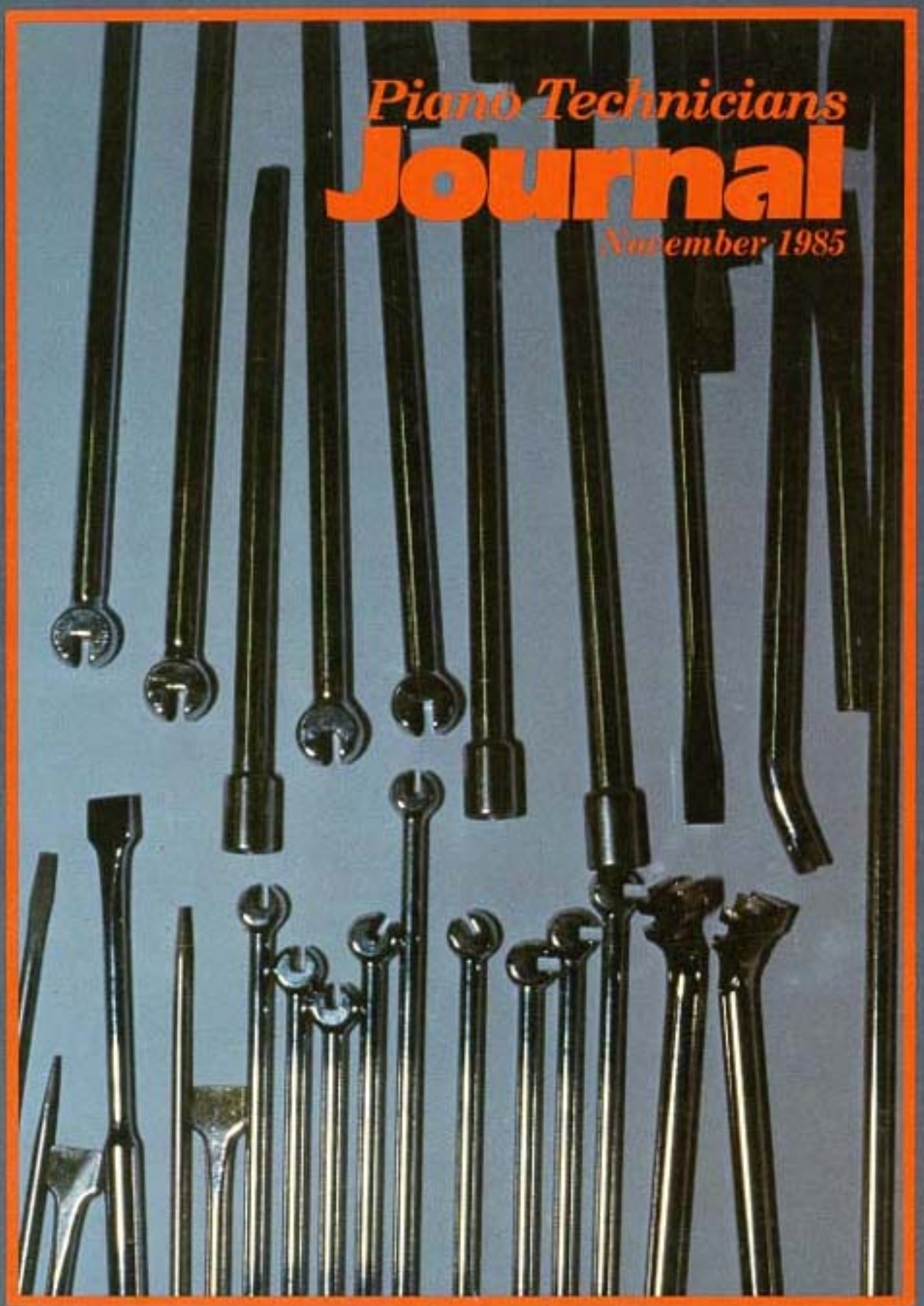
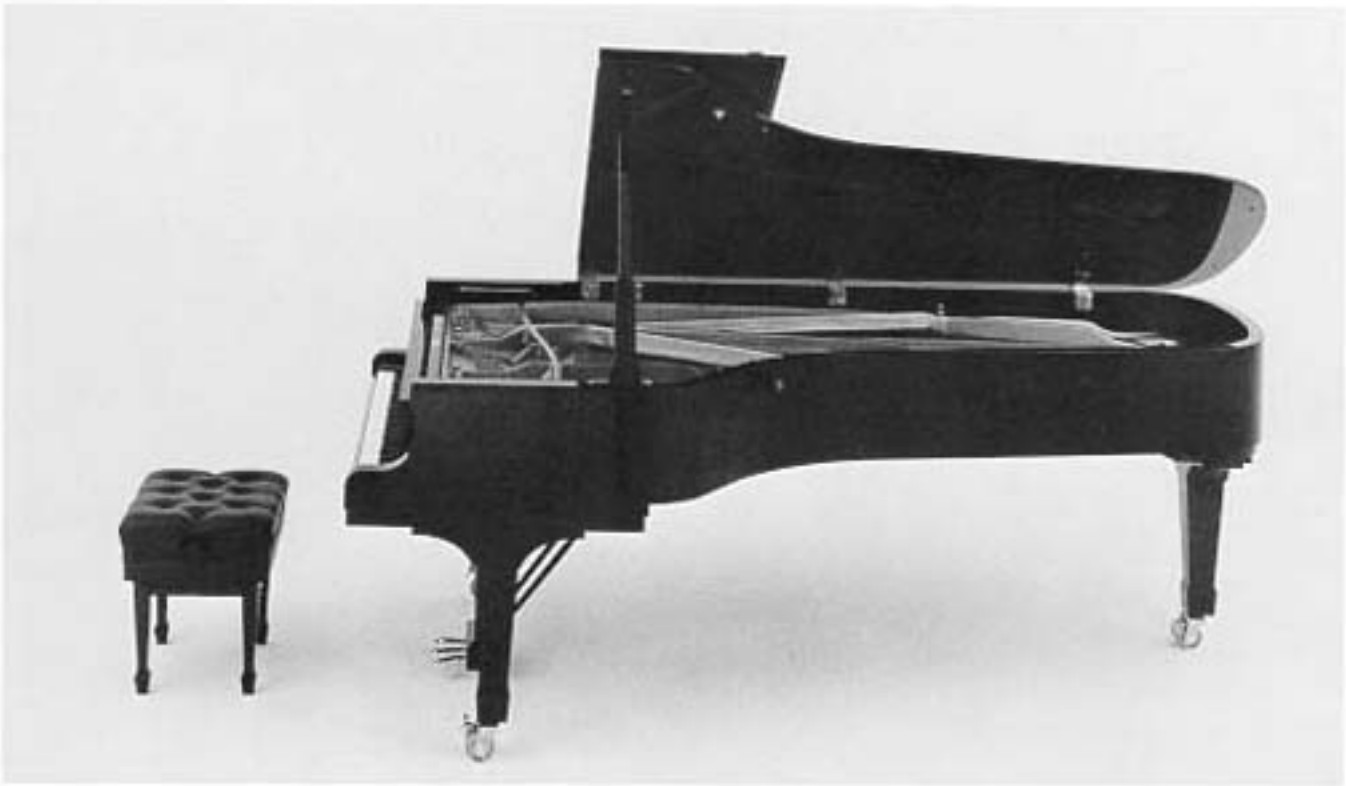
# Piano Technicians Journal

November 1985





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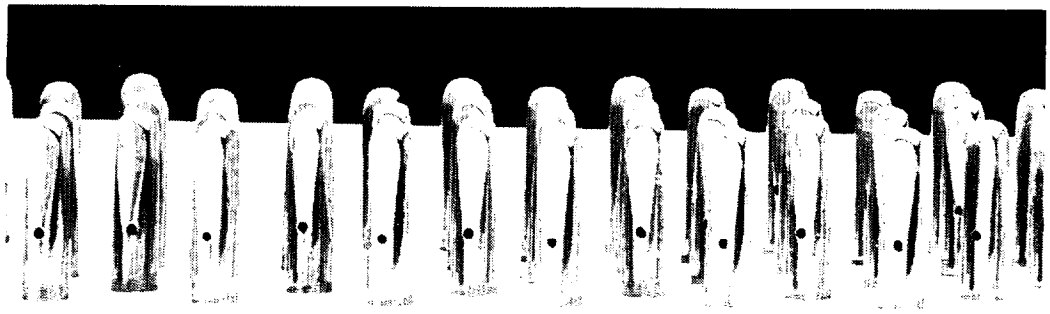

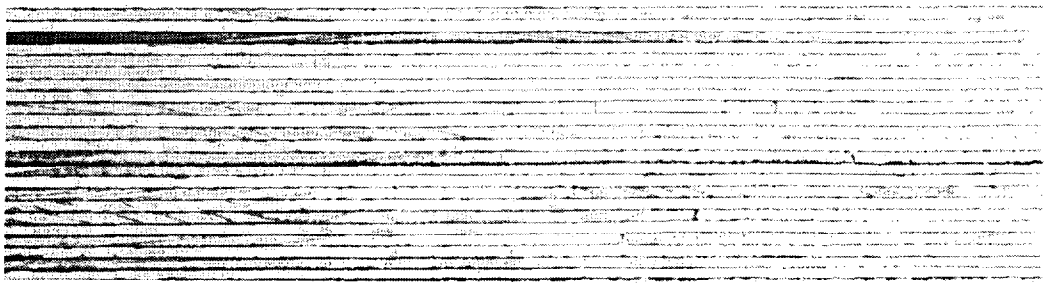

At long last Schaff has obtained a distributorship for the German made, multi-laminated beech pin block material called DELIGNIT©. For several years now this type of pin block has been imported into the United States and Canada. Now this particular DELIGNIT© grade, having the same characteristics of density as used by almost all European piano manufacturers, is available at Schaff.

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## *In Respectful Memory...*

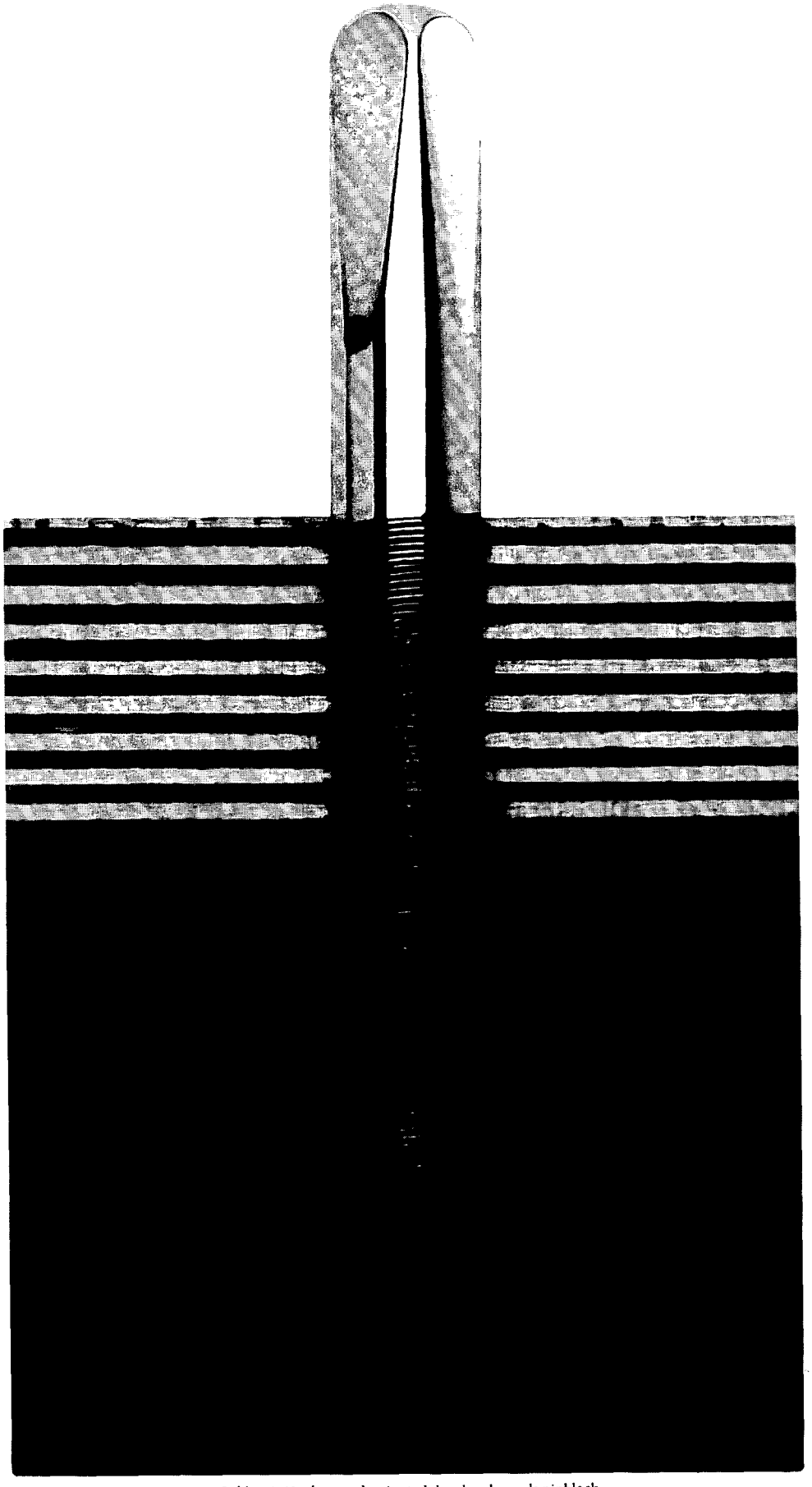
**Rev. Merle H. Mason**

The Rev. Merle H. Mason, 83, of Ontario, CA, and Fredericton, NB, Canada, a longtime Guild member and author, died recently at his home in New Brunswick.

Mason, who joined the Guild as a member of the Connecticut Chapter, is best known in the piano industry as an author and compiler of educational materials. He was responsible for producing "Piano Parts and Their Functions," the "Piano Action Handbook," a "Classified Index to Published Piano Technology" and its five-year supplement, all published by the Guild. He was honored in 1972 for his work with the "Member of Note" award. He was a member of the Pomona Valley, CA, Chapter.

Mason retired in 1967 after 20 years as pastor of the First Baptist Church in New London, CT. He had earlier served as minister of other Baptist churches in Connecticut, New Brunswick and British Columbia, having received his masters and doctorate degrees from Brown University. He was currently minister of visitation at the First Baptist Church of Ontario, CA, where he spent his winters.

He is survived by his wife, Helen; a daughter, Sherry Bruner, of Dubois, PA; a sister, Enid Davis, of Frederickton; and two granddaughters.



Baldwin's 19-ply cross-laminated, hard rock maple pinblock.

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**Newton Hunt,**
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"As far as I'm concerned, Baldwin's pinblock is one of their primary strengths. Year after year, the pins are snug—not jumpy."

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"I'm aware that some piano technicians have commented that Baldwin pinblocks require extra effort to tune. Sure, you have to exert a lot of energy because so many plies grip a single pin. But, in the long run, that's why they're so stable."

**Joe Vitti,**
Tuner-Technician, New York

"I've never had any problem with loose Baldwin tuning pins. They stand up exceptionally well to Omaha's climatic changes. In fact, I've never had to replace the 'new' type of Baldwin pinblock in my 20 years in the business."

**Bob Erlandson,**
Tuner-Technician, Omaha

"Multi-ply pinblocks are harder to shape, fussier to drill, and more work to string—and I put them in every piano I rebuild. Experience with the Baldwin block has convinced me it is the best. After all, the last sixty years of a piano's life are just as important as the first three."

**Susan Graham,**
Tuner-Technician, Oakland

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## The President's Perspective

**Charles P. Huether**
**President**

# *New Tests Bring New Responsibilities*

I hope that by now every chapter has had time to check over and administer one of the new Technical Tests, if not on a prospective member then on one of the regular members serving as a guinea pig to let the chapter examiners practice.

If you haven't thought of practicing giving the test, it is a good idea. Since the procedures in each test are finely developed and the manner of administration is critical to the test, it is important that one become familiar with it before testing starts.

Of course, if you make a chapter program out of one of the tests, do not include those who have applied for membership and are waiting to take the test. That would be going a little too far. A better way would be to take those interested in giving the test in a special meeting and working as a test group. Familiarity with the tests is most important.

The old bench test, simple as it looked, worked well if one were trained in its use. However, the deceptively simple look of the test created problems because people acted as administrators without having gone over it in advance. With the new technical tests, this can only spell disaster.

Having new tests in place puts a greater responsibility on those of us administering the test. No matter how well designed the test may be, it will not serve its intended purpose if it is not adequately administered.

We all value our membership in this organization. We all take pride in what we have achieved. We owe ourselves, as well as the Guild, the responsibility to treat these new tests with the proper respect. We have an obligation to make sure that what we do in administering them is on the same level of conscientiousness as was the effort put into their development.

Those who are responsible for the administration and guidance of our chapter, those who have been entrusted by the chapter members with its well-being by being elected to office, have a special trust to administer; that is, the proper implementation and administration of these new tests, thereby completing our decade-long quest for improved testing of entrance qualifications.

Those who developed these tests did their job well. Implementation is our task. We owe them, as well as we owe ourselves, the obligation of doing the job right. If we fail by not doing the job as planned, their work is wasted and we all will suffer.

Study the new tests, make sure you know how to administer them as designed. They are not as formidable as they might initially seem. Do the job right. It will get easier each time. We will all benefit from your conscientious efforts.


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# From The Executive Director

**Barbara Parks**
**Executive Director**

## *Facts, Figures And A Little Whimsy*

Statistics can be deceptive, but here's one that might interest you. We sent chapter presidents a computer printout of their members' addresses and phone numbers as they were to be printed in the 1985-86 directory. Since it had been a year and a half since the last directory, we expected that there would be some corrections. However, people let us know quickly when they move and don't get their *Journals*, so we didn't think there would be *that* many changes.

When the returns were in, we found that we had made approximately 650 changes in our computerized membership records. That means that the address, phone number, member category or chapter status of almost one member in five has changed during the past year and a half. That's not counting the number of changes that were made routinely as they were sent in by individuals.

Speaking of the directory, you may not have received yours yet. As you know, it now is published in addition to the 12 regular issues of the *Journal*, instead of taking the place of one month's magazine. We felt that it was better to keep the *Journal* on track and spend the time necessary to make the directory as accurate as possible. Each of those changes, particularly those that involved chapter memberships, had to be researched and double checked. As I write this, the directory is nearly complete and should be in the mail to you soon.

* * *

In our "makes you wonder" department, it was a good month for classified advertisements. From Enumclaw, WA, Wayne O. Matley of the Puget Sound Chapter sent the following from a recent issue of the *Seattle Times:*

*One must go! 7' Baldwin or 6' Husband. $13,993.*

We're wondering how she arrived at that price. We're also wondering about the classified Steve Schmidt of the Central Illinois Chapter spotted in a local publication and shared through the chapter's newsletter, the *A Chord:*

*10' to 11' wrought iron chromatic tuner, model 200, volume A, 440.*

It sounds decorative, at least, but I'm not sure how you would get it into the client's house.

Speaking of classified advertising and historical trivia, it's also worth noting, for whatever conclusions you care to draw, that on Nov. 30, 1801, Robert Smith was named Secretary of the Navy by President Jefferson after answering a "help wanted" ad.

# The International Scene

**Fred Odenheimer**
**Chairman, International Relations Committee**

It was good to read the news the other day that Steinway's future is secured and that both the factories in New York and in Hamburg will stay in place (see related story).

With but a few piano factories staying in business in this country and all the old names no longer family-owned it points out the fact that in the U.S. at least neither buyout by big corporations nor expansion from within into other fields was ever successful in the long run, and one or two exceptions will not change this general phenomenon.

We can compare this for instance with Europe, where a number of factories are still family-owned, production is relatively limited and the fortunes or misfortunes of the owning families have gone up or down with the moods of the buying public and their enticements to other forms of entertainment of the moment.

On the other hand, factory expansion from within into musical and/or related fields seemed to work in Japan or in the case of Korea, where industrial giants decided to go into piano production. While, especially as far as Korea is concerned, we must withhold final judgement since very few years have elapsed since they began to build pianos compared with Japan's much longer tradition and Europe's many years of family ownership, it still leaves us with the question of why something seems to work there but not here. All this again points to the fact that as piano technicians we are an integral part of our industry. We will rise and fall with its fortunes. They support us and we have to support them, not only with the best service we can render, but also with referrals leading to sales. There are times when we have to take care of an inexpensive new instrument and we all know this piano is difficult to improve. But perhaps it is all the owners could afford. Let us put an extra effort into the maintenance of such an instrument and there is certainly a chance that we can get it into a reasonably good performing and tone condition.

You may have read that a Piano Technicians Guild European trip for 1986 is all set. All those of you who are so eager to go should make your commitments now and you will never feel sorry. This is your chance.

## Steinway Sold To Boston Group

Steinway & Sons, along with three other companies in CBS's Musical Instrument Division, has been acquired by a Boston-based holding company. The holding company's four principals, John P. Birmingham, Robert Birmingham, James F. Stone and Bruce A. Stevens, quickly ended industry speculation by announcing that Steinway would continue to operate its facilities in Long Island City, N.Y.; London; and Hamburg, Germany.

The CBS Division, composed of Steinway & Sons, Gemeinhardt Co., Rogers Organ Co., and Lyon & Healy Harp Co., has been renamed Steinway Musical Properties, Inc. Stevens, who has a background in marketing and management, will serve as president of both Steinway Musical Properties and Steinway & Sons.

## Campbell Named To Head Sohmer

David R. Campbell has been named chief executive officer of the Sohmer & Co. division of Pratt-Read Corp., announced Pratt-Read Corp. President H.B. "Woody" Comstock.

In a related move, former President Harry J. Sohmer Jr. has been promoted to Chairman. Sohmer, whose grandfather founded the company in 1872, will continue to play an active role in the company's day-to-day operations.

Campbell, who joined Sohmer & Co. earlier this year, is now responsible for all company operations. After stints with Kimball and Currier, he most recently served as president and CEO of Aeolian American Corp.

# THE TECHNICAL FORUM

# *No Volume In Top Octave, String Breakage, Electronic Tuning Hints, Paraffin On Keybed, Tech Tips, And Readers' Comments*

**Jack Krefting**
**Technical Editor**

**Q:** *I have two problem pianos. Number one is a Steinway "M" that had new hammers installed about five years ago. All is fine except for approximately the top octave which is barely audible. I've tried several things but without success. Can you list all the possible remedies and/or combinations which might correct the situation?..."*

**Arthur H. Stokes**
**Diamond Springs, CA**

**A:** Let's interrupt our correspondent to respond to this questions before proceeding. The most likely cause of a lack of volume only in the highest treble is incorrect action placement, causing the strike point to be wrong. To check for this remove the treble keyblock mounting screw and manually move the keyframe forward and back while playing note 88 repeatedly, listening for the clearest sound. This will be about a sixteenth of the speaking length, or roughly an eighth of an inch, from the capo bar at that note. If a better spot is found, mark a reference line on the keybed and adjust the keyblock guide forward or back, as required. It is possible that this change will prevent the fallboard or keyslip from fitting properly, in which case one would suspect that

"

. . . remove the treble keyblock mounting screw and manually move the keyframe forward and back while playing note 88 repeatedly, listening for the clearest sound. This will be about a sixteenth of the speaking length, or roughly an eighth of an inch, from the capo bar at that note.

"

the hammers were hung at the wrong place on the shanks or that the plate was removed and carelessly replaced in the wrong position. This might be corrected by removing and regluing the top section of hammers, or it could require major surgery, depending on just what is wrong. At any rate, the strike point is the most likely because it is very critical only in the high treble.

The next most likely cause is that the hammers are too soft, and will have to be hardened or replaced. If there is too much felt on the top hammers, that will also have a deadening effect. The solution is to file, staying within the layers and finishing off with 220 paper pulled one way only. It should not be possible to press one's fingernail into the felt, especially in the top treble, so some technicians use that as a guideline.

The next most likely cause is that the hammers are not striking squarely, or they are traveling, or undercentering or overcentering because they were incorrectly bored. The hammer must be at right angles to the strings in both

planes at the moment it strikes, and that can be checked with a hammer square.

Finally, it could be a bridge/board problem which is preventing the transmission of sound. One example of this would be a loose or cracked bridge or bridge cap, and another is a radical bearing setting; still another would be actual interference between the soundboard/bridge assembly and the plate or other rigid structure such as a nosebolt. To check for this, try plucking the strings to see whether the decay rate seems normal for that point of the scale. If it is noticeably short, no amount of hammer work will correct it appreciably. Look for a wedge or other foreign material between rib and beam, and check for a loose soundboard or negative crown.

Now let's look at the second part of the question:

## String Breakage

**Q:** *. . . Number two piano is a 15-year-old console which has had seven strings break during the last two years — all at the top end of the tenor section. All strings broke at the V-bar. Even one replacement snapped. Could you suggest a cause and remedy?"*

**A:** When strings break at the V-bar, that almost always indicates fatigue due to heavy playing. An examination of the hammers, key bushings and action centers in that area of the scale will probably reinforce that diagnosis; but if not, we should look further.

Check the wire diameters to determine whether all of the breakage is occurring in a single wire size, which could indicate a faulty coil of wire. If that is suspected, the best answer would be to restring that group of unisons. In this particular case, since one of the replacement strings has also broken, this diagnosis is not likely. however. The technician would have to have restrung the piano and used the same defective coil of wire for the replacement string, or there would be some other unlikely coincidence.

Another unlikely possibility is that someone used wire of smaller diameter than intended, resulting in a loss of volume in that area which may have been compensated for by chemically hardening the hammers. Similarly, it is also possible that the pianist, in trying to overcome a weak area of the scale, is playing with unusual force in that range. Possibly the V-bar is unusually sharp at that point, or the pressure bar is too close to the plate and causing an unusual amount of counterbearing.

Finally, if the maker is still in business it would be wise to check the speaking length of those strings against the scale template to see whether the bridge or plate could be misplaced somehow, causing the speaking length to be longer than designed. That would increase the percentage of the breaking strength when the strings are brought to pitch, which also increases the risk of breakage. This is highly unlikely, however, because in such cases one almost invariably finds that the problem is most severe in the high treble, which apparently is not the case here.

## Electronic Tuning Hints

Next we present portions of a long, interesting letter from Eric Joslyn, who uses an electronic tuning aid:

*The first trick is to tune the unisons from right to left in the low to middle treble section on spinets and low-quality pianos. The reason for this is twofold. If you look at the treble tuning pins on a spinet you will see that a lot of them are touching the string from the tuning pin above. I think it is evident that any tuning done to the upper pin will not have any effect on the lower pins (unless one were to change the string tension dramatically), but that tuning the lower pins can definitely have an effect on the upper strings. If one therefore tunes the right pin first, then the middle, then the left, this problem is solved. Secondly, the right string tends to be more true with less false beats than the others due to the way the bridge is notched and the right bridge pins having more support.*

*I tune this way on all spinets and uprights, usually changing to a left-to-right pattern for the last two octaves, because due to the string slant and pin spacing there are rarely any conflicting strings and pins. Grand pianos seldom require this type of tuning unless the strings are really false.*

*The second trick involves using the tuner to do pitch raising. The procedure is as follows. I first measure the flatness of the pitch in cents. I then estimate approximately one-quarter of that amount and set the tuner sharp of its zero setting by that amount. In other words, if the piano is 60 cents flat, I will set the tuner 15 cents sharp. This is really standard knowledge and most piano tuners probably know it. The next part is the fun part. Holding the sustain pedal down, I use my fingernail to chip-tune the piano to the tuner. I start at low C and use all the settings from the stretch chart until I get to the top of the piano. The bass I do by ear later. There are several advantages to this. The first is that there are no felts or mutes to bother with. Second, unlike an ear pitch raise, the standard that you are tuning to does not change pitch as you tune. In a standard ear pitch-raise, your temperament octave is dropping at the same time that you are matching the upper notes to it, creating the sensation of juggling sand. In electronic pitch-raising, each note gets its full planned amount of tension increase. The upper middle treble drops much less than when raising pitch by ear. Generally, I find that most notes are within five cents of where I want them, making the fine tuning that much easier and more stable. This system is also very fast, the main difficulty being turning the knobs. I have often thought that one could go even faster with a foot-operated switch.*

*The third item isn't a trick but some observations and beliefs about setting the pin, which has traditionally been an area of mystery and paradox. Why is it that some people get good results doing the very thing that another master tuner claims is the very worst? I believe it is because they are really doing the same thing, even if it doesn't look that way.*

*The first principle involved I learned from Jim Hayes at one of his seminars. He demonstrated conclusively that in order to have a stable speaking segment of wire, the non-speaking segments must be the same or higher in tension, prefer-*

*ably higher. Playing the note hard tends to equalize the tension. The second principle is that there are only two things that one can do to a tuning pin, rotate it in the block and flex it in its present position.*

*Our options are therefore to rotate the pin, flex it, or hit the note hard in order to achieve an equal or slightly higher tension in the non-speaking segments next to the pin. (I don't believe we have any control over the plate-to-bridge segment.) Does this sound familiar? What I have found is that rotating the pin is the coarse adjustment, to be done first, and flexing is the micrometer adjustment to be done second. Striking the note hard is the test and will reveal if anything is wrong. By the way, when I say strike it hard, I mean hard.*

*The very first thing I do is to rotate the pin, using a jerking motion, until the pitch of the string is quite close to what I want. The reason I use a jerking motion for this part of tuning is that after each adjustment, the pin springs back to a straight, untwisted shape rather than retaining some twist and thereby clouding the next step. Once the pitch is in the ball park, so to speak, I will test the correctness of the pin position or coarse adjustment by flexing the pin. This step is much easier to see on the tuner than it is to hear and much more revealing. Carefully flex the pin towards and then away from the direction of tension. Most times you will find that the pitch will change very easily flexing the pin one way and hardly or not at all in the other direction. This is telling you one simple thing: there is a large difference in tension between the speaking length and the non-speaking lengths. The only way to adjust for this is to rotate the pin in the block, not to flex the pin. The pin needs to be rotated until it is as easy or slightly easier to make the pitch go sharp than flat. Once this point is reached, the fine-tuning can be done by flexing the pin carefully. Flexing the pin does two things. It slides the string past the bearing points, thereby changing the pitch and secondly it creates a spring in the pin, thereby changing the string tension in the non-speaking segment. Many piano tuners believe that there should be no spring in the pin whatsoever, but I feel that spring is unavoidable and can be very useful sometimes.*

"Flexing the pin does two things. It slides the string past the bearing points, thereby changing the pitch and secondly it creates a spring in the pin, thereby changing the string tension in the non-speaking segment."

*(Sometimes I will use) the pin rotation to set the pitch slightly sharp, then will flex the pin until the pitch is slightly flat, then let the pitch "float" sharp by very careful pin-flexing and hard playing of the key.*

*A note set this way just simply will not go out of tune under heavy use. I want to emphasize that all flexing should be careful in order not to bend the pin and should be both rotational and in line. This means giving a slight twist to the pin at the same time that one is pressing it in line with the string. The reason for this is that the pin can flex both in line and in a twisting fashion and that you get much more safe flex out of a pin if you use both its flexing capabilities.*

*The traditional ear tuning system of setting the pin is to pull the pitch slightly sharp, then to push down on the hammer (twist and in-line flex combined) while hitting the key hard. What is happening is that the overall tension of the whole string is being raised slightly above the final pitch, then the tension of the speaking segment is being dropped by flexing the pin and hitting the key and finally the tuner releases his hammer allowing the pin to spring back and increase the tension of the upper non-speaking section above that of the speaking section. The good ear tuner correlates the flexing pressure on the hammer with the amount of pitch change that occurs and if it takes too much pressure to change the pitch, goes back to the coarse adjustment of rotating the pin. It should really take very little pressure to flex the pitch to the correct place once the pin is in the correct position.*

*There are certain pianos that throw us all for a loop. They either have no plate bushings or have severe angles or high friction at the bearing points. Those without plate bushings throw us because the pin can spring much more, thereby allowing a greater range in string tension adjustment by merely flexing the pin. The problem is that unless one is experienced in that particular piano, it is possible to unknowingly have 'way too much spring in the pin and therefore too much difference in tension between the different string segments. A plate bushing limits the range of flex because you can tell when the pin just won't safely flex anymore. An interesting point is that pianos without plate bushings usually have a very carefully mated plate flange and pinblock and those pianos with plate bushings in many cases have no contact at all between the plate and the pinblock. The plate bushings actually carry the load of the string tension.*

**Eric Joslyn, RTT**
**Bremerton, WA**

## Paraffin On Keybed

**Q:** *I recently serviced a relatively new Mason and Hamlin grand which I suspect has paraffin rubbed on the keybed to lubricate the keyframe glides. When the una corda pedal is depressed, a pop is heard as the keyframe begins to move. The frame then shifts silently until allowed to sit for some time after which the pop once again announces the shift. Should I sand or scrape or use a solvent to remove this paraffin, if it is indeed paraffin?"*

**John D. Chapman**
**Central North Carolina Chapter**

**A:** It probably *is* paraffin, or at least some compound which

includes wax or has a wax base, and the only solution is to remove it. The suggestion from here would be to assume that the wax might have been applied to the front and back rail contact areas as well as the glides, so the entire keyframe and keybed will have to be cleaned.

Use a non-abrasive metal cleaner or naptha to clean the glides, and scrape the keyframe and keybed with a cabinet scraper. Then rub the contact surfaces with a naptha-coated rag, and sand lightly with #220 or #240 when dry. Finally, apply unscented talcum powder (available at your pharmacy) to the front and back rail contact areas, and if necessary a small amount of clean lubricant — no oil, grease or graphite — to the glide contact points. The traditional lubricant is mutton tallow and French chalk, but SlipSpray or some other teflon-type lubricant makes a suitable substitute.

## Technical Tips

To alleviate the problem of excessive compression of new keyframe punchings, which can cause noticeable variations in key dip depending on how hard the key is struck, Sally Jameson of the Cincinnati Chapter suggests pre-shrinking and pre-compression of the punchings. Place all the new front rail punchings in one cloth bag or nylon stocking, and all the balance rail cloth punchings in another. Wash them in hot water and dry them, still in their containers, with high heat to shrink them as much as possible. Then lay them out on a flat surface and place a slab of pinblock material on top, weighting it down with tuning pins or whatever to compress them as much as possible before they are installed on the keyframe.

## Readers' Comments

*Thanks for the great award for the modified tool. Now let me (complain) a little bit. In all these great writings about downbearing and related technical arguments and comments, rarely do I see humidity mentioned. There is...a lot of difference in the downbearing in a grand (in the summer) with the temperature about 95 and the humidity about as high, versus say in February with the temperature 68 or so and the humidity about twenty. This is the scene in most all places we work, and in the shops I've visited. Without something near a constant, reasonable temperature and humidity, who...can tell?"*

**L.E. Minton**
**Clayton, NC**

*Regarding Don Farrar's fine tool made by Leverwrench, I find it a bit odd that no one bothered to look for one. I bought one from the RGB Co., in Santa Clara, CA, for $13.09 plus tax. They also informed me that Leverwrench had been purchased by Stanley Tool Co. The*

*part number that I was given is 84358. The tool that I bought is a Leverwrench and they said they had at least eight in stock.*

*Don Farrar's name needs to be moved up from honorable mention in the multiple use category.*

**Paul Graeber**
**San Jose, CA**

*...Concerning the availability of Don Farrar's multipurpose tool, the Leverwrench, Sporty's Tool Shop, Clermont Airport, Batavia, OH 45103, is still carrying the long-nose and standard-nose wrench, at $12.95 for the long-nose. Just got mine two weeks ago, and they seem to work fine. Sporty's takes Mastercard and Visa so you can order by phone. (800) 543-8633.*

**Harry L. Landis**
**Copperas Cove, TX**

*Some months ago in your column, there was a reference to Jim Harvey's pedal repinning tool made from a C-clamp. Also there was a question about what to do with loose pedal pins. Well, Jim Harvey has an answer for that, too. I have used his method several times and it works like a charm.*

*1. Remove the pedal from its bracket and remove the loose pedal pin. Drill a hole down through the end of the pedal (perpendicular to the pedal pin hole) with a #21 drill bit.*

*2. Thread the hole you just drilled with a 10-32 tap.*

*3. Put the pedal pin back in its hole and install a 3/8" allen set screw in the threaded hole, tightening it down to hold the pedal pin firmly in place.*

*This technique is not as simple as swaging the pedal pin with a hammer, but it is a lot easier than brazing and redrilling the oversize hole in the pedal, and it holds tightly. In my backup tool box, I keep a plastic baggie with a #21 drill bit, a 10-32 tap, several set screws and pedal pins, and an allen wrench. This enables me to make the repair on the spot.*

**Randy Rush**
**Seattle, WA**

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Please send all technical material, including articles, questions, tips and comments, to me at this address:

**Jack Krefting**
**PO Box 16066**
**Ludlow, KY 41016-0066**

TOOLS OF THE

# TRADE

## *Two Handy Tools*

**Richard Hassig, RTT**
**Tri-City IL Chapter**

I wonder if there are many visually impaired technicians who are not aware that there is a braille micrometer which works beautifully for us. I remember struggling along with that stupid disk for measuring piano wire, and what a relief it was not to have to measure music wire that way any longer.

I recall that my instructor, also blind, could not quite bring himself to purchase one because he was not convinced that it would be practical. He just was not sure that he would be able to read it. I understand that because I felt the same way. After all, it is a sizable investment. I feel confident in saying that you can use it, and if you take care of it, it should last a lifetime.

Of course, with your micrometer you can measure not only piano wire, but center pins and tuning pins. It is superior to the gauge for measuring universal bass strings, because you can measure both inside and outside diameters.

Actually, the list of uses for this tool can go on and on, but that starts you justifying it. It is a relatively simple matter to convert micrometer readings into music wire sizes and visa versa. Double the wire size (13 becomes 26, for example), add five, which becomes 31. Number 13 piano wire measures 0.031 of an inch. Reverse the process to convert from micrometer readings to size numbers — 0.044 minus five equals 0.039 divided by two equals 0.0195. Therefore, 0.044 equals size #19 1/2 wire.

"

Of course, with your micrometer you can measure not only piano wire, but center pins and tuning pins. It is superior to the gauge for measuring universal bass strings, because you can measure both inside and outside diameters.

"

Someone remarked to me once before he knew that there was such a formula that he could find the relative numbers on a chart in the supply catalog. I'll bet I could make the calculation before he could even find the catalog, not to mention the page with the chart.

Speaking of catalogs, don't look in the piano supply catalogs for a braille micrometer. You will probably not find one there. The American Foundation for the Blind is one of probably several sources.

The Ungar heat gun is a marvelous tool for a blind person to use. It will do many of the things that an alcohol lamp or match will do, except start a fire easily. I am sure you could burn something if you aren't careful, but I do feel much safer using the gun. You can apply heat to hammer shanks and heads with it. Also, the Steamstress is very convenient to apply steam, for removing key bushings, and so on.

# *Politics And Music In Florence During The Latter Part Of Cristofori's Career*

**Jack Greenfield**
**Chicago Chapter**

## Final Years Of Grand Duke Cosimo III

There have been no documents published with details of Cristofori's activities and work after his 1716 appointment as curator of musical instruments for Grand Duke Cosimo III but his activities can be inferred to some extent from our historical knowledge of the Medicis and the musical life of Florence in Cristofori's time. The existing instruments including three pianos he built in the 1720s are excellent records of the inventiveness and craftsmanship of his work.

Even though Medici musical activities were curtailed after the 1713 death of Prince Ferdinando, Cristofori's services were needed for maintenance of the instruments used by the staff of musicians the Grand Duke employed for performance at formal court and civic events. The musical director, or *maestro di capella,* head of the grand ducal musical establishment also holding the same post for the cathedral in Florence, was Francesco Mannuci during the latter part of Cristofori's career. According to the article "Florence" in the *1980 Grove Dictionary of Music,* Mannuci, who was appointed in 1712, was also a composer of opera. His work has remained obscure and forgotten but a diary he kept with mention of Cristofori's work under way in 1698 on the first piano is important from an historical standpoint (*Piano Technicians Journal* July 1985, p. 30).

Cristofori also had the instruments used personally by members of the Medici family to care for. Besides Cosimo, there were Prince Gian Gastone, Cosimo's daughter Princess Anna Maria who returned in 1717 after the death of her husband Prince Johann Wilhelm in Dusseldorf, Prince Ferdinando's widow Princess Violante, and Cosimo's sister-in-law Princess Eleanora. Princess Violante had acted as first lady of the land in social activities in place of the Grand Duchess Marguerite-Louise who was living in France since her separation from Cosimo. However, after returning to Florence in 1717, Princess Anna Maria behaved as if she were Grand Duchess and assumed she was superior to Princess Violante. In order to establish definite formal status for Princess Violante, Cosimo appointed her Governor of Siena, a nearby city of Tuscany.

Gian Gastone avoided the court as much as possible. The only member of his family he cared for was Princess Violante, but he had an intense dislike for his father and his sister. He had shown moderate interest in opera and played the flute when younger, but it is unlikely that he or any other members of the family were involved in Cristofori's work as deeply as Ferdinando had been.

We have no knowledge as to whether Cristofori did any work for clients other than the Medicis. Despite the descending economy and uncertain political future of Florence, there was considerable musical activity outside the court and the church. In 1718, regular

"We have no knowledge as to whether Cristofori did any work for clients other than the Medicis. Despite the descending economy and uncertain political future of Florence, there was considerable musical activity outside the court and the church."

opera performances were resumed at the *Teatra della Pergola,* which had been shut down since 1663, seven years after construction, except for occasional special events. The theater was reopened with an opera by Vivaldi and regular performances continued with operas by internationally famous Venetian and Neopolitan composers. There is still a theater for opera on the site, but the present building was constructed early in the 19th century.

Besides the public entertainment of the theater and concert hall, Florentine society of Cristofori's time enjoyed music, singing and dancing at private parties in thehomes of the aristocrats and wealthy citizens. The musical life of Florence also included extensive music education and music writing by composers, most of them now forgotten.

## Political Future Of Florence Decided By Great Powers

In 1713, after the death of Prince Ferdinando, Cosimo had issued a decree that his daughter would succeed to the rule of Tuscany as Grand Duchess if she were the last surviving member of the family. During the following years, he carried on negotiations with the European powers in efforts to ensure the succession of his children. In 1717, he declared that his choice for succession after his last child was the Italian noble family Este of Modena. The rule of Tuscany by other Italians thus would continue its independence.

However, he was soon shocked to learn that the political fate of Tuscany had been decided elsewhere without him. In 1717, England, France and Holland signed a treaty known as the Triple Alliance for the purpose of preserving the peace of Europe. Although the general warfare that had been carried on from 1701-1714 was ended, there was mutual distrust and uneasiness between nations. In 1718, Austria joined in to form the Quadruple Alliance and an agreement was reached granting sovereignty over sections of Italy and other regions in Europe where political rule was in question.

The great powers, taking advantage of their military strength, were in effect dividing and trading off real estate. One of their decisions was that Spain was to give up Sicily and Sardinia and in return, Don Carlos, the infant son of the Spanish King Phillip V and his second wife Elizabeth Farnese, a Medici descendant, would succeed the last of Cosimo's children as Grand Duke of Tuscany. The eldest son of King Phillip by his first wife, Crown Prince Fernando was in line for the throne of Spain. Don Carlos would not have independent control over Tuscany. Tuscany was to become a dominion of Austria with allegiance to its Emperor, Charles VI.

Charles VI, a Hapsburg, was not entirely pleased and would have preferred to have a member of his family rather than a Spanish Bourbon ruling Tuscany. Spain on the opposite side objected to Austrian control but was too weak to gain its way by military means. As for Cosimo, he had no choice but to accept the decisions of the Quadruple Alliance. Tuscany had a small army composed of several thousand men, most of whom were older married men. The navy, once a powerful force in the Mediterranean successful in battles against Turks and Corsairs, had faded down to a force of a few armed galleys and about 200 men. All Cosimo could do now was to write his protests and have his ambassadors in Spain and Austria try to influence these countries into taking steps to cancel the Quadruple Alliance agreement on Tuscan succession.

Besides politics, Cosimo now busied himself in religious activities with greater intensity. He visited five or six churches almost every day. He initiated frequent religious processions and festivities. Cosimo in his late 70s remained healthy, although weakening with age.

## Gian Gastone Succeeds Cosimo III As Grand Duke

In 1721, the Medici family received news that Grand Duchess Marguerite-Louise had died in France. In the following year, at the age of 80, Cosimo finally had to

## A Medici Bibliography

There are many books on the history and biography of the Medici. Most of them are concerned with the family at the height of power and achievement during the Renaissance, and they devote little attention to the last of the line.

Among the few with more information on the last generations are *The Last Medici*, by Harold Acton (Macmillan London Limited, London, 1980), and *Florence in the Forgotten Centuries*, by Eric Cochrane (The University of Chicago Press, Chicago, 1974).

The articles "Medici" and "Florence" in the *Grove Dictionary of Music 1980* give detailed summaries of the musical activities of the family and the city.

"Tuscany had a small army composed of several thousand men, most of whom were older married men. The navy, once a powerful force in the Mediterranean successful in battles against Turks and Corsairs, had faded down to a force of a few armed galleys and about 200 men. All Cosimo could do now was to write his protests..."

give up most of his activity when he was stricken with a slow fever. Gian Gastone was called to the throne as Regent in July, 1722, and succeeded as Grand Duke after Cosimo's death in October 1723. Cosimo had reigned for 53 years, longer than any other Medici. He was a dull-witted, bigoted despot. Under his rule, the duchy descended into economic stagnation, squalor and lethargy. The unhappy, unsuccessful marriages he forced on his sons resulted in bringing an end to the great Medici family. The only positive advancement during his disastrous reign was the progress in music which he and members of his family helped support.

Gian Gastone's character was the exact opposite of his father's. He was an intellectual with liberal views, an interest in science, and cynical about religion. He never had ambitions for power. He did not care for ceremony but preferred solitude. During his occasional public appearances, more frequent earlier in his reign, he was good-natured, frequently jesting. Counteracting his favorable qualities were his highly objectionable personal faults. He had become an alcoholic after his failed marriage. He was lazy and slovenly and had ruined his health by over-indulgence. Yet his personal problems did not stop him from ruling with enlightenment and benevolence.

After taking power, Gian Gastone's first measure was separation of the functions of the state and the church. He selected new ministers of government to replace the tyrannical ecclesiastics of his father. He abolished many taxes, practiced economy and paved the way for economic upturn. There was greater civil liberty as universities were allowed greater freedom, an edict against religious persecution issued, and the death penalty abolished. The atmosphere of oppression under Cosimo III was replaced by one of good cheer and tourists started to return to Florence.

Princess Anna Maria, whose ideas were more like her father's, disliked the changes Gian Gastone had brought about and withdrew to the background. Since Gian Gastone appeared at few social and civic events, Princess Violante now represented the family at most formal occasions.

## Cristofori's Later Instruments

Cristofori continued as curator of the Medici collection of musical instruments, a position he held for the rest of his career. It is unlikely that there were any changes in his work. The court musical establishment was maintained. Public opera performance proceeded and the citizens of Florence enjoyed music at their private parties, perhaps even more now.

There are three Cristofori pianos still in existence, dated 1720, 1722 and 1726, and a harpsichord built in 1722, which is considered authentic. A harpsichord dated 1726 and several undated instruments said to have been built by Cristofori are considered dubious by authorities. An early 18th-century Italian harpsichord by an unidentified builder, now in the Smithsonian museum, could have been made by Cristofori, in view of its similarities to other Cristofori instruments.

The accompanying list shows instruments attributed to Cristofori, authentic as well as dubious, in museum collections, date of construction and present location. The instruments have at least four-octave keyboards, usually beginning with $C_2$. A few have several additional notes at the top. Design details of the pianos, including information from a recent study by Steward Pollens, Metropolitan Museum of Art, Musical Instruments Department, will be presented later in the series.

> "Cosimo had reigned for 53 years, longer than any other Medici. He was a dull-witted, bigoted despot. Under his rule, the duchy descended into economic stagnation, squalor and lethargy."

### Cristofori Instruments In Museums

***Pianos***

| | |
|---|---|
| **1720** | Metropolitan Museum of Art, New York |
| **1722** | Musical Instrument Museum, Rome |
| **1726** | Musical Instrument Museum, Karl Marx University, Leipzig |

***Harpsichords and Spinets — Authentic***

| | |
|---|---|
| **1693** | Leipzig (spinet) |
| **1722** | Leipzig |

***Harpsichords and Spinets — Dubious or of Unknown Origin***

| | |
|---|---|
| **1693** | Leipzig (double-strung spinet |
| **1702 (?)** | University of Michigan, Ann Arbor (three manuals) |
| **1703** | German Museum, Munich (three manuals) |
| **1725** | Leipzig (pedal spinet) |
| **1726** | Leipzig |
| **No Date** | German National Museum, Nuremburg (three manuals) |
| **No Date** | Smithsonian Museum, Washington, D.C. |

# Another Historical Temperament

In a paper "Approaches to Tuning and Temperament" by Dr. Rudolph A. Rasch, Institute of Musicology, University of Utrecht (Netherlands) delivered October 10, 1984, at an Acoustical Society of America meeting, Dr. Rasch presented "Rules for Tuning by the Celebrated Mr. Handel," a temperament he discovered in an edition of fugues published after Handel's death in 1759. It is Dr. Rasch's opinion that the publisher included the tuning instructions to promote sales but it is not known whether or not Handel actually tuned in this temperament.

These "Rules for Tuning" are an example of inaccurate tuning directions of the past. The probable intonation would be fifths tempered -2 cents to -6 cents and major thirds +4 cents to +16 cents becoming much wider in the sharp keys. This temperament is not included among the old temperaments now in use for historical performance. Those contain either or both pure fifths or major thirds and other characteristics that help achieve better accuracy.

— *Jack Greenfield*

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1st CHORD. In this Chord tune the Fifth pretty flat and the Third considerably too sharp, NB. the Fifth will not bear to be reduced so much below its true accord, as the Third will to be raised above it.

2d CHORD. Let the Fifth be nearer perfect than the last tho' not quite, tune the Third a Fifth to E, make it good but just bearing flat.

OCTAVES. Tune all Octaves perfect.

3d CHORD. Tune A, a good fifth to D, trying it at the same time with E, above already tuned, Tune the Third a fifth to B, and let it be near as flat as the fifth in the 1st Chord, this will in some measure bring down the sharpness of the Third.

4th CHORD. Tune the Third a fifth to F, sharp already tuned, let its bearing be the same as the Third in the last Chord.

5th CHORD. Tune the Third very fine rather bearing sharp, for in fact all Thirds must be tuned sharp more or less, as all fifths should be flat.

6th CHORD. Tune the A, an Octave to A, above, when you have drawn the F, to a perfect fifth with C, give it a little inclination higher, that being the same as if you had tuned your C, a fifth to F, giving the C, a little flatness.

7th CHORD. Tune the fifth as in the 6th Chord.

8th CHORD. Tune the fifth as in the 1st Chord.

Tune all the rest by Octaves.

THE
# ECLECTIC'S
NOTEBOOK

# *Priorities*

**Christopher S. Robinson**
**Connecticut Chapter**

There is currently an issue which is far more important to piano people as a group than any possible question about who is going to be a member of what association or what kind of membership standing he or she shall have within the organization. The problem, simply stated, is: "What is to become of our industry?" Is it to survive as a vital part of America's cultural and commercial life, or shall it be driven to the edge of extinction by competition for available "disposable income" in the recreational market, and by the new two-dimensional imitators of its unique aural sensuality?

Let's examine what's been happening. At the present date, manufacturers in general cannot sell the number of instruments that they are currently producing, or are able to produce. Within the past few months, one major manufacturer has been forced to lock its doors for the second, and presumably last, time. One smaller manufacturer has ceased operations. Two major suppliers have been seriously hurt by the former closing: one forced to shut down its iron smelting furnaces for good, the other thrown into a limbo of trying to decide whether labor or management will assume the risks of providing commercial grade spruce panels to a volatile and erratic user.

This is a significant development, and one which may prove especially devastating in the future. If manufacturers cannot sell pianos, then they will not produce them. If pianos are not made (in volume), then parts and materials will not be purchased in sufficient quantity to make it economically worthwhile for primary suppliers to bother with making those parts and materials available at an affordable price; or, for that matter, offering them at all. In this begins a vicious circle, for if supplies are to be obtained only under adverse conditions and high prices, the competitive position of the end product can only be substantially weakened. As the piano loses value (sales) in the marketplace, it further loses its leverage to purchase in quantity necessary raw materials and components vital to its efficient and economical assembly.

"Within the past few months, one major manufacturer has been forced to lock its doors for the second, and presumably last, time. One smaller manufacturer has ceased operations. Two major suppliers have been seriously hurt..."

What can we do? The first step is to do some intense thinking about our culture and our position as an industry within that culture. We will have to be honest with ourselves about whether the piano has a place in the culture, or whether it does not. In either case the question, "If so, why?" will have to be answered. If we decide that this late 19th century musical instrument belongs in our late 20th century social environment, then the reason must be discovered why its once dominant position has faltered, and a prescription issued for its return to good health. Once the prescription is obtained, the medicine must be administered to our very ill giant, a problem significantly tougher than Aesop's mice belling their cat.

If I were asked to characterize in a single utterance the most dominat characteristic about our American culture, I would use the word, "speed." Everything occurs quickly today, and those things which do not happen fast enough are either rendered obsolete, or are subjected to the scrutiny of managers and engineers whose job it is to ensure that stragglers in the race for speed and efficiency keep up with the rest of the pack.

Primitive Man learned to use tools to help with the business of survival and everyday living. As his history progressed, he learned how he could couple tools together, and harness them to outside

sources of power to produce machines. Early machines were largely anthropormorphic devices; that is, they were personal continuations of the human beings who built them. People sometimes affectionately gave the machines names, but rarely became confused as to whether they were actually flesh and blood. As machinery became more sophisticated — faster, more powerful, and auto-sufficient — mankind became bewildered. What had originally been created as extensions of our own powers and senses had, like Shelly's Frankenstein monster, turned the tables on us and began to seduce our sons and daughters to emulate the behavior of machines!

In this day and age we regard with respect and admiration the tireless, dedicated achiever whose accuracy and tremendous output is never hampered by contradiction, indecision, irrationality, emotion, conscience or love of the intangible. We emulate the machines we have built, hoping to become and behave just as predictably as they do, never realizing that the Fallen One himself could not have devised a better description of Hell. Fortunately, there are a remnant amongst us who have refused to accept this script for their lives and have steadfastly maintained their three-dimensional humanity in an increasingly two-dimensional world.

What has historically been the magic of the piano? Is it the fact that it is an assemblage of irreconcilable compromises? Is it the challenge of something very difficult to master? Is it that mastery of the keyboard confers also mastery of the first Muse? Is it that the power and depth that a fine instrument can emit is truly three-dimensional in character, perhaps rendering it the most human of all instruments?

Why do you suppose that the piano is so difficult to record? Why do you suppose that even the best of computer-generated synthesizing equipment can only do at best a mediocre imitation of a fine acoustical piano? The reason is that electronic machinery is two-dimensional. The process of recording and reproduction, not to mention synthesis and memory, is a compound function of positive and negative, on and off, yes and no, one and zero, X and Y axes.

The unique property of the piano, which everyone has been doing his or her level best to ignore, is that it emits a three-dimensional acoustic wave which is extremely difficult to imitate even with the aid of stereophonic equipment. In most cases, it is only at very high levels of power that the Z-axis oscillation, or pulse, can be induced in a passive acoustic environment which does not contain the actual primary generator of the Z-axis component. (Incidentally, this explanation is at least one part of the reason that so many people like to listen to their radios at such high levels of volume.)

Just what are we trying to achieve with all this esoteric cant? The point is that at least since the Second World War the piano industry has been ignoring its product's strongest virtue. Contained in that virtue is the power, the emotion, the breadth of color, and the intangible humanity that completely removes the piano from any comparison with the so-called recreational equipment that it supposedly competes with for the disposable dollar.

We are all guilty. Piano manufacturers are building instruments with significant structural flaws and massive losses of tone through the bellying and exostructure (frame and case) of the instrument, relying instead on super-hardened hammers to make up in the string and soundboard for what has been lost in the rest of the instrument. Piano service people are guilty of unprofessional behavior, treating the maintenance of the instrument like a hobby, failing to learn and master the skills necessary for keeping the piano at its best performing level. Piano teachers are guilty of forgetting what their instrument is for: the making of music — *real* music. Piano students who cannot produce power and scope of tone at the keyboard within a reasonable period of time are simply going to throw up their hands and say, "why bother with the effort and the cost?" go to the electronic marvel on the wall, push the button and turn up the volume.

This is the focus of my thesis. We in the piano industry must immediately combine forces so that someone who wants to play the piano (or, for that matter, the musician who already does) can approach the instrument and produce more sound, more power, and greater depth at the keyboard than what can be had from that rash of blinking lights located in what used to be the family bookshelf. It is possible because it is already being done, but on too limited a level. Can we agree on both a cure and cooperation? I do not accept that it is impossible to save our industry, not to speak of a very valuable portion of our social culture.

# BOOK REVIEW

## *Arthur Reblitz: 'Player Piano Servicing And Rebuilding'*

**Raye McCall**
**Pomona Valley, CA, Chapter**

For several years, there has been a book on the market written by Larry Givens on rebuilding the player piano. It was a good place to start acquiring a knowledge of this fascinating subject. However, there is so much more information available today, new and different techniques being used, as well as numerous new products on the market, and added suppliers from which to obtain these items, so it becomes obvious that it is time for another treatise on the subject. Art Reblitz has, in my opinion, done an outstanding job of compiling a lot of information in a very logical sequence in his new book *Player Piano Servicing and Rebuilding.*

Mr. Reblitz is no newcomer to the field of piano technology or the business of restoring mechanical musical instruments. He has been author and co-author of several books on these subjects.

Chapter one of this book contains some historical information about player pianos and the different types that were made, a brief description of how the player systems operate, and some of the author's feelings about the task of restoring.

Chapter two is an in-depth discussion of the player system and all of its parts and components. The latter part of the chapter provides the reader with instructions on how to operate one of these instruments.

Chapter three is rather short, but in in it the author gives information on how to find a player piano, and where, brand names to look for, and some hazards of which you need to be aware.

Chapter four is a component-by-component overview of the restoration process, describing how to do the necessary testing and/or aligning and how to refinish the case. Detailed descriptions on the "how to" of all of the many things to be done in the restoration, including the materials, supplies, and tools needed to do the job right, are found in Chapter five. Reblitz tells how to break apart and repair glued wood parts, how to replace leather valve facings, pouches and gaskets, and the rehinging and recovering of many different kinds of pneumatics and bellows. Also contained in this chapter are tricks of the trade which are common to the repair of all player action components.

In chapter six, the author deals with specific brands of players and uses many good pictures and diagrams to illustrate. As has been stated already, there is ample information elsewhere in this book which one needs to do a thorough restoration, but the idiosyncrasies of each player action and the techniques required are found in this chapter.

The author talks about expression playing mechanisms in Chapter seven. He tells how each of the different kinds is supposed to function and what must be done to make them perform correctly in the event of a problem.

Chapter eight contains information about coin-operated pianos and orchestrions. To explore the inside of one of the orchestrions is a fascinating experience. In some cases, you will find a number of other instruments inside, which are operated on and off by perforations in the roll. Speaking of rolls, there is a generous discussion about different kinds of rolls which are used by various brand-name machines. The book concludes with some guidelines on troubleshooting, maintenance and servicing of players, plus a very comprehensive checklist which may be used for appraising the condition of an instrument, estimating a repair job, and for describing repairs which have been completed.

I recommend this book to anyone in the field of piano technology, whether or not you have an interest in players. It will help you develop an appreciation for why the different player systems perform as they do. To the experienced restorer, there is a lot of good information to add to the existing storehouse of knowledge.

*Player Piano Servicing and Rebuilding, by Arthur Reblitz. Vestal Press.*

# SHOP TALK

# *Pieces Of String Too Short To Use*

**Susan Graham**
**San Francisco Chapter**

In the manner of small odds and ends saved in case they become useful, here are a few bits of information. None is enough for an entire article; nothing is earth-shaking, but something may save somebody some time.

Action rails: in particular, old Baldwin metal-capped rails, which are not only extremely heavy but covered with black tape which ages to a stubborn layer of black goo and usually adheres to the flanges when they are removed. It is fairly easy to remove the residue from the rail, but it may be necessary to clean it off the flanges as well, since old-bore shanks and flanges of good quality can be hard to obtain. The best bet is to get imported shanks and flanges with unbored flanges and bore the flange screw holes yourself. Otherwise, it is necessary to pin new shanks on the old flanges.

Sanding the black residue off the flanges is time-consuming and tends to leave an uneven surface, creating problems in traveling. Brushing the residue with denatured alcohol (if parts are still pinned on, as in the case of wippens, keep it out of the action centers) followed by a quick blast from the heat gun softens the glue. The tape can be scraped off very cleanly with a knife. This must be done while the part is still warm or the tape re-hardens. The rails themselves can be cleaned by dry scraping or chiseling the tape off — use a "beater" chisel of German or American steel, which is less likely to chip than the Japanese laminated blades.

"

Sanding the black residue off the flanges is time-consuming and tends to leave an uneven surface...Brushing the residue with denatured alcohol followed by a quick blast from the heat gun softens the glue. The tape can be scraped off very cleanly with a knife.

"

Sand the rail smooth. Use hide glue to recover them with 220 sandpaper. Keep the glue from running into the flange holes by brushing it lengthwise along the back edge until the coating is thin and then lightly brushing it out between the screw holes to tack the front edge of the sandpaper in place. (Remove the rail-to-bracket screws one at a time to avoid changing the action spread.)

After the glue has dried, use the end of a tapered hammer head reamer to reopen and clean the opening of the flange screw holes in the rail before reinstalling the flanges. This will make reinserting the screws without crossing threads much easier. If you should inadvertently strip one of these metal-in-metal screws, the hole can be repaired with a good-quality paste epoxy. Work epoxy into the hole with a palette knife, but don't pack it tight. Use a pointed implement such as an awl to open a center

hole and clean off any excess which squeezes out onto the rail. Use a sample blob of the epoxy and a test screw to judge when it is nearly set — soft enough so the screw can be turned in, but firm enough to hold the threading when the screw is withdrawn.

Position a piece of waxed paper with a hole the diameter of the flange screw over the hole, and put the flange on top of that. Liberally spray the flange screw with teflon or a similar mold release, and carefully turn it down into the epoxy. Use the heat gun to briefly heat the screw head. This will accelerate the cure of the epoxy surrounding the screw. Leave it for five minutes and then carefully back the screw out and let the epoxy finish setting overnight. The wax paper and flange are in place to keep the material from bulging up and distorting the surface of the rail as the screw is inserted. Removing the screw before the epoxy is entirely set is a safety precaution — this should not be a permanent bond. Be sure to re-use the same screw in the hole. The rail could be ret-tapped and a larger screw used, but fillister-head screws are hard to find and repairing the rail maintains a uniform appearance. This is one of those operations that is much quicker to do than to read about, believe me.

Moving on to damper felt: I've switched to hot hide glue for damper felt, in consideration of future technicians and rebuilders. It isn't that difficult to work quickly enough, especially if you set a mirror up on the strings so the back of the head is visible from the front. It's also worth emphasizing that "cheating" the felt to one side of the head to avoid changing spacing can be only very slight. If this is done to excess — more than 1/16-inch off — the weight of the head will rest unevenly and damping will be poor even though the felt is centered over the strings. It really is necessary to have the head centered as well.

And ivories: if old ones split, warp or distort as you dry them in an oven after cleaning and/or bleaching, use less heat. Also use minimal heat when steaming heads off if they are to be saved — an iron just hot enough to produce steam is sufficient.

Speaking of steaming: add a small amount of ammonia to the water when steaming out newer key bushings installed with gummy white heat-set glue. They will come out more cleanly.

For all-purpose action felt and leather removal, my current favorite soup is 80 percent hot water, 15 percent wallpaper remover and five percent glacial acetic acid. This is kept hot in a jar in the water bath of my glue pot (a converted electric fondue pot) and drawn off into a plastic squirt bottle in small quantities so it stays hot. The heat really speeds up the softening action.

Last but not least: my current favorite shop knife is the type with a diagonal-edge breakaway tip, found in wallpaper, appliance repair and hardware stores. Almost everyone seems to have known about these before me, but just in case anyone else hadn't, get one. The blades are quite strong and won't break off until you want them to do so. They are sharp and small enough to be really handy but easier to control than razor blades. We've all proved that we can sharpen knives — now we can prove how smart we are by taking advantage of the time savings offered by this handy little tool.

**It's The Little Things That Count!**

# *Player Piano Basics*

**Gerald F. Foye**
**San Diego Chapter**

As mom used to say, "You must take the good with the bad!" I found out what that meant when I started working on player pianos.

Player pianos generally need a lot more than just tuning. Especially, those oldtimers that are just plain worn out or have been improperly rebuilt. And some modern players are nearly impossible to service due to the player mechanism being jammed into tight quarters. As a result, with time and use and lack of attention, players are in sad shape.

Regardless of the condition, you will be called on to tune and service those instruments. If you lack mechanical aptitude, then a wise choice would be to avoid player pianos. If you choose to tune them, as many of us do since we have to keep the income on the positive side, then prepare for the task.

At conventions and seminars, there are basic classes on tuning and servicing players. There are also books on the topic. Aeolian published a very simple, yet comprehensive player service manual. Latch onto one while they are still available.

You should have at least a basic understanding of how the player unit functions in order to troubleshoot. Also, be sure you know how to service the volume and tempo since these are the two most frequent sources of service problems. Learn where to lubricate, what types of lubricant to use. And don't forget to pump out the tracker bar.

You will often be called to "just tune" the player. However, it is wise to allocate time for tuning plus some basic maintenance which does take a little more time and must be reflected in the fee. It is rare to find a player that "just needs tuning."

If you should agree to "tune only," then be sure it is properly noted on the invoice to avoid future conflict. Unless the customer advises that he or she knows the player is totally out of commission, it is wise to run a test roll before and after your work. Should a problem appear during the test procedure, call it to the attention of the owner before proceding with the tuning. If a problem requires corrective work beyond your capabilities, resist the urge to tinker. Leave it as it is.

Though the operation of player pianos is basic, there are vast differences in how each manufacturer achieves the end result. Thus, an already complex mechanism has become even more so with the addition of electronics (circuit boards, etc.) which require skill in troubleshooting.

So, arm yourself with as much knowledge as possible, and use the most valuable asset you have, which is common sense. Know your limitations of ability and don't go beyond that point. Keep available the phone number of the local technician who is qualified and let that person take over where you leave off.

# *Index of Display Advertisers*

## Getting The Organizational Spirit

# *The Third Side Of The Triangle*

**M.B. Hawkins**
**Vice President**

Most everyone is aware of the triangle that exists or should exist between the piano owner, the piano dealer and the piano technician. Most people also are aware that triangles cannot be strong when one side is weak.

In our business it is vital to constantly aid owners of pianos relative to the importance of not only regular maintenance but preventative maintenance also. To the degree that we are successful in this endeavor, two sides of the triangle will have been dealt with. But now let's look at the third side of this triangle. It alone offers some interesting possibilities.

While piano dealers are in business to sell pianos, it follows that there is a natural relationship that develops prior to, during, and hopefully after the sale. Sometimes when the deal is closed, that is the end of the relationship between dealer and owner. Depending upon the working relationship between the owner, dealer and technician, I suppose it is expected that the active relationship between customer and dealer will wind down.

This should not, in my opinion, wind down the relationship between the technician and the dealer. In our day-to-day work, we often find ourselves in the role of advisor relative to a student's advancement toward a greater appreciation of the piano and its literature which will frequently develop into the need for a better piano. There are many other aspects which could cause this discussion to be developed a great deal more, but I think you follow my thought. Our continuing relationship with piano dealers is vital.

To this end, allow me to suggest sharing the *Journal* with dealers who may not be aware of what it and the Guild have to offer. Invite them to a meeting and indeed invite their further association with the Piano Technicians Guild — a most vibrant force in the industry today.

## New Members

***Registered Technician***
*Central Florida Chapter*
Ervolina, Patrick K.
1808-D Landing
Sanford, FL 32771

*Chicago Chapter*
Fisher, Robert D.
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Algonquin, IL 60102

*Cleveland Chapter*
Thomas, John C.
2319 W. Jefferson-Kiousville Rd.
W. Jefferson, OH 43162

*Lansing Chapter*
Brady, Paul M.
1580 Forest Hills Drive
Okemos, MI 48864

Jorgensen, Michael L.
2311 Longyear
Marquette, MI 49855

***Apprentice***
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950 Moss Hill Road
Ashland, OH 44805

*Colorado West Chapter*
Allard, Edward C.
342 1/2 So. Redlands, Rd.
Grand Junction, CO 81503

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Horne, Malcom R.
2215 N. 17th St.
Philadelphia, PA 19132

Rittenbaugh, Sherrie J.
105 Whitpain Hills
Centre Square, PA 19422

***Allied Tradesman***
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Adams, David A.
Rte. 5, Box 253, Watertank Rd.
Canton, GA 30114

Lehman, James A.
Rte 5, Box 253, Watertank Rd.
Canton, GA 30114

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Mankintie 2F
Espoo, Lodma 02440, Finland

***Associate***
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Baldwin Family Music Center
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Dallas, TX 75203

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Kansas City, MO 64114

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Dubois, IN 47527

Cooke, Vince C.
Rural Route 1
French Lick, IN 47432

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Lakewood, OH 44107

*New Jersey Chapter*
Carducci, Anthony A.
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Netcong, NJ 07857
(From Apprentice)

*Philadelphia Chapter*
Lockman, Curt
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Telford, PA 18969
(From Apprentice)

*St. Louis Chapter*
Byrd, Shelley R.
1122 S. Taylor
St. Louis, MO 63110
(From Apprentice)

***Apprentice***
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El Verano, CA 95433
(From Student)

*Golden Gate Chapter*
Mott, Gayla S.
4567 Cabello St.
Union City, CA 94587

Burlack-Marolla, Pamela M.
100 Lincoln St.
Northfield, MN 55057

## Reclassifications

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Parker, Robert S.
155 Waverly Hall Dr.
Charlotte, NC 28211
(From Student)

*Chicago Chapter*
Doyle, Carole J.
7739 Nottingham Dr.
Tinley Park, IL 60477
(From Apprentice)

Maret, Robert A.
1303 Mardon Dr.
Elgin, IL 60120
(From Apprentice)

Mott, Brian R.
1112 W. Wellington
Chicago, IL 60657
(From Apprentice)

*Philadelphia Chapter*
Renner, Theresa A.
617 Conshohocken St. Rd.
Bala Cynwyd, PA 19004
(From Student)

Shander, Marsha F.
472 Roxborough Ave.
Philadelphia, PA 19128
(From Student)

# The Auxiliary Exchange

## From The President

A few thoughts on what our Auxiliary can do for its spouses. In the past, I have put much emphasis on our differences. Now it is time to point out those things which we have in common. Knowing that the following things are important to our companions, we then should be ready to back them in every way that we can. Let me attempt to list what I think are my husband's and your companion's desires from the Piano Technicians Guild.

1. Since most of the Guild members work alone, friends with whom they have something in common.

2. A place where they can get and give professional help.

3. A place where they find that, through exams, they are in a group of people who really are the best qualified for this profession.

4. Best of all, through interaction with these people, new and better ways are found to do the work. There are very likely other reasons for the technician to join the Guild. Our place as spouses and friends of the technicians is to encourage them to take an active part in the Guild. In order to do this successfully, the "other half" must encourage the technician to go to the regional seminars to pick up the newest and latest information. They should go with the technician, if possible. It takes some tight budgeting to go to the seminars, but the cost of the room does not double — usually, it only costs about 10 dollars more. Our technicians want us to be with them. Usually the National Convention becomes a part of the family vacation. What a wonderful way to learn and take the whole thing off your income tax! No matter how different our profession is from our technician's we are part of the business — the telephone, the bills, the buildings, the public relations helper in the business (just in case you have forgotten, I am a full-time college music teacher.

*See you in Las Vegas!*

**Louise Strong**



## Coping With Stress — A View From The Arena

Many of us are either self-employed or married to someone who is. We face many similar problems, but one I am sure we have in common is stress. All professionals face stress. It is a fact of life that the more responsibility one undertakes, the more stress one will experience. Any self-employed business person has an intimate knowledge of stress resulting from the reality that he is solely responsible for the success and direction of his business.

Some causes of stress for piano technicians might seem at first to be positives, such as the fact that a technician usually must answer to no employer but himself. However, most conscientious professionals demand much more from themselves than any employer would. The tendency to set unrealistic goals and the need to be self-motivating can cause stress. Although the self-employed technician would seem to be free of the restrictions of the nine-to-five job, he nevertheless must wisely manage his time. Failure to maintain a productive routine produces guilt — a sure stairway to stress. The responsibilities of being sole manager, entrepreneur, sales representative, tax accountant, public relations executive and secretary-receptionist (let's face it, many of us are!) as well as all-around family person, gardener and chauffeur can, if not handled properly, cause an avalanche of stress and its related problems. Perhaps you recognize some of these symptoms of stress in yourself: anxiety, sweating, headaches, pains in the body, irritability, avoiding contact with people, excessive daydreaming, constant fatigue, over- or under-eating.

Although there are effective ways of neutralizing stress before it becomes incapacitating, the human tendency is to choose methods that are self-defeating or ineffective. They can be described as "J-curve" strategies. Let me explain. Look at the letter "J." You can see that it travels along for awhile in a straight path, then gradually makes a 180-degree turn. In the same way, we often deal with stress by taking a positive action which gives us a negative result. For example: I feel tense while working so I stop (good) and eat half of a chocolate layer cake (bad).

In other words, taking a break from a stressful situation is stress-relieving, but the physiological effect of overloading the body with all those sugary calories is self-defeating. The symptoms of the intial stress will be compounded by the drop in blood sugar (and resulting depression and fatigue) that follows such a binge. Additionally, uncontrolled eating can produce guilt and self-condemnation. These effects can intensify the physical signs of stress and leave us worse off than before.

The use of alcohol or other "recreational" drugs as a coping mechanism can be the ultimate J-curve. Alcohol does produce relaxation when taken in a moderate amount, but studies show that heavy drinking causes a paradoxical uneasiness and anxiety in many individuals. And we are all aware of the other dangers: addiction and physical and social damage.

One of the seemingly innocuous devices we use to deal with stress is procrastination. It is a particular temptation to the self-employed person. Even though procrastination is financially deadly to the self-employed, the pressure of work-to-be-done can cause us to put off doing anything productive in order to forget and escape stressful feelings. But this is just another J-curve lie, because it generally puts us in a worse position than before. Even though we try to push it out of our minds, it's there just the same, ticking away and possibly deteriorating into a crisis situation. We are then forced into frenetic activity at the last minute while we try to arouse sympathy by lamenting, "the hurrier I go, the behinder I get."

You probably can think of your own example of a J-curve mechanism. Do you avoid telling the whole truth to escape the consequences of your actions? Do you take out your frustrations by yelling at your spouse? These subconscious strategies may relieve some tension and make you feel better at the time, but look out for the J-curve effect.

What are some of the ways you can relieve stress effectively? A program of regular physical exercise can help eliminate many of the physical effects of stress. Learning to say "no" can keep responsibilities from piling up until they seem insurmountable. Recognizing your own limits can eliminate the stress caused by setting unrealistic goals. Coping with stressful issues, people, and emotions promptly and directly can help us escape the debilitating effects of stress. Often, just finding a sympathetic person to talk about a stressful situation can help relieve pressure. (Of course, if you are in distress because of something immoral or illegal, talking about it can cause its own J-curve.)

It is up to you to find positive ways of dealing with the stress that you inevitably encounter in the world of the self-employed. Learn to handle your stress by taking some course in behavior modification, assertiveness training and communications. Develop your sense of humor and ability to laugh at yourself. If stress is so great that your family health is threatened, consider seeking professional health or group therapy. These titles can be found at your local library: *Managing Stress (A Business Person's Guide on Stress Survival)*, by Jere E. Yates; *Stress: Sources, Management and Prevention*, by Lennart Levi; and *Stress*, by Ogden Tanner. Your librarian can suggest others.

I hope that the ideas presented here will cause you to consider the way you handle the stress in your life. Recognition of a self-defeating behavior is the first step toward change. Take that step and then deal with your stress in a positive way. You will be rewarded with increased productivity, better relations with family and associates, and physiological peace.

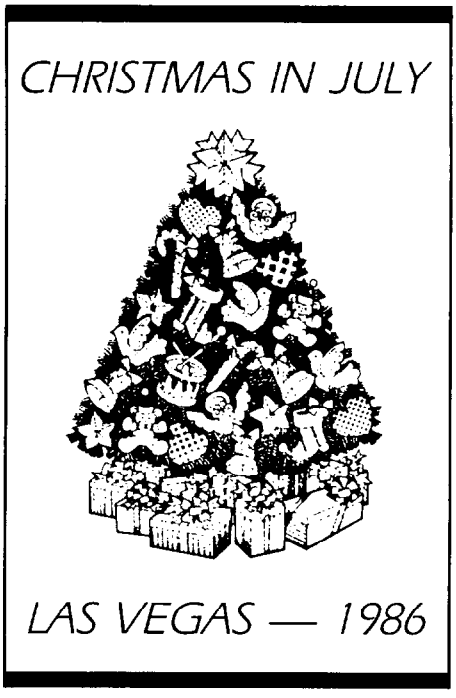
Positive action is the only way to pass your daily "stress test."

**Helena Thomas**

## Christmas In July

This being November, I should be thinking of Thanksgiving. It therefore seems strange to be contemplating Christmas in what I know will be temperatures of 90-plus and in July, no less! I can't help but wonder how many of you have completed making your special decorations for 1985 and hopefully have made one extra to send or bring to Las Vegas for our special project. We're all busy this time of the year, but jot down ideas that come to mind — pick up the supplies you will need for that little extra something now...(June will be too late). Put them in a box and have them ready to make in February, when the snow or rain is coming down, the memories of this Christmas are still fresh in your mind — how fun to sit down before the fire and recreate that wonderful Christmas.

**Bert Sierota**, that wonderful gal with so many ideas and talent, has offered to give a continuing class beginning day one of the convention. She will arrive with patterns, yarn, directions and lots of enthusiasm, plus all of the encouragement you will need. Bert will need some assistance. Since she is a member of the PTGA board, there are many meetings she has to attend, but promises to be available whenever possible. Those of you who have creative ability (and we know there are many of you out there) are requested to bring scissors, yarn, knitting needles, crochet hooks and your own special instructions. Anything that is easy to make. Let's make this the best project the Auxiliary has ever had and hopefully the most fun! I promise you, you will all have a voice as to where these profits will be used.




## Tidings And Tidbits

Many lovely letters have been received from our HLM's expressing their appreciation and delight at once again receiving the *Piano Technicians Journal*. Just the sight in their mail box brings back so many wonderful memories. Our thanks to **Bert Sierota, Charlie Huether** (for granting his permission), and **Larry Goldsmith** for adding these to the mailing list... May we all join hands across the miles this Thanksgiving Day and give thanks for our families, friends and the many blessings we all enjoy.

# Coming Events

| Date | Event | Site | Contact |
|---|---|---|---|
| *Nov. 2, 1985* | Oregon Day | Valley River Inn<br>Valley River Center<br>Eugene, OR 97440 | Donna Byrd<br>2293 Birch Lane<br>Eugene, OR 97403<br>(503) 344-3840 |
| *Nov. 15-17, 1985* | North Carolina State Convention | Raleigh Inn<br>Raleigh, NC | Tom Karl<br>2251 Rumson Rd.<br>Raleigh, NC 27610<br>(919) 828-3535 |
| *Jan. 17-19, 1986* | NAMM Winter Market | Anaheim, CA | Bob Russell<br>1414 Lander Rd.<br>Mayfield Heights, OH 44124 |
| *Feb. 21-23 1986* | California State Conference | Town & Country Hotel<br>San Diego, CA | Don Mannino<br>4243 Blackton Dr.<br>La Mesa, CA 92041<br>(619) 461-7559 |
| *Mar. 7-9 1986* | South Central Louisiana Seminar | Regency Motor Hotel<br>Shreveport, LA | Charles Richey<br>112 E. Robinson St.<br>Shreveport, LA 71104 |
| *March 13-15, 1986* | Pacific Northwest Conference | Red Lion Inn<br>Bellevue, WA | Steve Brady<br>22808 35th Ave. West<br>Brier, WA 98036<br>(206) 543-0543<br>(206) 771-7781 |
| *April 9-12 1986* | Music Educators National Conference | Anaheim, CA | MENC<br>1902 Association Drive<br>Reston, VA 22091<br>(703) 860-4000 |
| *June 14-17 1986* | NAMM Music Expo | Chicago, IL | Bob Russell<br>1414 Lander Rd.<br>Mayfield Heights, OH 44124<br>(216) 449-5212 |
| *July 21-25 1986* | Piano Techicians Guild Annual Convention and Institute | Caesars Palace<br>Las Vegas, NV | Home Office<br>9140 Ward Parkway<br>Kansas City, MO 64114<br>(816)444-3500 |

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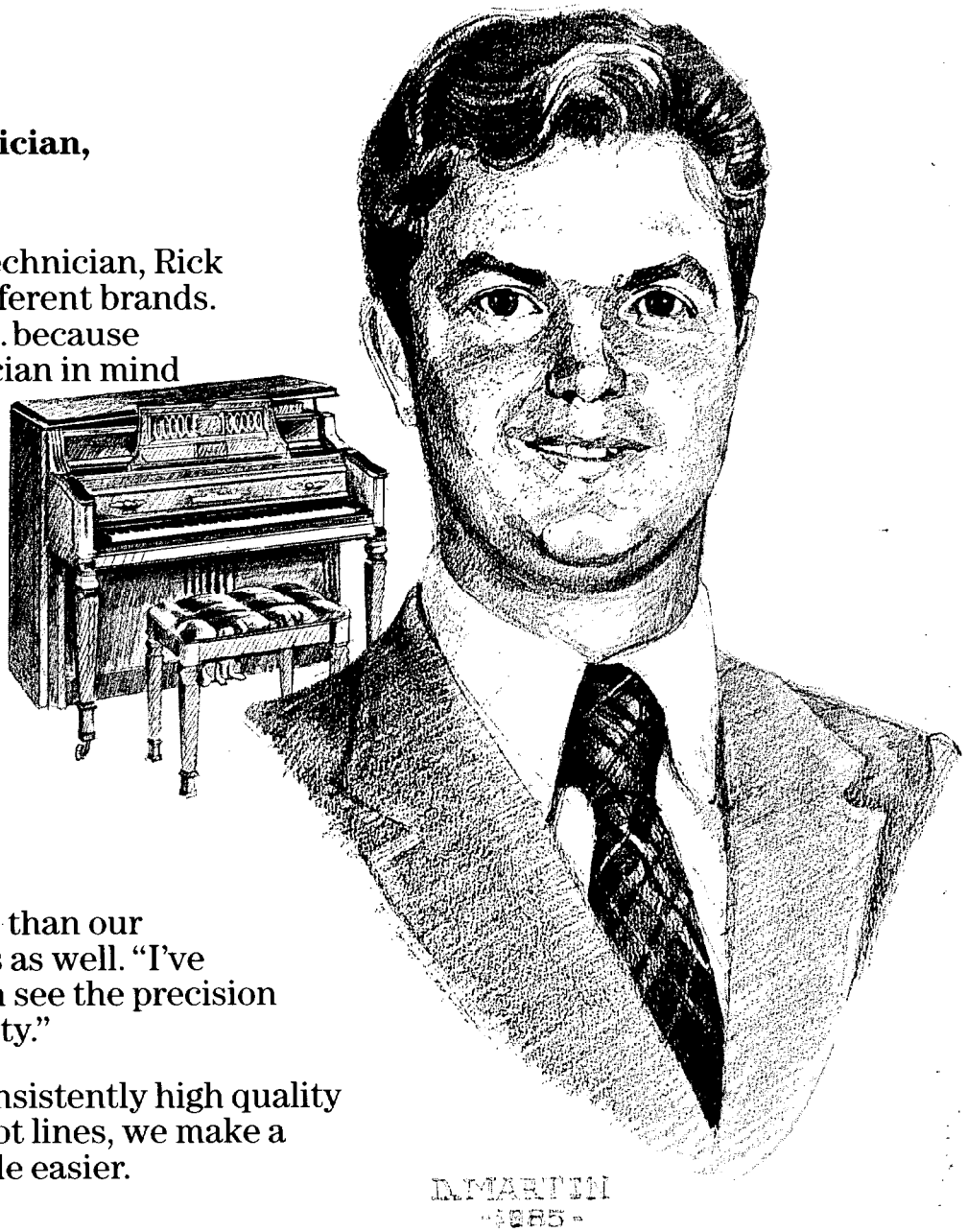

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