The tones emanating from it became uniquely identifiable as piano tones. Metal soundboards of appropriate thickness and mechanical properties, although capable of responding to the vibrations of the string, yield a sharp, crisp but thinner tone than does a wooden board. There is warmth with wood. Sounds from a metal vibrator are considered unacceptable. Doubtless, a certain amount of conditioning colors these artistic judgements but, whatever the reasons, a wooden soundboard has become the standard.

Of all the varieties of wood there is one type considered to be best suited for piano, harpsichord, violin and guitar soundboards: spruce. Why this is so is not so clear as the modern mind would like it to be. There are, however, certain measurable and observable facts which indicate some answers. Microscopic observation of the structure of spruce reveals an interesting characteristic unique to this cone-bearing species. Throughout the wood fibers can be seen millions of little cup-shaped discs which have tiny vibrating membranes or diaphragms. There are those who contend that it is this vibrating membrane that gives tonal value to spruce. In the book, *Piano Tone Building*, Dr. F. E. Morton comments,"...a wood similar to spruce in every other particular, but lacking those little diaphragms, isn't a sounding board."

"

Microscopic observation of the structure of spruce reveals an interesting characteristic unique to this cone-bearing species. Throughout the wood fibers can be seen millions of little cup- shaped discs which have tiny vibrating membranes or diaphragms.

"

The mechanical properties of this wood are also an important determining factor. First, it transmits vibrations along the grain with greater rapidity than most other woods (perhaps because the aforementioned membranes lie in line with the grain). Although a soundboard is not primarily a transmitter, it is clear that the more rapidly vibrations are transmitted over the entire area of the board, the better it will function as a vibrator. Second, the wood is extremely light, yet strong; in fact, it is considered to have the best strength-to-weight ratio of any wood. This characteristic allows the material to be extremely responsive to the minute impulses communicated to it when in the form of a soundboard. Third, it is at once very flexible and elastic. These words are not interchangeable. A flexible material can have its shape altered; an elastic material can recover its shape after having been altered. Obviously the structural and vibrational necessities of a sound-

board demand these characteristics. Since spruce possesses the sum of these very characteristics in so high a degree it has become the standard material for soundboards.

It is a well-known concept in architecture and mechanics that form follows function. Something takes a shape because in order to fulfill its function it can take no other shape: a wheel is round because its function is to turn or roll. The point made, it is now clear that if a soundboard is to faithfully fulfill its function of reproducing an almost inconceivable array of vibrations, frequencies, segmentations and harmonics, it must take a form that will allow it to do so.

Quality soundboards are therefore constructed from quarter-sawn, close-grained spruce with the grain running parallel to the long bridge. Ribs are glued to the underside (or backside) about six inches apart and at right angles to the soundboard grain in order to impart crown, unity of soundboard "cohesion" and sound propagation across the grain. The spruce sheet averages 5/16" thick and is shaped at its perimeter to fit a particular piano. Spruce ribs average one square inch in cross section at the center of their length. The amount of crown they introduce is relatively small; a 48" long rib will be somewhere around .200" higher at its center than at its ends. (These dimensions are based on the traditional 60' radius. Higher crowned boards are stronger but tend to be more rigid — they vibrate less freely.)

Basic piano technology, considering the present state of the art, dictates the necessity of a relatively light weight to facilitate a freely undulating plate; the comprehensive strength is to resist the force caused by the downbearing of the strings. Crowning should not be considered an acoustical proposition but rather a mechanical one. Were there some other practical method of securely coupling the strings to the soundboard that eliminated the compressive force, the entire question of soundboard crowning might become academic.

It is interesting to note that, generally, the shape of a soundboard is different upon removal from the gluing press than it is when actually glued to the liner or rim. The crown or camber is introduced to a thin, glued-up spruce sheet across the grain but not along with the grain. Thus, it is evident that, while the ribs will impart a crown across the grain, there is no rib or other structural member to impart and hold a crown along the grain. This is true whether the builder uses a flat or a concave (dished) press foundation, arched or flat ribs. (Although the concave press might introduce a minimal crown along the grain). The expansion of the board after having been dried down is what finally determines the shape of the soundboard prior to gluing in the piano. (See "Technical Forum" Feb. 1980 and Dec. 1982 for a discussion of the process of soundboard crowning). The accompanying illustrations will help to clarify *Figure 1* shows an outdated upright board with ribs at right angles to the grain but not at 45-degree angles to the edges. This board will have a crown across the grain but absolutely no crown along the grain. Further, the edges marked A and B, where the ribs terminate, are flat and in the same plane. But notice that the edges marked C and D are arched. The liner that receives such a board should be shaped so as to conform to these edges. The liner gluing surfaces at A and B should be flat while surfaces at C and D should be arched. Not to do so, that is, to glue this board to a completely flat liner or a liner arched at all four edges, is to introduce an unnatural bending force into the board, possibly inviting splits, compression ridges and unwanted rigidity. The wood fibers will have applied to them any combination of compression, tension, and twisting (torsional) strains which were effectively not there after removal from the press.

The situation gets more interesting as a typical upright and grand piano soundboard are examined. *Figure 2* shows a soundboard as "cut out" from the type of board as shown in *Figure 1*. Although the same basic shape exists as in the Fig. 1 board, the edges are different. Notice points A, B, C, and D in both the front view ands the side view. Of these points, A and C lie in the same plane and B and D lie in the same plane. Also notice that lines AB, BC, CD, DA are the soundboard edges. As can be seen in the side view, these edges have curvature. There are no flat edges as in the Figure 1 board. In fact, whenever ribs and board edge meet at anything other than a 90-degree angle there will be curvature along that edge. A smaller angle (less than 90 degrees) means more curvature. It is interesting to observe, though, that edge AB includes only its portion of the amount of curvature that exists in the board as a whole. The other portion is found at edge BC. To glue this soundboard to a liner with four crowned gluing surfaces would mean pressing down points B and D to the same plane as points A and D. If this is done (and it usually is) the board takes on a dome or spherical shape, that is, it is "crowned both ways," across the grain and along it. Whether this is necessary is debatable. Again to quote Dr. Morton from the previously mentioned book, "It is not necessary to crown it (the soundboard) more than one way." It is also debatable as to whether this condition is detrimental to the board's well-

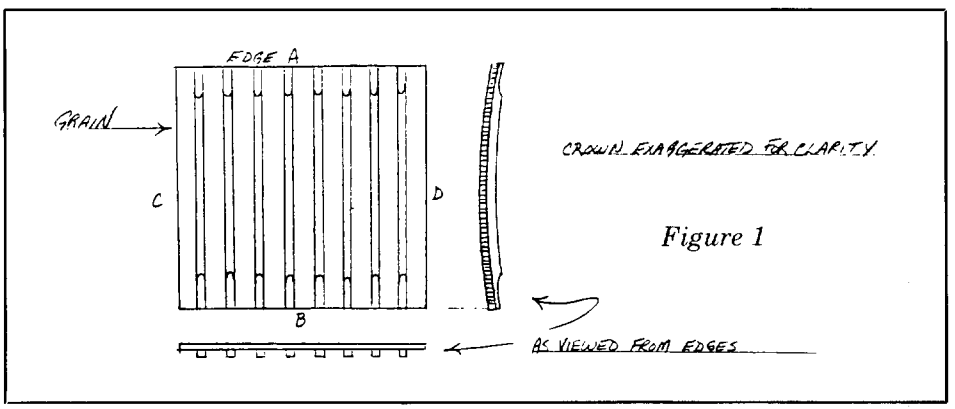


Figure 1

being as stated in reference to the Figure 1 board. No doubt it is stronger to crown both ways but it is to some extent stiffer as well. It is generally conceded, however, that pressing the corners to the liner (points B and D in fig. 2) by bending the board along the grain is not serious. What is considered serious by many builders is to press an entire curved edge onto a flat surface, or vice versa.

Figure 3 shows a grand soundboard as "cut out" from the basic Fig. 1 board. The same discussion applies as to the Figure 2 upright board. This grand board has ribs meeting edges at sharp angles so these edges will have curvature, the most familiar being at edge DE as can be viewed glued to the belly rail in the actual piano with action removed. There is one additional peculiarity when considering a grand soundboard constuction and mounting. Observe the side (crowned view) of the grand board. Notice that point B lies in a higher plane than do points A and C. To glue the entire edge ABC to a rim which lies (comfortable) level, thereby introducing a buckling strain along that edge and general region of the soundboard. Unnatural strains, twists and contortions are enemies of a free and evenly vibrating diaphragm. Realizing this, Steinway raised the gluing surface of the rim along edge ABC in order to eliminate this unwanted strain.

Given modern piano design, boasting many fine examples of exquisite instruments, rich in color, tone and power, the present material, construction and mounting of the soundboard must be concluded to be necessary. But the question still remains: "What shape do we want a soundboard to be?" It is precisely here, in the narrowing of the gap between the theoretical and the physical soundboard, where departures from the standard board are found and where further refinements may yet jolt the world of piano technology in new directions.

Next month, a look at a fascinating series of soundboard experiments run in the 1930s by a well-known builder. ■

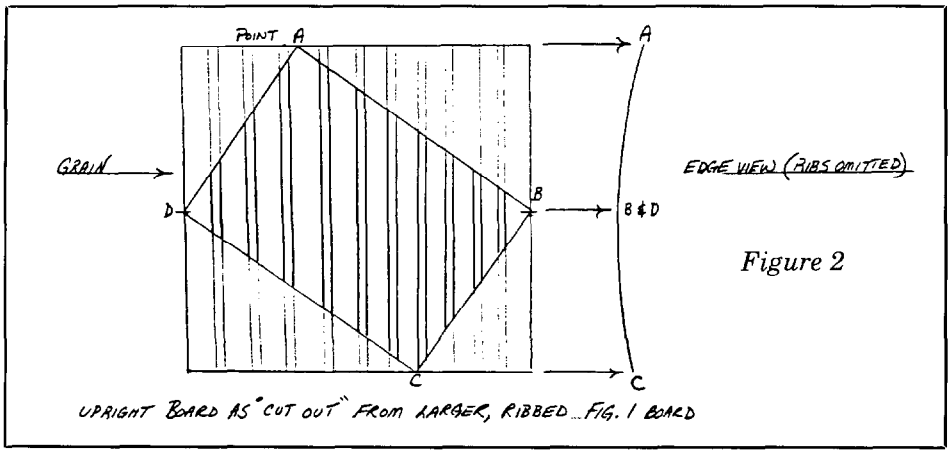


Figure 2

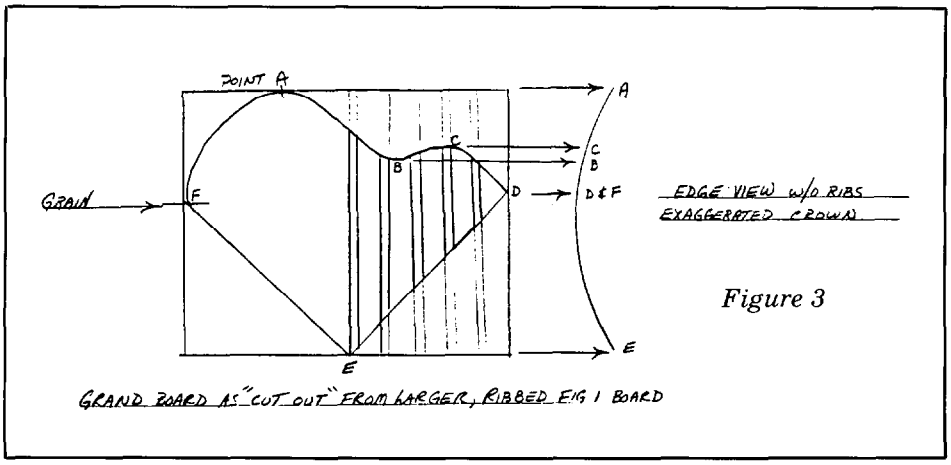


Figure 3

TOOLS OF THE

TRADE

Describing A Wire Splice

Richard Hassig
Quad Cities, IL, Chapter

No doubt every individual involved in tuning pianos has encountered a broken string while the tuning process is going on. We all know that if the proper hammer technique is applied, the severed wire is not our fault. This I accept so that when a wire breaks at the tuning pin and it is the string which I am tuning I am not totally surprised.

There is a particular phenomenon concerned with broken strings to which I do not believe I shall ever become completely accustomed. The situation of which I am thinking happened to me once again the other day and once again I could hardly believe it. I was tuning the right hand string of the top G ♯, when the left hand string broke at the bearing bar. This particular piano is used for concerts and therefore sometimes receives heavy use. I believe this is a factor, for most instances of this type of breakage seem to me to occur in pianos which are used a lot or for hard playing.

A number of years ago I learned from Doug Strong that such a break could be repaired by splicing the two pieces of wire back together. There are advantages to approaching this situation in this manner. For one thing there is never a problem of using a size of wire which is different from that which was in the piano. There is not a new piece of wire to sound different from its neighbors. But most significantly, there is not the degree of stretch which would be incurred in replacement of the entire wire.

I have employed this technique successfully in a number of such breaks. In the unlikely event that any sightless individual says "I could never do that, because I couldn't see that," maybe you can't do it, but don't blame lack of sight. I can do it, and I think you can too. Now, the question is, can I describe it?

The first thing we need to do is get a little more wire. It should be possible to turn the tuning pin which has the unbroken wire backwards one turn and pull the wire around tight on that pin again. A vise-grip pliers is handy for this work. After the pin has been turned, grip the wire with the vise-grips down by the hitch pin and pull.

"I have employed this technique successfully in a number of such breaks. In the unlikely event that any sightless individual says "I could never do that because I couldn't see that," maybe you can't do it, but don't blame lack of sight."

With an awl or similar tool, remove the broken wire from its tuning pin. Grasp the broken end of this piece with the vise-grips, insert the awl in the coil and unwind the coil about a turn. In this way, we can usually get some wire from each of the two broken pieces. Each tuning pin will have about a coil less of wire.

Of course, if there is not much coil on the pins then we must rethink the whole idea. I am assuming that there is.

The wire has been removed from the hitch pin. Straighten out the bend at that portion of the wire. You may wish to pull the wire up from beneath the bearing bar so that the entire length of wire which is still fastened to the tuning pin is out where you can get at it with plenty of room. I often do it that way. Don't forget that if there are dampers in this area you should be extremely careful not to tear the felt. If the break is in the agraffe area you will want to bring the long broken part up through the empty hole in the agraffe. We want the knot to occur on the tuning pin side of the agraffe.

Do you know about the splice knot? I first tried to write this without describing the knot in detail but I guess I can't do it that way.

If we were working with pictures or drawings, we could label the parts *A,B,C,* and so forth. But I never was any good at pictures or drawings. If our visually dependent colleagues will bear with me, I am going to try to describe everything in terms that we can "see" with our hands and "visualize" in our minds.

The end of each piece of wire being spliced is made to form a circle. To form the circle, grasp the wire near the broken end with the pliers. I like to use the small round-nosed pliers. There must be a little wire extending beyond the pliers. I shall call the piece of wire in the pliers and that wire immediately on each side of the pliers the crossbar. Keep the wire reasonably tight and turn the pliers over until the wire forms a fairly tight circle and the crossbar comes past the wire and extends a little. I shall name the rest of the circle the loop and the rest of the piece of wire, that is, the part beyond the circle, as the stem.

The stem of each piece goes through the other loop of wire. The crossbar of each wire must go beyond the stem of the other wire, and both crossbars are held between the stems. The crossbars point in opposite directions. The loops face so that the two crossbars touch each other. The two stems are going away from the loops in opposite directions. That is as good as I know how to describe how the knot looks.

First make the circle on the short section of wire, the one you removed from the tuning pin. You must keep in mind which way the coil and knot will be pointing in regard to each other. The knot should probably be in a vertical position when everything is done. This is to prevent the knot from interfering with the neighboring wires. As you begin your turn with the pliers, hold the wire in such a way that the coil is laying so that things will come out that way. Also have a plan as to which way each of the crossbars will be going and make your turns with the pliers accordingly.

Now slip the circle which you just made onto the other section of wire. Don't forget to keep planning which way the coil and its beckett will be pointing. Now make your circle on the other part of wire.

This is where putting into words really gets difficult. Hold the two stems in your hands and place them so that everything is pointing in the proper direction. The only problem now is that the stem on which you made the first circle is not going through the loop which you most recently made. This stem not yet enclosed in its loop. I shall refer to it as the free stem.

Place the "free" stem so that you could snap it into place. You don't want to yet, because the crossbar would be on the wrong side of the stem. Carefully bend the wires around so that the "free" stem points across the loop exactly opposite the way you want. The "free" stem is now pointing roughly back along the other stem. I say carefully bend, because you do not want to put severe bends in the wire. You also want to keep the other loop from flipping over. The vise-grips might be helpful here. Now, you can snap the "free" stem into place, and allow the wires to assume their proper position.

Begin to pull the two stems which will draw the loops together. Now the crossbars should meet.

When properly formed, the two crossbars should be parallel to each other, should be pointing in opposite directions and should be held between both stems. They should also be touching each other. Made in this way, the splice cannot pull out. It can only pull tighter.

It might be easier to put the wire back under the capo bar before you put the coil which you removed back in place. With practice you should be able to acquire the skill of slipping the coil over the tuning pin and snapping the beckett into place. I have found that this is better than unwinding the tuning pin and then winding the wire on the pin. A better-fitting tuning pin is maintained in this way.

You will probably need to do some adjustment and changing of coil from one tuning pin to the other in order to get the wire back on the hitch pin and to cause the knot to be where you want it. The knot should rest on the tuning pin side of the capo bar or agraffe.

When you have the wire back on the hitch pin you will want to check the bridge and the string spacing. Begin to pull up the pitch of the two strings and get your coils in order, including the becketts snug.

I have tried to describe how to efficiently tie up a broken piece of piano wire. It takes some practice, but it is worth the effort, I think. That also ties up this essay. ■

Early French Piano Making; Johann Andreas Stein's Start In Piano Building

Jack Greenfield
Chicago Chapter

The First Pianos In France

As a result of the Seven Years War, 1756-1763, and continuing affection for the clavichord in northern Germany, Saxony lost its position of leadership in piano building. During the last third of the the 18th century, more important centers of piano making arose in southern Germany and in Vienna, besides in London where about a dozen of Saxony's instrument makers had settled around 1760. About this time, interest in the piano was also growing in France. The translation of an advertisement for a piano in a semi-weekly newspaper of Paris is as follows:

A newly invented harpsichord called piano e forte *with a rich round tone imitating the harp or the lute in the bass, the flute and sound of the bells in the treble;...When the full sound is let out, it is louder and more pleasing than that of an ordinary harpsichord. All these tonal changes are made quickly and unnoticed on a single keyboard of extended compass. This instrument is very easy to play and maintain. There are no quills as in other harpsichords... 20 September 1759.*

A hotel address was given where the piano could be purchased. The builder was not named. Eugene de Bricqueville, a French author writing around the beginning of the 20th century included the original French text of the above in *Les ventes d'instruments de musique au XVIIIe siecle* (Paris 1908), a book on the sale of 18th century musical instruments. In a second book, de Bricqueville stated that the piano first appeared in Paris in 1759.

During the same year, according to Marcuse in *A Survey of Musical Instruments,* a second hand piano of Italian or German origin "suitable for large concerts" was offered in another advertisement. Also in 1759, an instrument builder in Paris named Weltman presented a design for a double action clavecin containing harpsichord jacks and clavichord tangents for plucking or striking the strings. The action included a system of dampers which could be raised or lowered by use of knee pedals to increase or diminish the volume of sound when either the jacks or tangents were in use. Weltman's description without a drawing submitted to l'Academie Royale des Sciences de Paris was among the approved inventions listed in a book published later by l'Academie. Weltman's design, just as those of Marius in 1716 which also included a double action harpsichord, one with jacks and hammers, never advanced any further than publication in the records of l'Academie.

"The action included a system of dampers which could be raised or lowered by use of knee pedals to increase or diminish the volume of sound when either the jacks or tangents were in use."

Silbermann Pianos From Strasbourg

De Bricqueville and other writers on the history of the piano in France have not considered the possibility that Johann Heinrich Silbermann of Strasbourg may have been the first builder who constructed pianos in France. Rosamond Harding's *The Piano-Forte* includes his work in the chapter "The Pianoforte in Germany" and

is vague in differentiating between his pianos and those of his uncle Gottfried Silbermann. Johann Heinrich was born in 1729 in Strasbourg which had become a part of France in 1681 through annexation by Louis XIV. Its previous status had been that of an independent self-ruled city with a population largely of German origin. While French language and customs were soon adopted, family and some cultural ties to Germany were retained.

During training for a career in instrument making, Johann Heinrich went to Germany to study with his uncle Gottfried in Freilburg, Saxony, in 1742-43. It is likely that he built some pianos soon after his return but attracted few buyers until there was more interest in pianos later. A reference, the *Encyclopedie* (1779), quoted by Marcuse reports on the sale of Silbermann pianos in Paris while repeating the complaint of harpsichordists since the time of Cristofori against the heavier piano touch:

*For some time...*forte pianos *made in Strasbourg by the famous (Johann Heinrich) Silbermann have been brought to Paris, with walnut case and hammers of leather-covered cardboard that strike two unison strings or a single string but they are more troublesome to play because of the weight of the hammers which tires the fingers and in time even makes the hand heavy.* Another reference, the *Lexicon* by Gerber, a directory of the music industry published in 1790-1792, was more complimentary and stated that the pianos of Johann Heinrich Silbermann were the best to be found in Paris.

Little Interest In Pianos Shown By Most French Instrument Makers

In general, most French instrument builders were slower than those in other countries to turn from harpsichords to pianos. The earliest record of any piano in a shop of the Blanchet family, France's leading builders of keyboard stringed instruments is "a harpsichord with hammers with its stand, both painted black" listed in an inventory dated June 18, 1766, prepared after the death of Francois Etienne Blanchet II. A later inventory dated April 29, 1777, when the shop was under the direction of Pascal Taskin, who had married Blanchet's widow, shows five *piano fortes.* (Hubbard's *Three Centuries of Harpsichord Making* contains the complete inventories.)

The oldest known surviving piano built in France is a square piano now preserved in a collection in Paris. This instrument has the marking, "Johannes Kilianus Mercken, Parisis, 1770." Mercken was either German or Flemish. French piano making lagged behind until Sebastian Erard, who also came from Strasbourg, began to build fine pianos in Paris in 1777. Before that time the better pianos in France were imports.

Early Piano Music In France

The great French masters of the keyboard, Francois Couperin, who died in 1733, and Jean-Phillipe Rameau, who died in 1764, composed for the harpsichord. The first composer in France who wrote music for the piano was Johann Gottfried Eckhard (1735-1809), a German living in Paris. After the death of Rameau, the leading keyboard composers in France were men of German origin living in Paris. In 1764, Leopold Mozart, on a concert tour with his son and daughter, wrote home from Paris "The Germans are taking the lead in the publication of their compositions. Amongst these, Schobert, Eckhard, Honauer for the clavier,...are favorites." Contemporary critics ranked Schobert and Eckhard with Handel, Scarlotti and C.P.E. Bach's and place Schobert's still lower. Eckhard is known to have played and composed for the piano, but critics do not agree on Schobert.

Eckhard has the distinction of being the first composer since Giustini in Florence in 1732, to write compositions specifically for the piano. Eckhard was born in Augsburg in southern Germany, was self-taught and became familiar with the piano through his association with Johann Andreas Stein. Stein, on his way toward becoming the most influential piano maker in Germany, opened a shop in Augsburg in 1751 where he began to build pianos in 1755. In October 1758, Eckhard joined Stein on a trip to Paris. Eckhard remained in Paris when Stein returned to Augsburg after several months. Eckhard soon acquired an excellent reputation as a clavierist and teacher. He also began to compose. In the preface to his first group of six sonatas published in 1763, Eckhard stated that he tried to make the music suitable for harpsichord, clavichord or pianoforte. In 1764, he published a group of two sonatas which included in the title *"le Clavecin ou le Piano Forte."* This was seven years before Muthel published *Duetto fur 2 Claviere, 2 Flugel oder 2 Fortepiano* in Germany. Eckhard's style of composition is described as resembling that of C.P.E. Bach. His frequent *piano, mezzoforte, forte, crescendo* and other dynamic markings require use of the piano. Young Wolfgang Mozart played and some of his composition was influenced by Eckhard's music.

The first public piano performance in France was given by a Mlle. Lechantre in Paris, in September 1768. The piano she used appears to have been one made in England.

Early Life Of Johann Andreas Stein

Johann Andreas Stein (1728-92) is given a major share of the credit for advancement in design that established the piano as the primary keyboard stringed instrument in Germany and Austria. He was born in Heidelsheim in southern Germany where his father, Johann George Stein, was an organ builder. He had a younger brother, Johann Heinrich (1735-1767) who also became an instrument maker. Both sons received early training from their father.

In August 1748, Johann Andreas left Heidelsheim to further his training by traveling from shop to shop for temporary work and experience. His first stop was in Strasbourg where he was hired by the Silbermann family shop as an assistant to Johann Daniel, the nephew who took over his uncle's business in Saxony later after Gottfried Silbermann died in 1755. Stein left Strasbourg in June 1749 to continue his travels as an itiner-

ant student, earning his expenses by occasional repair jobs. Later that year, he spent several months in Regensburg working for F. J. Spath, a well-known builder of clavichords who also began converting clavichords to pianos and building new pianos after they became more popular. As Stein continued on his travels after leaving Spath, when he reached Augsburg in the summer of 1750, he found an opportunity to settle and establish his own business. The city's only organ builder had died the year before.

Stein Establishes His Shop In Augsburg

Stein built organs, harpsichords, clavichords and pianos. From 1755-1757 much of his time was taken up in a major organ building project for the Barfusserkirche in Augsburg. In the year after completion of this installation, Stein and his friend Eckhard left on their trip to Paris previously mentioned. They stopped to visit the Silbermann workshop in Strasbourg while en route and Stein stopped again on their way back several months later in January 1759. In 1760 Stein married Maria Regina Burkhardt of Augsburg.

Stein had his first meeting with the Mozart family in 1763. Leopold Mozart, who had also been born in Augsburg, stopped there at the beginning of an extended concert tour escorting his seven-year-old son Wolfgang and 12-year-old daughter Maria Anna. In a letter he sent home, Leopold wrote "I bought a charming little clavier from Stein in Augsburg which does us good service for practicing on our travels." Wolfgang became more familiar with Stein's pianos in later years.

Since his return from Paris, Stein had been spending more of his time in work on the piano even though the few church organs he built were excellent. Finally after completion of an installation at the Holy Cross Church in Augsburg in 1766, he completely gave up building large pipe organs. Although he continued to experiment with small parlor pipe organs for home use during the following years, he devoted his major efforts to improving the piano.■

New Members During December 1986

REGION 1[redacted]

Rhode Island - 029
Brown, Larry D.
84 Boulevard
Middletown, RI 02840
(Associate)
Hassard, David J.
7 Cantone Rd.
Narragnsett, RI 02882
(Associate)

Ottawa, Canada - 061
Pals, Vaudrey
80 Chippewa Ave.
Ottawa, Ont., Canada
K2G 1Y4
(Associate)

Connecticut - 064
Crump, Rosalyn G.
P. O. Box 162
Ivoryton, CT 06442
(Associate)

New Jersey - 078
Capello, John J.
304 Wilson Ave.
Fairview, NJ 07022
(Associate)

Saucier, Wayne L.
50 Montclair Ave.
Clifton, NJ 07011
(Associate)
Solga, Ray A.
17a Georgian Ct., Apt. A
Bergenfield, NJ 07621
(Associate)

REGION 2
Western No. Carolina - 296
Mair, Robert W.
P. O. Box 1610
Hendersonville, NC 28793
(Associate)
Sheppard, Charles E.
110 Delmar Road
Shelby, NC 28150
(Associate)

Atlanta, GA - 301
Crabb, Gary L.
4598 Ginson Dr.
Tucker, GA 30084
(Associate)
Crabb, Greg A.
6429 Danbury Lane
Norcross, GA 30093
(Associate)
Hedden, Michael D. Jr.
Rt. 11, Box 418-18F
Gainesville, GA 30501
(Associate)
Scaglione, Michael D.
1355 Graves Road,
Apt. 13
Norcross, GA 30093
(Associate)

Birmingham, AL - 352
Austin, Thomas M.
219 Old Marion Jct. Rd.
Selma, AL 36701
(Associate)

Miss.-Gulf Coast - 395
Hays, George O.
1359 Virden Ave.
Greenwood, MS 38930
(Associate)

REGION 4
Cincinnati, OH - 452
Siegfried, Robert H.
514 Evanswood Place
Cincinnati, OH 45220
(Associate)

Dayton, OH - 454
Farrar, David E.
1300 Shrine Rd., Apt. 160
Springfield, OH 45504
(Associate)

Milwaukee,WI - 532
Sells, William B.
1372 Sunnyridge Rd.
#106
Pewaukee, WI 53072
(Associate)

Waukegan, IL - 600
Paul, Timothy C.
503 Waverly Rd.
Arlington Hts., IL 60004
(Associate)

Chicago, IL - 601
Blessing, F. John
628 Rogers
Downers Grove, IL 60515
(Associate)
Homans, Harold W.
Box 3033
Munster, IN 46321
(Associate)
Hughes, Thomas H.
1508 Gilbert Ave.
Downers Grove, IL 60515
(Associate)
McGhee, John K.
3629 S. 59th Ave.
Cicero, IL 60650
(Associate)

REGION 5
Twin Cities, MN - 553
Phenix, Douglas W.
1445 Howard Street
St. Peter, MN 56082
(Associate)

South Dakota - 571
Dawson, James R.
Box 170, R. R. 1
Yankton, SD 57078
(Associate)

Colorado West - 815
Holman, Denzil R.
7120 W. Sierra St.
Peoria, AZ 85345
(Associate)

REGION 6
Montana - 594
Zuidema, Howard
Box 594
Conrad, MT 59425
(Associate)

San Diego, CA - 921
Mylar, Tom D.
P. O. Box 161140
San Diego, CA 92116
(Associate)

Saramento Valley, CA - 956
Basford, Keary E.
2739 63rd Street
Sacramento, CA 95817
(Associate)
Lemon, Robert C.
4560 Greentree Dr.
Sacramento, CA 95823
(Associate)
Rice, John E.
8915 Oro Way
Orangevale, CA 95662
(Associate)

Reclassifications To Registered Tuner-Technician

REGION 1
New York City - 101
Schmitt, Karin L.
41-11 171st Street
Flushing, NY 11358

REGION 2
Charlotte, NC - 282
Dunn, Charles R.
56624 Dwight Ware Blvd.
Charlotte, NC 28212

REGION 4
Detroit-Windsor, MI - 481
Bittner, Richard C.
902 Hickory
Royal Oak, MI 48073

Madison, WI - 537
Kilgour, Martha P.
332 Marston Avenue
Madison, WI 53703

REGION 6
Utah Valley - 846
Florence, Rick
512 E. 100 S.
Provo, UT 84601

Index of Display Advertisers

The Auxiliary Exchange

The President's Message

While this year's 30th Annual PTG Convention in Toronto is still five months away, many may wish to plan early to combine their convention trip with a wonderful Canadian vacation. A rail tour of the Canadian Rockies, perhaps, or a trip up to Ottawa and Montreal. Maybe a second honeymoon at Niagra Falls — about an hour's drive from the Constellation Hotel where we are meeting.

Of course there are also a great many attractions in Toronto itself and many of them will be incorporated into the exciting program we have planned for you. This year's Tea will be outside the hotel at Parkwood Estates in Oshawa and will include a tour of the grounds and the Col. R. S. McLaughlin Mansion. You will read much more on this later, but if you want to have a preview of what to expect, you can watch the TV mini-series "I'll Take Manhattan" which was being filmed there at the time of my visit. This is included with your registration fee which will remain the same as last year.

Toronto, one of the world's major cities, is as cosmopolitan as New York, San Francisco or New Orleans. In spite of a 4,000,000 population in the metropolitan area, the city doesn't seem to have the urban problems of many of its U.S. counterparts. The city abounds with parks, botanical gardens and beautifully landscaped homes. There is a new, modern waterfront area where you will find a variety of shops, restaurants, marinas located among hotels and condominiums that have been built according to a carefully drawn master plan.

Toronto has an excellent freeway system with feeder highways paralleling the main highway which keeps the on-off traffic from mixing with the through traffic. It is all easily comprehended once you get the hang of it. For those that plan to drive, I'm happy to report there is free parking at the hotel with plenty of convenient parking space available.

There is a regular bank just off the hotel lobby which was paying the top exchange rate of $1.35 Canadian for each U.S. dollar. The hotel will change money when the bank is closed at $1.30 per dollar. If you plan to carry Traveler's Checks you might wish to get some in Canadian Dollars since you won't always be able to get a favorable rate when spending them unless you cash them at banks. If there isn't a Canadian Bank in your area, most banks will get them for you with a few days' notice. Credit Cards, however, can be used and the exchange is made automatically by your bank when they charge you. It will be at the rate of exchange prevailing at that time.

Full details on classes available to the spouses, the instructors that will present these classes, tours, and special events will be printed in these pages well in advance of the convention. As last year, the complete program will be in the June issue. Watch for it, as I understand many missed it and it can be most helpful in planning your schedule.

Ginger Bryant

...From Our Mailbag:

Margaret Moonan of Rome, NY, wrote to express how much she enjoyed attending the New York State Institute in New York City. It gave her the longed-for opportunity to attend an opera (The Marriage of Figaro) at Lincoln Center. Earlier in the day she had toured backstage at the Metropolitan Opera House and had seen the set in readiness for that evening's performance. She was truly profuse in her thanks and praise of a wonderful weekend. This writer was even given a mystery novel: *The Piano Bird* by C.B. Greenfield, pen-name for Lucille Kallen, a writer for television and the theater. Some months ago we had recommended *The Tanglewood Murder* by the same author to Marge, who read it and thoroughly enjoyed it. From other letters we received, our tour of N.Y.C. was a hit.

BUT, Marge never told us about her town of Rome, N.Y. — the largest of the 17 cities in the United States named after the city founded by Romulus and Remus. Rome, NY, with a population of 45,000 located 35 miles east of Syracuse, would like to become the cheese capitol of the country, since Rome's Jesse Williams built the first cheese factory in America there in 1851. Rome is in the process of constructing a cheese museum which will trace the history of cheese-making at a restored 19th-century Erie Canal Village. That's where the Erie Canal was started in 1817. Rome may become a tourist Mecca!

Marge also did not share the fact that Rome, N.Y. was the home of Francis Bellamy, author of the Pledge of Allegiance! We are certain that she knows this too, as a reliable source affirms that every school child in Rome is taught this fact. Rome is the site of the Fort Stanwix National Monument where the American flag was first flown in the face of the enemy.

While Griffis Air Force Base is Rome's biggest employer, Rome is the "home" of Revere Ware and their big factory outlet store palace of pots and pans! The stainless steel copper-bottomed cookware was first produced there and is its top tourist attraction. Let's hope that someday there will be a New York State Institute held in Rome, N.Y. This writer thanks the Nov. 13th 1986, issue of *The New York Times*. Marge did not tell me.

Beva Jean Wisenbaker wrote that their youngest member of the Houston Chapter, Dianne Bathe, had her first baby on July 16th 1986. The infant's name is Ashley Elizabeth and her proud parents are Dianne and John Bathe. On Oct. 17-19, 1986, The Texas State Association PTG Conference/ Seminar was held with a total attendance of 149, 36 of whom were spouses. They had an amusing craft project and members made Christmas tree ornaments, "critters" and whatever the imagination could stir up. The group also enjoyed a shopping spree and tour of Old Town Spring, a restored and refurbished suburb of Houston boasting quaint and charming little boutiques. The birthday party to celebrate **Ruth Pollard's** 90th birthday was a rousing success. Almost one hundred attended! One guest was Ruth's college roommate, Zera Crocker — 90 years young next April. There was a sister, a niece and cousins from San Antonio and

Brownsville, TX and California kinfolk to help herald the great event. Ruth was so pleased with the floral tribute sent by the Auxiliary and especially the inscription: "Happy 90th birthday to Our First Lady."

Evelyn Morgan of Marysville, WA, wrote to express her thanks for a most enjoyable time in New York City. She felt that the Metropolitan Opera tour was a real highlight. Evelyn and George continued their holiday with a fall foliage tour of New England. (You all must know that except for a small region in northeast China, no other country or state can boast of the magnificent leaf change that is evident in the northeast region of the United States.) The Morgans found their trip beautiful and interesting, but it had to be cut short when Evelyn received word that her mother had died. American Airlines arranged for their return three days early although they were not on time for the funeral services. Evelyn's mother was 96 years old.

Mabel Hiatt of Richmond, VA, Sunshine gal for the Southeast Region, wrote some weeks ago and enclosed an interesting newspaper clipping on one of our former members, Camille Baskerville, whose husband Henry Baskerville had been Southeast Regional Vice President of P.T.G. Camille, as well as her husband, regularly conduct safaris to Africa. This is a decidedly new career for this young mother of two boys. According to the news release she takes groups out on hunting or photographic safaris, is responsible for all the many and varied responsibilities of a safari leader. It was Henry who started this new profession and was successful in interesting his wife in a new career. Mabel is very fond of Camille and keeps in touch when she can.

The Hiatts were unable to attend the annual convention in Las Vegas last summer but hope to be in Toronto next year. Mabel expressed her concerns for **Bert Sierota,** wondered if we had seen her at the Reading Chapter Annual Banquet, hoped she is getting along O.K. and also hopes that Bert will stay in the Auxiliary.."can't imagine being without her." Mabel also wrote that our Auxiliary member **Dorothy Lynn** of Framville, VA, was recently widowed. Fred Lynn was a very good member of the Richmond Chapter from its beginning although "we never could get him to attend a convention"...he was liked by all and will be sorely missed. With delight Mabel recounts that **Geraldine** and **Bill Leach** have several grown grandchildren, "but now they have two new ones, a one-year old and a new-born. The Hiatts have four great grand-children and one more on the way!!

Jennifer Reiter of Spanaway, WA, sent Christmas greetings and hoped we would meet again at the San Francisco conference. Last July we admired several of Jen's creations in the exhibit area. A lady handy with the needle and thread had created a stuffed duck with a piano keyboard design on her top feathers. Of course we ordered one, and then another and another. We've kept them all: the Christmas duck, the Mallard and the piano-feathered one. We don't care if the Huethers' living-room is getting to look like a L.I. duck farm.

Dorothea Odenheimer of Van Nuys, CA, sent holiday greetings and while she did not send her usual newsy letter, we had no difficulty in detecting her joy and pride as she and Fred anticipate the birth of their first grandchild. The baby will be here by the time these notes are read and we wish the very best of blessings to the baby and its new parents.

Tsuneko and **Seiichi Utsunomiya** of Tokyo, Japan, sent holiday greetings for Christmas and the New Year with the added notation "We hope to see you in Canada!"

Have you paid your dues? Take a minute to check. If you neglected to do so, mail a check today. We need you to add strength to our organization.

Make sure your name and address are correct in the directory. We are trying to get the directory as correct and up to date as possible. If you move or any part of your address has been changed, please let me know.

Kathryn Snyder, Treasurer

Things Typical, Topical And Trivial About Toronto

We are most fortunate to have as our speaker for the Auxiliary Opening Assembly, **Mike Filey.** Rather than singing his praises in my own words, the following is the testimonial given by **Mayor Eggleton** at City of Toronto Civic Awards reception.

An established popular historian, author of several excellent books on early Toronto, Mike Filey is a staunch advocate of humanizing the facts of history. His books, news columns, radio shows and lectures, in which he takes a humorous look at the way Torontonians of this century lived, traveled and entertained themselves, have convinced a wide audience that history need not be dull.

To establish an even closer link with the early days, Mike instigated a movement which brought about the restoration of the side-wheel ferry-boat "Trillium," a prominent harbor attraction, and later the two 1923 Witt Streetcars now used for conducted tours of the city.

Mike Filey served for nine years as a member of the Toronto Historical Board, working energetically on its numerous programs, and is an active participant on the Executive, and the Plaques, Publicity and Publications Committees.

For his service in generating interest in the history of Toronto, and his work in recording and in preservation, the Toronto Historical Board is pleased to honor Mike Filey with its "Award of Merit."

Please plan to join us at the Opening Assembly and make "Things typical, topical and trivial about Toronto" a part of your very special welcome to this beautiful city. If any of the "Spouses" of the "Auxiliary Spouses" would care to join us, consider this your invitation.

Ginger Bryant

Exchange Editor:

AGNES HUETHER
34 Jacklin Court
Clifton, New Jersey 07012

National Executive Board

GINGER BRYANT (Mrs. Jim)
President
1012 Dunbarton Circle
Sacramento, California 95825

DEANNA ZERINGUE (Mrs. Nolan)
Vice President
619 Barbier Avenue
Thibodaux, Louisiana 70301

HELENA THOMAS (Mrs. Dean)
Recording Secretary
Rd. 1, Box 210A
Edinburg, Pennsylvania 16116

REBECCA HENEBERRY (Mrs. Alan)
Corresponding Secretary
2310A East Randolph Avenue
Alexandria, Virginia 22301

KATHRYN SNYDER (Mrs. Willis)
Treasurer
79 Furnace Street
Robesonia, Pennsylvania 19551

LOUISE STRONG (Mrs. Don)
Immediate Past President
One Knollwood Drive
Rome, Georgia 30161

Calendar Of Coming Events

Date	Event
Feb. 13-16, 1987	**California State Conference** San Francisco Sheraton Palace Sid Stone; 16875 East 14th St.; San Leandro, CA 94578; (415) 481-1903
Mar. 6-8, 1987	**1987 South Central Regional Seminar** Hilton Inn Northwest, Oklahoma City, OK Keith McGavern; P.O. Box 2547; Shawnee, OK 74802-2547; (405) 275-8600
Mar. 19-21, 1987	**1987 Memphis Mid-South Seminar** Memphis, TN Jere Morris; 4991 Robindale Lane; Memphis, TN 38117; (901) 767-0680
Mar. 20-22, 1987	**1987 Central West Regional Seminar** University of Minnesota Paul Olsen; 3501 Adair Ave. N.; Crystal, MN 55422 (612) 533-5253.
April 2-4, 1987	**Pacific Northwest Conference** Thunderbird Motor Inn, Yakima, WA Kathleen Hodge; 4401 Henning; Yakima, WA 98901; (502) 453-4314
April 2-5, 1987	**1987 Pennsylvania State Conference** Scranton, PA Howard A. Yepson; 94 Brook Street; Carbondale, PA 18407; (717) 282-5151
April 10-12, 1987	**Michigan State Conference** Holiday Inn, Kalamazoo, MI Dave Postma; 3430 Oak St.; Hudsonville, MI 49426; (616) 669-0407
April 24-26, 1987	**New England Regional Seminar** Merrimack Hilton, Merrimack, NH Douglas Kirkwood; 9 Woodbine Lane; Amherst, NH 03031; (603) 424-7996
April 25, 1987	**Los Angeles Chapter One-Day Seminar** La Cañada Presbyterian Church 626 Foothill Blvd. La Cañada — Flintridge, CA Kathy Teetsell; 5621 E. 23rd St. Apt. 1; Longbeach, CA 90815
*** July 20-24, 1987**	**30th Annual Piano Technicians Guild Convention & Institute** Constellation Hotel, Toronto, Ontario, Canada Home Office; 9140 Ward Parkway; Kansas City, MO 64114; (816) 444-3500
July 24-26, 1987	**International Association of Piano Builders and Technicians Biannual Conference** Constellation Hotel, Toronto, Ontario, Canada Home Office; 9140 Ward Parkway, Kansas City, MO 64114; (816) 444-3500

Classified Advertising

Classified advertising rates are 25 cents per word with a $7.50 minimum. Full payment must accompany each insertion request. Closing date for ads is six weeks prior to the first of the month of publication.

Box numbers and zip codes count as one word. Telephone numbers count as two words. Names of cities and states are counted separately.

Send check or money order (U.S. funds, please) made payable to Piano Technicians Journal, 9140 Ward Parkway, Kansas City, MO 64114.

Ads appearing in this publication are not necessarily an endorsement of the services or products listed.

For Sale

INSTANT KEY REPAIRS and other minor miracles. Wood formula "super glue" fixes broken flanges, shanks, reglues ivory like magic. An indispensable addition to any piano tech's bag of tricks. As strong as it is fast. 1/2 ounce bottle $3.25. "Don't leave home without it!" **Steve Pearson Piano Service, 831 Bennett Ave., Long Beach, CA 90804, (213) 433-7873.**

SUPERB RESULTS — MINIMUM EFFORT. This is our mutual goal, and A. Isaac Variable Impact Pattern Hammers makes it possible. These extraordinary hammers deliver the warmth, power and brilliance a pianist demands, yet require less work to achieve spectacular results than any other hammer known to me. More and more top flight rebuilders are discovering that you don't need to spend hours voicing if you work with "The Best" hammers. At A. Isaac, we value your time...and your reputation. Coming early '87, shanks and flanges. Send your samples or call: **Steve Pearson Piano Service, 831 Bennett Ave., Long Beach, CA 90804, (213) 433-7873.**

GRAHAM ANDERSON, Piano Rebuilding and Repair, **3632 Fernway Drive, Montgomery, AL 36111.** 20 years' experience with Steinway - London. Specializing in replacement of action rails. Also available GENUINE IVORY KEY TOPS replaced. Call or write for free estimates. **(205) 284-0197.**

COMPLETE HOME STUDY COURSE in Piano Tuning, Regulating, and Repairing. Write or call for free brochure. **Aubrey Willis School of Piano Tuning, PO Box 25339, Phoenix, AZ 85002. Phone: (305) 299-3690 or (602) 266-1640.**

KORG AT-12 AUTOCHROMATIC TUNER, Play instrument; tuner shows note, octave, cents sharp or flat for seven octaves: C = 32.70 Hz to B = 3951.07 Hz. Plays four octaves: C = 65.41 Hz to B = 987.77 Hz. Calibrate A = 430-450 Hz. Batteries, AC adaptor, earphone, case, year warranty, 1 lb. Introductory offer: $135 postpaid ($190 list). **Song of the Sea, 47 West Street, Bar Harbor, Maine 04609, (207) 288-5653.**

KEY RECOVERING MACHINES. Send stamped S.A.E. for current prices and description. **SOLENBERGER PIANO SERVICE, 1551 LYNN CT., SANTA ROSA, CA 95405. (707) 542-1756.**

NEW SOUNDBOARDS MADE FOR YOU. Ship old board. New board comes to you ready for installation. Send for instruction on: **Victor Video Tape, $94.75. Victor A. Benvenuto, 6825 Germantown Avenue, Philadelphia, PA 19119. (215) 438-7038.**

VICTOR A. BENVENUTO VIDEOTAPES. Stimulating Chapter Technicals. PIANO TUNING AURAL/ELECTRONIC...$175. The most accurate approach in fine tuning. KEY MAKING...$124.75. GRAND REBUILDING (2 tapes)...$225.75. Preparation, pinblock replacement, damper installation, restringing. GRAND REGULATING...$175.75. SOUNDBOARD REPLACEMENT...$94.75. Ship old board - new board comes to you ready for installation. Please specify VHS or Beta. All prices include shipping. **THE PIANO SHOPPE, INC. 6825 GERMANTOWN AVE., PHILADELPHIA, PA 19119. (215) 438-7038.**

THE GUIDE. $10. The Piano Technicians Guide. A job time study and work guide. Revised and printed to fit a pocket. **Newton J. Hunt, 3253 Lockmoor, Dallas, TX 75220. (214) 352-6846.** TX residents add appropriate sales tax.

SIGHT-O-TUNER SERVICE. Improve the accuracy of your tunings with a correctly calibrated SOT. Also do repairs and modifications. **Richard Weinberger, 18818 - 142nd Drive, Sun City West, AZ 85375. (602) 583-0083.**

HARPSICHORD AND FORTEPIANO PARTS and kits, original factory materials from the finest early keyboard suppliers in the world. Also Troubleshooting and assistance to fellow RTT's on harpsichord problems. Authorized Zuckermann Agent. Lowest Factory Direct Prices - buy from the source. Catalogs, price lists free. **Yves A. Feder RTT, Harpsichord Workshops, 2 North Chestnut Hill, Killingworth, CT 06417 (203) 663-1811.**

COLEMAN-DEFEBAUGH
Video Cassettes

- ***Aural & Visual Tuning*** ***$79.50***
  Pitch raising, temperament setting, beat counting, Sanderson Accutuner, etc.
- ***Grand Action Rebuilding $79.50***
  Hammers, shanks & flanges, wippens, key bushing, backchecks, etc.
- ***Upright Regulation*** ***$65.00***
  Troubleshooting, refelting, etc.
- ***Beginning Piano Tuning $55.00***

VHS or Beta **(213) 735-4595**

Superior Instruction Tapes
2152 W. Washington Bl.,
Los Angeles, CA 90018

SIGHT-O-TUNER, Excellent condition, includes instructions, includes all the modifications and improvements, by Rick Baldassin, recently recalibrated. $500. **E. Overboe, 9421 Drake Ave., Evanston, IL, 60203. (312) 679-0530.**

P.T. JOURNALS — One hundred copies, 1966 thru 1972 and 1980 thru 1986. The lot $500; lots of 25, $150; lots of 10, $75. One technical hint could repay your entire expenditure. **Al Sullivan, 409 Caldwell Drive, Wyckoff, NJ 07481. Phone (201) 445-2613.**

CONN STROBOTUNER, Model ST-11 with case. Has extended 2+ Range. New and complete. $275.00. Write or call: **L W Childs, RTT, 7867 Lark Ridge, San Antonio, TX 78250, (512) 647-3648.**

THE PIANO OWNER'S GUIDE. Several hundred copies are still available to the trade at the SALE price of $2.00 each, plus .10 per copy for shipping. Minimum order: 10 copies. Prepayment required. Send orders to: **Carl D. Schmeckel, P.O. Box 10672, Green Bay, Wisconsin 54307.**

FOR SALE: TUNING AND REPAIR BUSINESS. Doctor says "stop" after 14 years in business. Parts and materials, tools, instruction course, technical books, list of customers. Located in northeast New Jersey. $3000. Write **Tuner, 409 Caldwell Drive, Wyckoff, NJ 07481.**

A CAREER in Band Instrument Repair or Piano Tuning and Repair can be yours! Enroll in Western Iowa Tech Community College's programs and develop skills from tuning to rebuilding pianos, or overhauling and repairing brass and woodwind instruments. Specially designed facilties include individual work stations and up to date equipment. In state tuition is $270.00 per quarter; out of state tuition is $540.00 per quarter. Most students qualify for in state tuition by the second quater. Employers: contact our placement office about availability of graduates. For more information, contact **Admissions Office, PO Box 265, Sioux City, IA 51102 or call (712) 276-0380 collect.**

PIANO KEYS RECOVERED: .050 — $35.00. .060 — $37.00. .075 — with fronts $55.00. New sharps — $25.00. Sharps refinished $12.50. New fronts — $17.50. Keys Rebushed $35.00. Return freight paid. **Charles Wilson, 1841 Kit Carson, Dyersburg, Tenn. 38024 (901) 285-2516.**

NILES BRYANT OFFERS TWO HOME STUDY COURSES: Electronic Organ Servicing: Newly revised. Covers all makes and models - digital, analogue, LCI's, synthesizers, etc. Piano Technology: Tuning, regulating, repairing. Our 87th year! Free booklet: Write or call **NILES BRYANT SCHOOL, Dept. G, Box 20153, Sacramento, CA 95820 - (916) 454-4748 (24 hrs.)**

KEY BUSHING SUPPLY COMPANY — take the guesswork out of rebushing keys. "BRASS-CAULS" are accurately machined in six standard sizes to handle most instruments. "BRASS-CAULS" are $52.50 plus $2.50 shipping. Call or write for complete price and application list. Also available — 4-page instructions "A Factory Method For Rebushing Keys". Lifetime investment. **PETER W. GREY RTT, PO BOX 56 KINGSTON, NH 03848. Tel. (603) 642-3633.**

FOR SALE: Established tuning and repair business in affluent Marin County just north of San Francisco. Call or write for details. **Richard Kane, PO Box 1384, San Rafael, CA 94915, (415) 388-3310.**

CUSTOM REBUILDING of fine grands. Soundboards, pinblocks, action restoration or replacement, refinishing, etc. **J. Krefting Pianos, PO Box 16066, Ludlow, KY 41016. (606) 261-1643.**

Wanted

Up To $1000.00 Finder's Fee will be paid for successful purchase of a Mason and Hamlin Ex-Player. I have mechanism to install. Pls call collect **(317) 259-4307 or evenings (317) 849-1469. Jim Brady 4609 Cranbrook Dr., Indpls., IN 46250.**

National Technical Manager — Samick Music Corp. is seeking an experienced national technical manager. Excellent pay. Opportunity to move into executive management. For more details, call **Jack Scott E/VP at 1-800 592-9393.**

PIANO TECHNICIAN — Experienced piano tuner for sunny South Fla. company. Benefits, paid vacation. Call **(305) 456-7800 or write Bobb's Pianos & Organs, 2512 S. 30th Avenue, Hallandale, Fla. 33009.**

Help Wanted: Piano rebuilding shop looking for full-time tuner-technician. Good tuning skills necessary. Learn the rebuilding trade. **Walkup and Frank Pianos. 310 4th Street, Ithaca, NY 14850, (607) 272-6547.**

MASON & HAMLIN GRAND WANTED. Will purchase used Mason & Hamlin Grands, any age or condition, for re-building in our factory. Contact: **GARY GREEN, SOHMER & COMPANY, IVORYTON, CT 06442. (203) 767-2675.**

Miscellaneous

THE RANDY POTTER SCHOOL OF PIANO TECHNOLOGY — a complete course for beginning and intermediate students, in piano tuning, repairing, regulating, voicing and business practices. Top instructors and materials. Call or write for information: **RANDY POTTER, RTT; 61592 ORION DRIVE; BEND, OR 97702; (503) 382-5411.** See our ad on page 3.

SIGHT-O-TUNER MODIFICATION. Bourns Knobpots are not enough. Exclusive Internal Error Compensation is necessary for truly accurate modification. Factory re-calibration and repair procedures available. Sales — modified or stock, new or used. Work endorsed by the inventor of the Sight-O-Tuner, Albert Sanderson. Also, **SANDERSON ACCU-TUNERS** from Authorized Distributor. The most accurate and advanced tuning aid available. Tuning lever note switch for Accu-Tuner $20. Sight-O-Tuner service still available to Accu-Tuner and previous Sight-O-Tuner customers. Repairs to new customers by appointment only, please. **Rick Baldassin, 2684 W. 220 North, Provo, UT 84601, (801) 374-2887.** Solving your pitch problems since 1981.

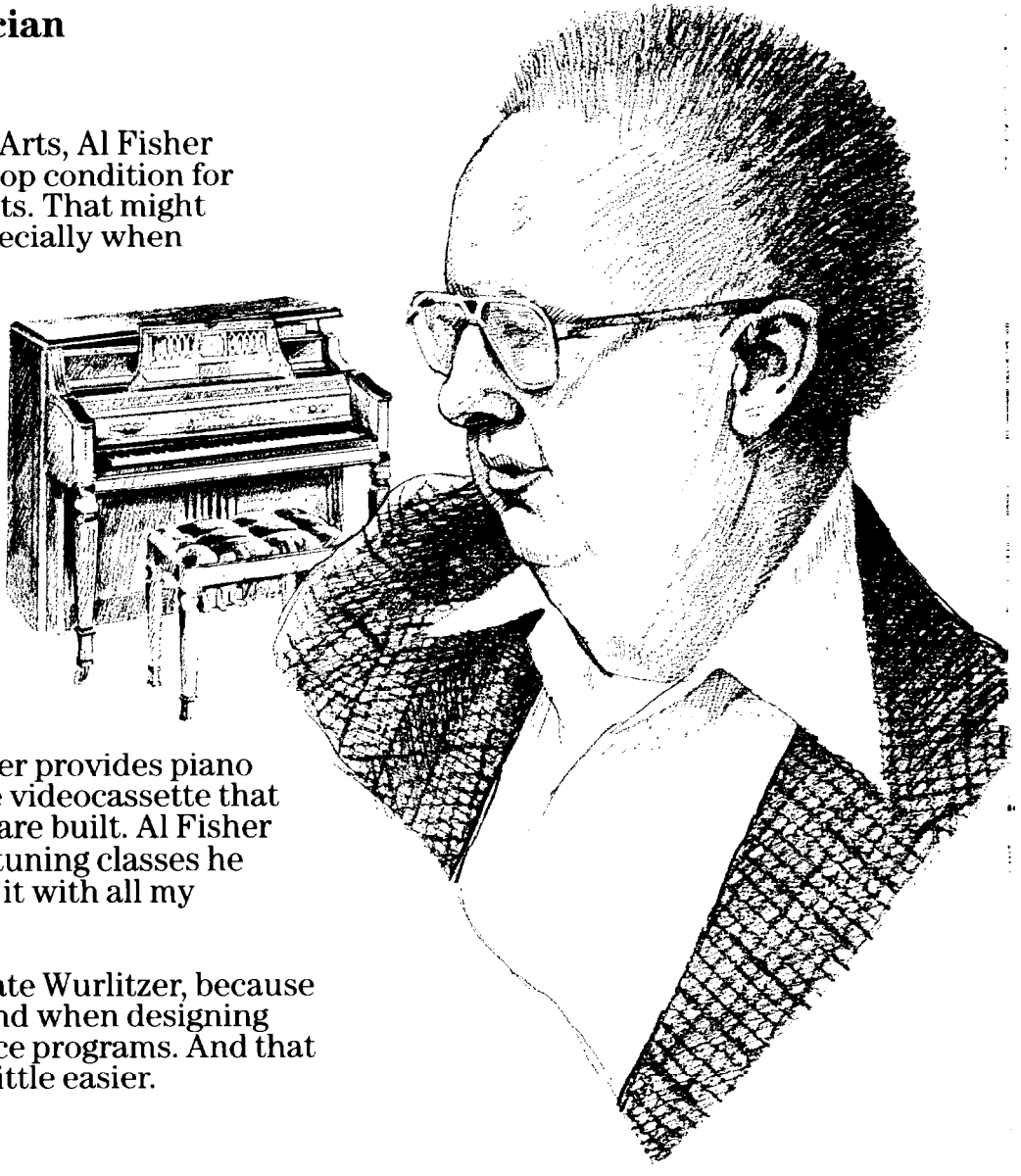
Kawai...
The Standard
of Excellence.

At Kawai, the tuner's hands and ears alone can determine the final "rightness" of a piano in the final tuning process.

KAWAI
The Master Builder.

"We don't have problems with sticking actions on Wurlitzer Pianos."

Al Fisher—piano technician and teacher.



At Interlochen Center for the Arts, Al Fisher makes sure the pianos are in top condition for students and performing artists. That might look like a formidable job, especially when you consider that most of the pianos used during the famous National Music Camp are in lakeside buildings where temperature and humidity change constantly. But Al Fisher will tell you that it's "easier than you might think" with Wurlitzer pianos... because Wurlitzer actions are manufactured with uncommon precision.

Naturally, he appreciates that. But he also appreciates the extra service that Wurlitzer provides piano technicians. For example, the videocassette that shows how Wurlizter pianos are built. Al Fisher uses it regularly in the piano tuning classes he teaches at Interlochen. "I use it with all my students. It's well done."

People like Al Fisher appreciate Wurlitzer, because we keep the technician in mind when designing pianos and establishing service programs. And that makes the technician's job a little easier.

WURLITZER®

DeKalb, Illinois 60115