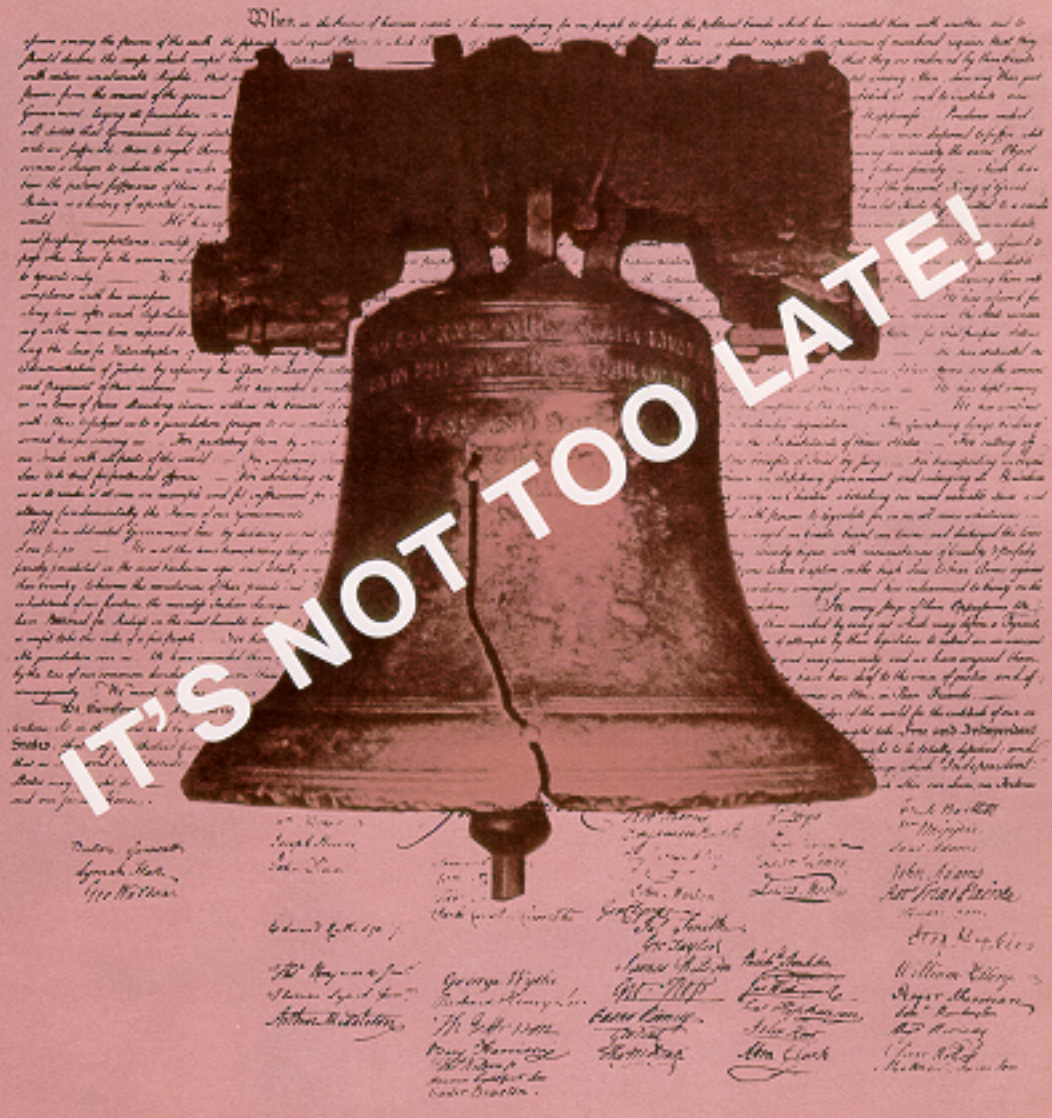
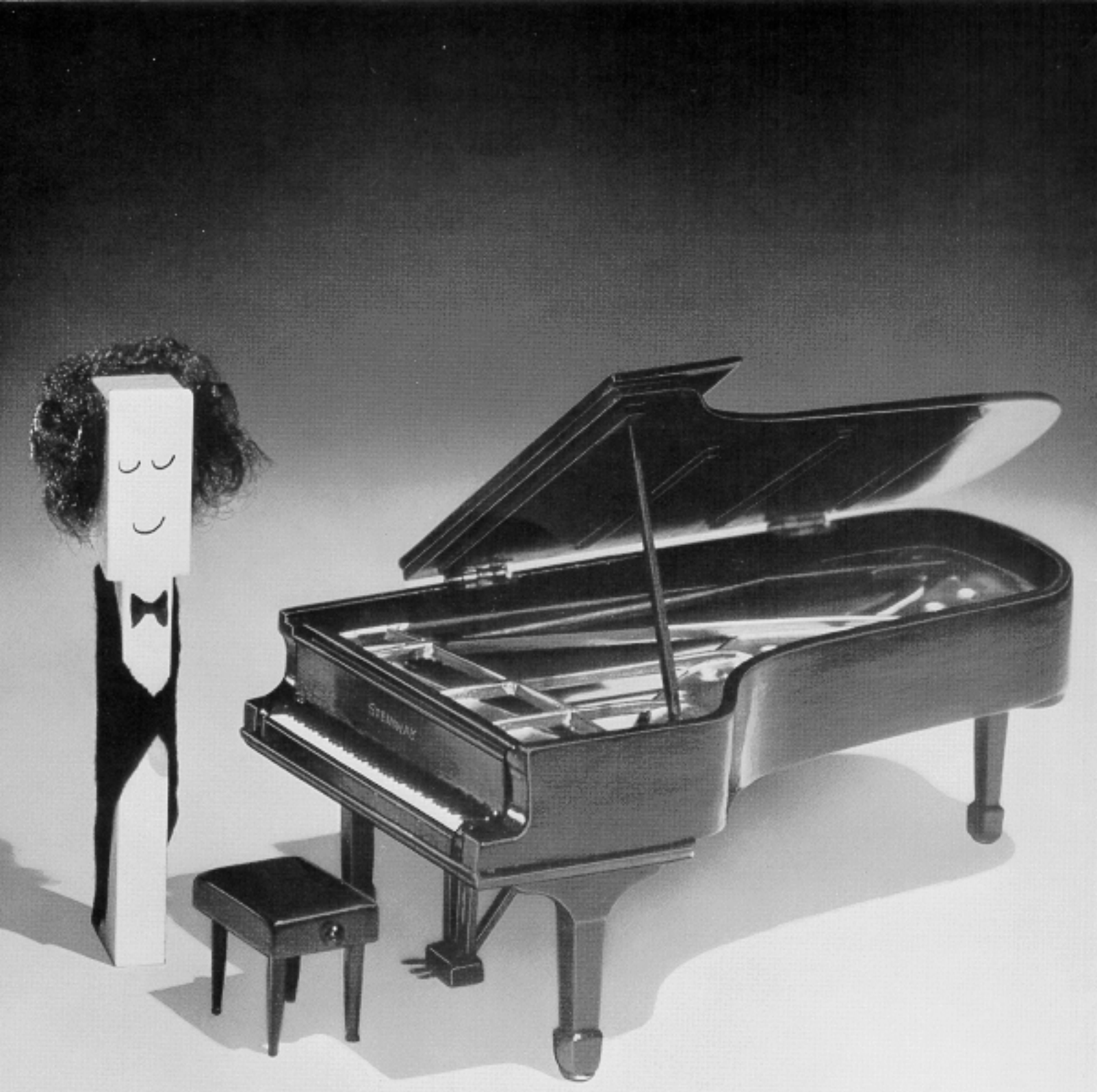
Piano Technicians Journal
JUNE 1980



23rd Annual Piano Technicians Guild Convention & Technical Institute July 14-18

The Benjamin Franklin Hotel–Philadelphia, Pennsylvania



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Official Publication of the Piano Technicians Guild/June 1980 Volume 23 Number 5

Piano Technicians Journal

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EDITORIAL

Don L. Santy,
Executive Director

Once upon a time, there was a great brew master. His beer was considered the very best man could produce and the brewery he worked for became famous and rich.

It was in the late thirties and this fine German brew master wanted to go home and visit his family in the old country. It was a time of unrest in the world and his superiors, at the brewery, were worried about his returning to work. The secret recipe for the beer he produced had been handed down from generation to generation, he often said, and could not be duplicated.

Finally, after many months of pleading and negotiating with the heads of the brewery, they decided to let the man return to Germany to visit his family but under the condition that he write out his recipe and put it in escrow until his return in case something happened to him. He did just that and then set forth for his homeland.

After a few months the war broke out in Germany and all able-bodied men were conscripted into the army — our brew master among them.

After one year had passed and nobody had heard from him, as was agreed, the recipe was taken out of escrow and the heads of the brewery huddled eagerly around the piece of paper to learn of the famous brew master's secret.

To their utter amazement, scrawled across the face of the paper were the words: "IF YOU WANT TO MAKE GOOD BEER — HIRE A GOOD BREW MASTER". The point of this little vignette is, if you want anything done right — get the right person to do it! If you want to be represented in Council properly — ask the proper person to be there on your behalf. If you want to have a part in managing the Guild — help your delegate get there by underwriting part of his expenses *if necessary*. If only those members *who can afford it* can participate in leadership then the opportunity to practice this fine art becomes an economic factor — not one arising from ability, desire and/or skill.

THE ANNUAL CONVENTION AND TECHNICAL INSTITUTE places a member in the best possible position to carry out the wishes of his/her fellow members directly and on their behalf.

IT DOESN'T COST TO GO TO THE CONVENTION — IT PAYS !!!

Witness the people who are active in trade and professional associations. They are SUCCESSFUL PEOPLE. The people who can't make it in business are the ones who are not growing, not doing things right, not upgrading themselves and their skills. You hardly ever see these folks at business meetings and seminars. They are too busy trying to make it with what they have and it very often isn't enough. If they only knew that Guild activities are designed to help attain success.

So, come out and join in success. Come to Philadelphia and rub shoulders with the leaders of our industry. Come to Philadelphia for a renewal of spirit, an innoculation of knowledge and the joy of contact with one's peers and associates.

YOU SAY YOU WON'T BE MISSED?

Remember the story of the small-town doctor who was about to retire after serving a village for half a century devotedly and steadfastly.

As his day of retirement approached, the villagers decided to all pitch in and give him a barrel of wine — which he loved so well. It was decided that everyone in the village would be given the opportunity to contribute to the good doctor who had sacrificed so much. So an empty wine barrel was set on the village square and each and every villager came with his or her own pitcher from their own supplies and poured it into the gift barrel as a token of their deep and abiding affection for the great services that he had rendered.

The barrel was delivered to his home with the appropriate fanfare and speeches.

That evening the good doctor settled into his easy chair to enjoy the beverage gift so generously bestowed upon him by his friends in the village.

As he began to sip with eager anticipation, a quizzical look came over his face. IT HAD NO TASTE. In fact it tasted like water!!!

He rushed over to his barrel and drew off another glass. Alas, it still tasted like water. He tried again and again in disbelief. Finally, in desperation, he called the village mayor. The mayor in turn called the village elders and other leaders to determine what had happened.

Sure enough, the truth came out. Each villager felt that his small contribution would not be missed in terms of the larger donation to the doctor. They reckoned that OTHERS would take care of it — "the little bit I had to offer will not be noticed."

WE CAN ASSURE YOU THAT YOU — *AND WHAT YOU HAVE TO OFFER* — WILL BE MISSED AT THE CONVENTION THIS SUMMER.

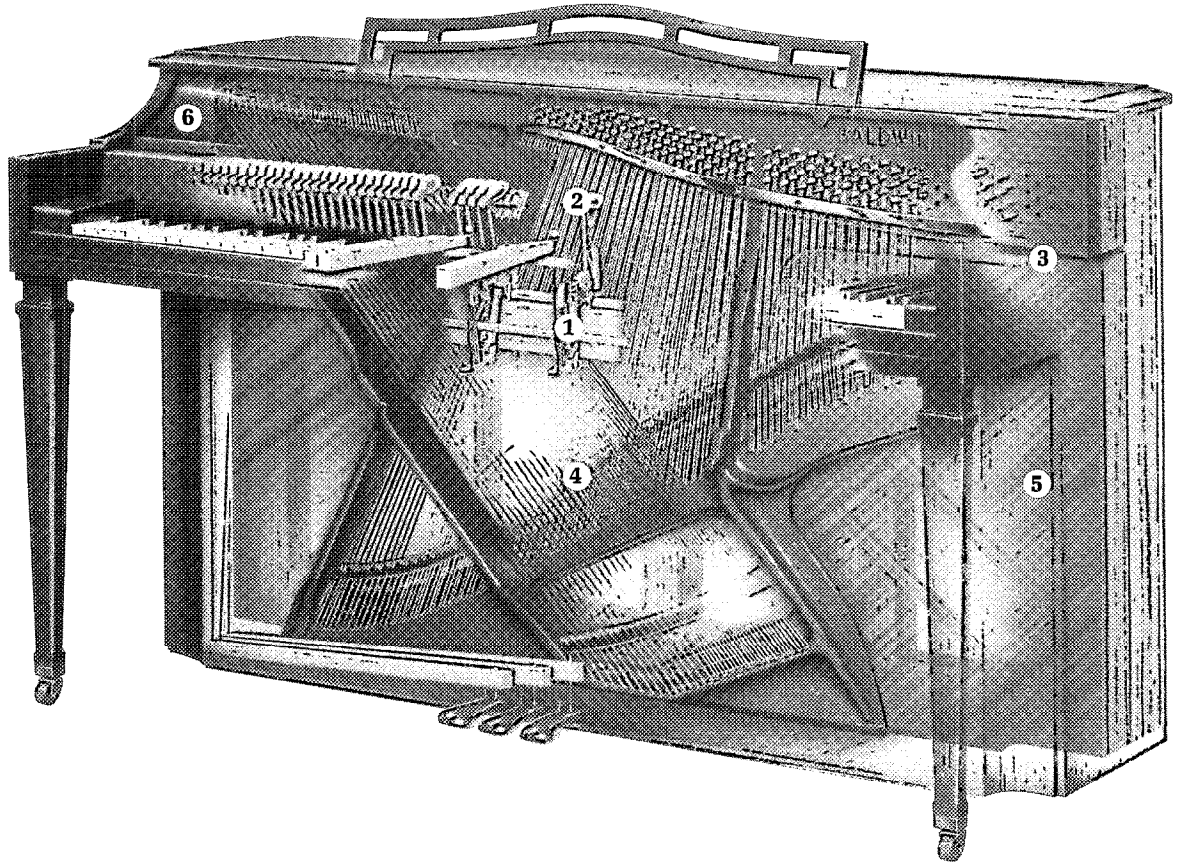
Now I hope by using the above examples to make my point you will not think that our convention is a "spirited" one in the sense of liquid consumed. It is, in fact, quite the opposite. People of the Piano Technicians Guild come to learn. They come to hone their skills. They come to upgrade and improve themselves and their trade. The very moderate amount of socializing is just the frosting on the cake. It is, after all, what makes it all so darn much fun!!!! □

Anatomy of a Baldwin.

1. The Nervous System. When you touch one of our keys, you send a message to our exclusive action mechanism, the nerve center of a Baldwin. The action is the linkage between the keys and the hammers. And its job is to make sure the hammers strike the strings solidly. Without a dull thud or a loud metallic ping. The result is our consistently brilliant note-to-note tone.

2. The Heart. The heart of a Baldwin is its hammers. And rightly so. Because quality hammers are critical to quality sound. That's why we make our hammers with meticulous care and attention. From only the finest quality material money can buy. And that's why you can't buy a better sound than the Baldwin sound.

3. The Muscle. A Baldwin has the great physical strength required of a great piano. And one area where strength really counts is the pinblock. Our pinblock is specially made with 19 alternating layers of cross-grained wood to hold the tuning pins in the tightest possible grip. So a Baldwin stays in tune longer than other pianos. And you save on tuning costs.



4. The Personality. A Baldwin has personality. And its personality comes from Baldwin's exclusive SynchroTone Strings. Designed with the utmost precision, SynchroTone Strings give you the full, rich tone you need to put more blues in the blues. And more class in the classics.

5. The Soul. Our soul is our sound-board. It amplifies the sound from the strings like a speaker system. And it's got to be good. Because a piano is only as good as it sounds. So our soundboards are made of solid spruce. The only wood in the world that's resonant enough for a quality musical instrument like a Baldwin.

6. The Looks. We know looks aren't everything. But we think a Baldwin should look just as good as it sounds. That's why you'll find a variety of styles and finishes to choose from. All durable, hand-rubbed and unsurpassed for clarity, beauty and minimum maintenance.

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PRESIDENT'S MESSAGE

Bob Russell, President

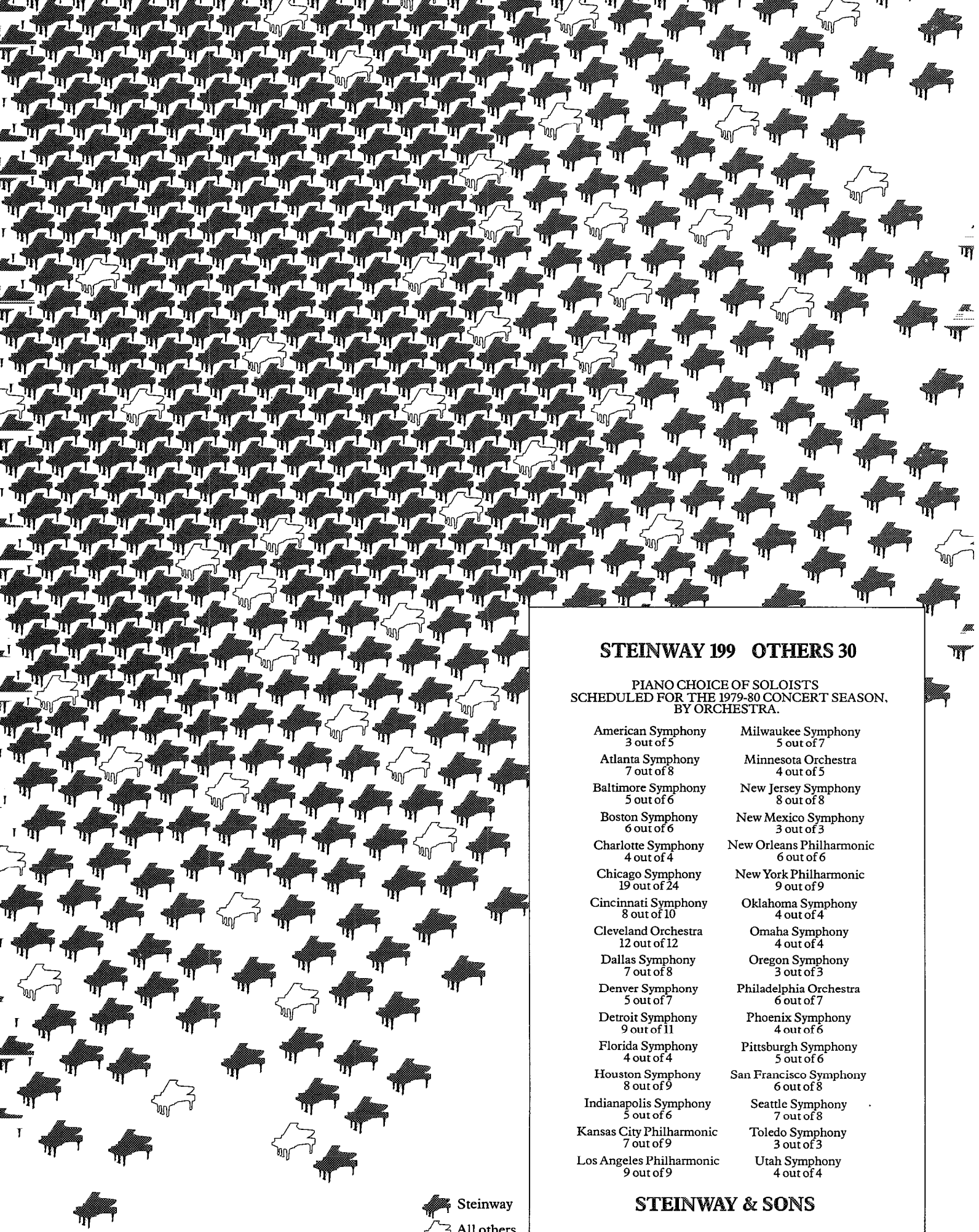
In a few weeks the largest event of the year will be happening to the Piano Technicians Guild ... the Philadelphia National Convention. Over the past months we have read and heard that the institute classes will be excellent, with some new classes added. We have learned about all the historic landmarks and many of them are extremely close to the hotel. The registration fee is most reasonable and the hotel room rates are very inviting. Many excellent events are going to happen at this convention. Because we are a Guild of conscientious piano technicians we realize that we must attend this convention in order to maintain our 'up to date' technical knowledge and efficiency. It is always great to talk 'shop' with technicians from all parts of the world. This year we have an added bonus of fun at the Flea Market and Block Party. Your chapter will return home with money in their pocket.

Before the 'Big Opening Session' of the convention we have the board and council meetings. These meetings are very important to the progress, growth, and direction of the Guild. I feel that this year the delegates representing their chapters will be very knowledgeable and sensitive to the fact that we have pending legislation that is both meaningful and can seriously affect a change in the Guild for years to come. Everyone, officers, chapters and delegates must be fully prepared to discuss these items.

Following council meeting comes the 'Big Opening' and the opening of the exhibit hall, where our friends, the exhibitors, will greet us and display their products. But we must not stay up past the 'witching hour' because the next morning the classes and auxiliary functions begin, bright and early.

The banquet with its fine food, good music, and fine awards presentation is always a pleasant evening. And of course the Flea Market and Block Party! I'm really looking forward to this night of food ... chapter projects for sale ... games ... musicians ... and friendships ... all at the flea market.

To me a national convention is composed of many things, excitement ... laughter ... seriousness ... learning new technology ... sharing ideas ... renewing friendships ... making new friends ... and fun! It's happening in July!! See you there! □



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Atlanta Symphony 7 out of 8	Minnesota Orchestra 4 out of 5
Baltimore Symphony 5 out of 6	New Jersey Symphony 8 out of 8
Boston Symphony 6 out of 6	New Mexico Symphony 3 out of 3
Charlotte Symphony 4 out of 4	New Orleans Philharmonic 6 out of 6
Chicago Symphony 19 out of 24	New York Philharmonic 9 out of 9
Cincinnati Symphony 8 out of 10	Oklahoma Symphony 4 out of 4
Cleveland Orchestra 12 out of 12	Omaha Symphony 4 out of 4
Dallas Symphony 7 out of 8	Oregon Symphony 3 out of 3
Denver Symphony 5 out of 7	Philadelphia Orchestra 6 out of 7
Detroit Symphony 9 out of 11	Phoenix Symphony 4 out of 6
Florida Symphony 4 out of 4	Pittsburgh Symphony 5 out of 6
Houston Symphony 8 out of 9	San Francisco Symphony 6 out of 8
Indianapolis Symphony 5 out of 6	Seattle Symphony 7 out of 8
Kansas City Philharmonic 7 out of 9	Toledo Symphony 3 out of 3
Los Angeles Philharmonic 9 out of 9	Utah Symphony 4 out of 4

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THE TECHNICAL FORUM

Jack Krefting, Technical Editor

CRACKED PLATES

Some months ago, Arthur C. Mau of Myrtle Bank, Australia, wrote in response to an item in this column about cracked plates. We had not heard of the process he had been using, and requested that he send a photograph. Here is his most recent letter:

"Enclosed is material that you requested re cracked plates. It is not possible to send you a photo of a repaired plate at the moment as I don't have one in for repairs. In answer to your query as to a broken strut, I have had repairs made to one that was broken right through, and another with a bad crack in the hitchpin area. After repairs to the latter, I had to drill fresh holes in the repaired area for the replacement of several hitchpins.

"As to cracks in the tuning pin panels, as yet I have not come across any of these. Mostly the fractures seem to be at the top of the frame near the pressure bars. The last job that I handled had a main strut broken through midway between tuning pin area and hitch pin plate in the centre of the piano.

"I am enclosing the address of a firm in the States that handles this work: Metalock, Inc., 1929 North Buffum St., Milwaukee, WI 53212. I hope that this information will be of help."

Upon receipt of Arthur's letter, I wrote to the above-named company for further advice and permission to reprint some of their material, and received the following reply:

"Thank you for your letter of March 17, 1980. Enclosed is literature, as you requested.

"We do know that some member companies of our International METALSTITCH Association have successfully utilized our METALSTITCH process for the repair of cracked cast iron piano plates.

"The METALSTITCH process is applicable to these faults, and except for unusual circumstances, repairs, using our METALSTITCH process, should prove successful.

"Thank you for your interest in METALSTITCH."

IN-PLACE MACHINING COMPANY, INC.
(METALSTITCH DIVISION)
(s) Ralph H. Eder
Registered Professional Engineer, President

This company, as its name implies, makes a specialty of bringing the necessary tools and equipment into manufacturing plants and aboard ships, to repair cracked and broken castings right where they are. The company advertises the availability of qualified repairmen anywhere in the world, and its parent association convenes in a different country every year to discuss problems and policies regarding their unique process.

First of all, holes are drilled and tapped all along the length of the crack as shown in **Figure 1** Threaded studs are worked tightly into these tapped holes, each stud biting into its predecessor for a locking fit that will actually seal

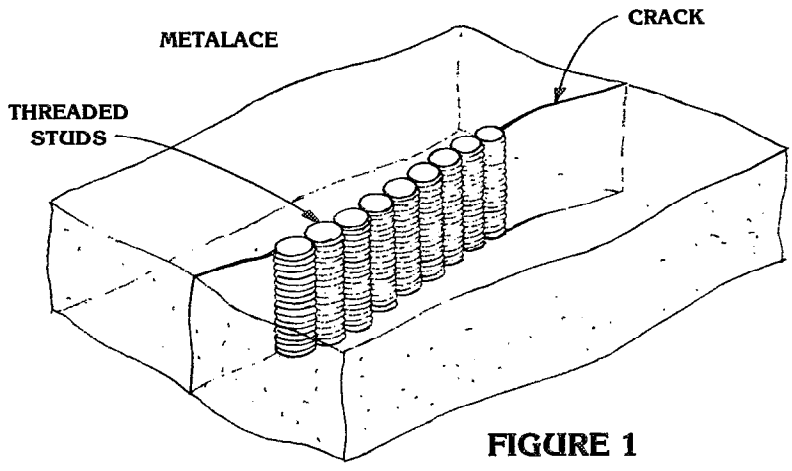
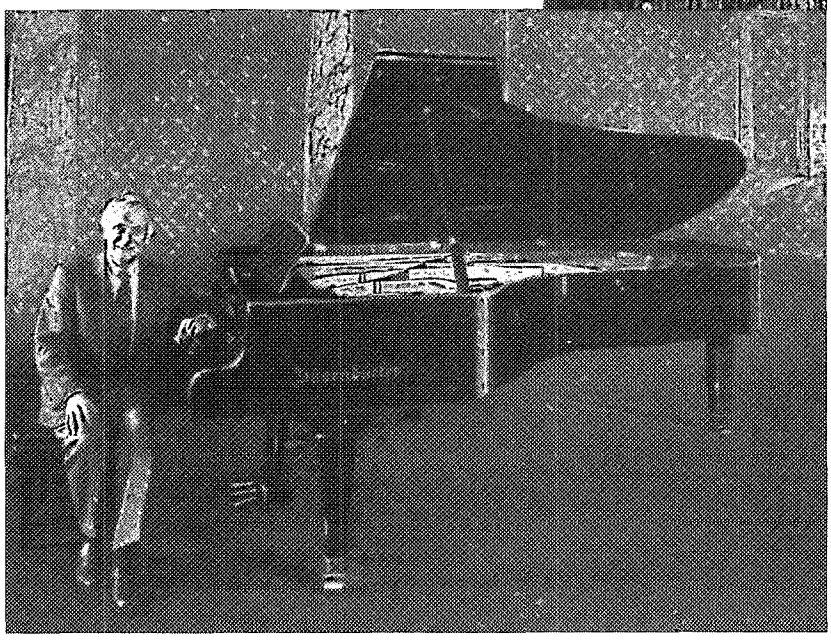


FIGURE 1

A man and his piano:
Yehudi Menuhin & Bösendorfer

"In my mind, Bösendorfer is one of the world's great pianos with a great tradition born in the city of Beethoven, Brahms and Schubert which has a special affinity with the string player's conception of sound".



The renowned violinist, *Yehudi Menuhin,* seated at the beautiful Bösendorfer piano in the London Showroom.

Arrangements for YEHUDI MENUHIN By COLUMBIA ARTISTS MANAGEMENT.

Kimball's Bösendorfer is at the fingertips of some of the world's greatest pianists. And is often the accompanying concert grand for one of the world's greatest violinists—Yehudi Menuhin.

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Today with over 150 years of piano making expertise, Kimball's Bösendorfer is still handcrafted by perfectionists. The lumber is seasoned outdoors from three to four years. Each mechanism takes over a year to complete. The entire rim of the piano is constructed of soundboard spruce which makes it an extension of the soundboard. This unique feature makes the Bösendorfer the only piano that is a stringed instrument and not a percussion instrument.

If you think Bösendorfer is made for you, contact James Birk, Kimball, 1549 Royal Street, Jasper, Indiana 47546.

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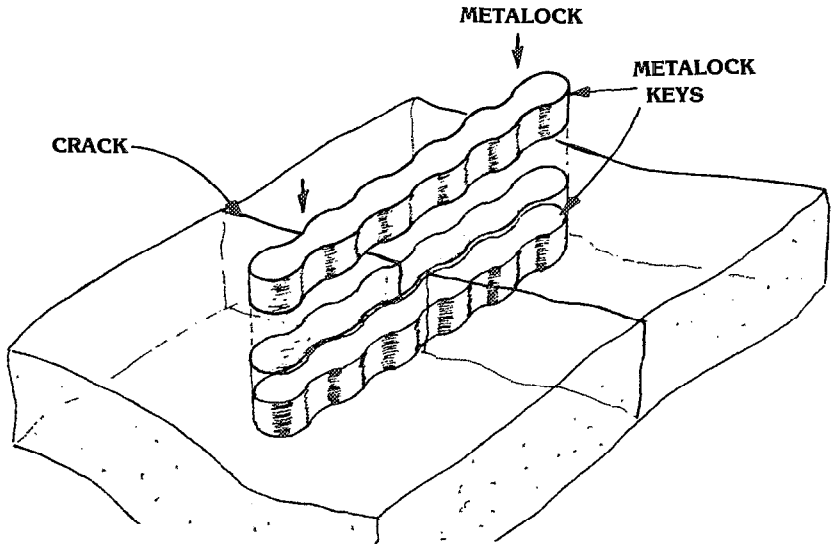


FIGURE 2

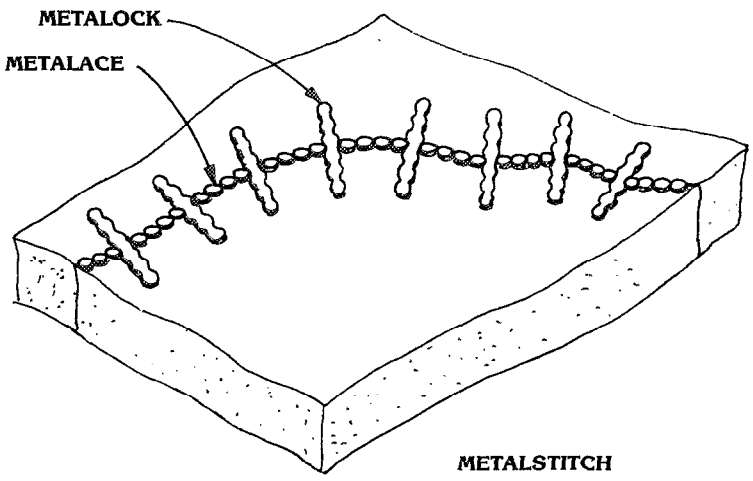


FIGURE 3

the crack against pressures of up to 10,000 lbs. psi in hydraulic applications. This phase is known by the trade name *METALACE*, and would seem to also keep the metal aligned vertically.

To prevent the crack from opening again (moving horizontally), specially shaped apertures are made in the parent metal at right angles to the crack, and prefabricated steel "keys" are cold-worked into place as shown in **Figure 2**. This phase is known as *METALOCK*, and might be done before the *METALACE* phase in the case of a casting that is broken through. When these two procedures are used together, the resultant repair is called **METALSTITCH** (see **Figure 3**). The *METALOCK* keys are made in many sizes and configurations to handle the requirements of the job.

When extreme stress is to be placed on the casting, rectangular inlays of high strength alloy plate are placed in a prepared aperture in the parent metal at critical points. The inlay is made with semi-cylindrical slots all around, as is the hole in the broken casting. The inlay is then peened permanently into position with metal dowels. This procedure is known by the trade name *MASTERLOCK*, and is illustrated in **Figure 4**.

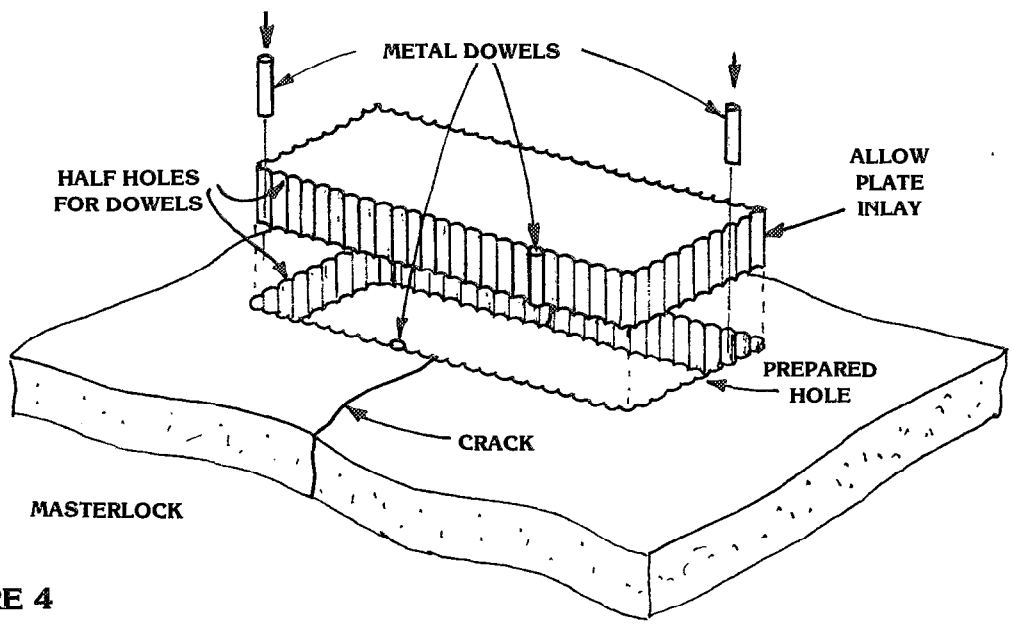


FIGURE 4

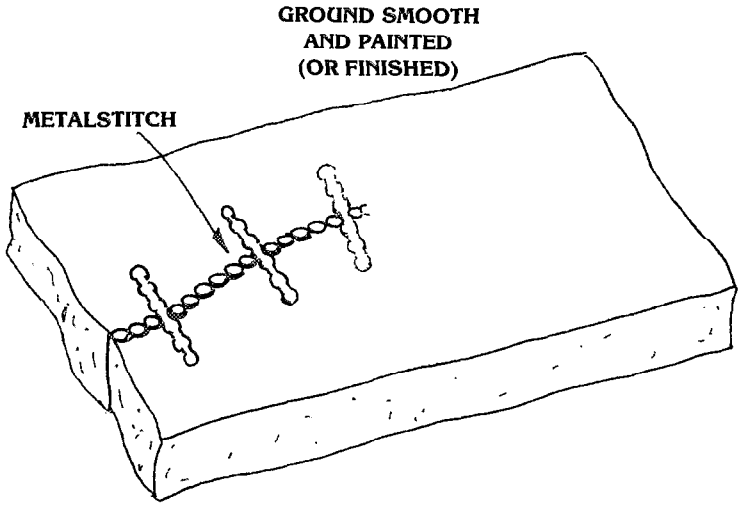


FIGURE 5

Where appearance is unimportant, the repair can be left as is, looking like a huge scar that has been roughly sewn together. But it can also be ground flush and finished over, as shown in Figure 5.

This process is not touted as a substitute for welding, it should be noted, but rather as an alternate method of repair when welding is impractical and heat is not desired. If I interpret this correctly, it would seem possible to make this repair without removing the plate from the piano, which is not possible with any welding process so far as I know.

We thank **Arthur Mau, Martin Tittle, Ralph Eder, the METALSTITCH Association and the In-Place Machining Company** for their contributions to this article.

While we are on the subject, let's hear one more account from two readers in Midland, Michigan:

"After seeing three articles on this subject in twenty-seven years in the JOURNAL, we thought you and your readers would be interested in our experience in repairing a broken plate.

"We completely reconditioned a small Grinnell grand whose plate had a crack in the number five strut within two inches of the hitch pin ledge (see Jan. '80 PTJ). On consultation with a contract welder of more than twenty years' experience, we decided to have him do the welding in our shop. He understood the concept of preheating the entire plate and all that's involved with that method and recommended welding the plate with certainium rod.

"This material is not nearly as brittle as the cast iron in the plate, and would give enough to take up the additional stresses that would otherwise leave another crack in the plate adjacent to the weld. Except for the certainium rod and the procedures associated with it, all equipment, procedures and other materials were standard for arc welding.

"The weld was filed smooth, touched up with automotive spot putty, refinished with the rest of the plate, and is indistinguishable. This repair was accomplished in 1977 and is still in good condition. We have had no other jobs with broken plates and, as of this letter, are satisfied that this is a reasonable method. We would be interested in your comments." — **Robert V. Williams, Neal Holzchuh**

This repair is now over two years old, which is a good sign. Usually if problems develop with a welded plate, they will become apparent sooner than that, if not immediately after tension is restored. It would seem that this one has a good chance to qualify as a permanent repair.

Any rebuilder would be well advised not to guarantee any repairs to a broken plate, and to make it very clear to the piano owner that the repair might not stand the test of time. It has been my experience that some plates will withstand severe abuse while others won't tolerate much at all, and the difference cannot often be traced to weakness of a particular make or scale. Replacement of a plate involves much time and trouble even when an identical replacement is available, which is rarely the case, so it really pays to take all precautions to avoid tensile stresses even with a plate that has never cracked or broken. When breakage has occurred in a particular instance, the odds that more breakage will occur are higher. Certainly the technician can do little about it, beyond making sure of a flat and unstressed installation, but if he implies to the customer that the repaired plate is in every respect as good as new he may be inviting trouble.

In a risky operation, no surgeon in his right mind will guarantee that the patient won't die on the table; even if that happens, he still expects to be paid for his work. If he is well-trained and has applied the approved procedures skillfully, he has done all that can reasonably be expected of him and need not fear a malpractice suit. Sometimes there are parallels to this in piano work, and the client will be understanding if he or she has been prepared and educated beforehand. This statement should in no way excuse the actions of the ill-trained or unethical rebuilder who stresses the plate by pulling a corner down or turning nosebolts; it merely points out that misfortunes can occur which are beyond the control of the technician.

LUBRICATING BEARING POINTS

QUESTION: *"It has been recommended that, before tuning, the friction points where the strings touch should be slightly lubricated for better movement of the string during tuning. Would you also lubricate the bridge pins? If so, with what?"* — **Calman Rothstein, Brooklyn, New York**

ANSWER: Definitely not! Any lubricant that has sufficient penetrating characteristics to creep

into the contact area between pin and string will also penetrate the bridge. It will creep down the bridge pin and loosen it. And if the lubricant is not of the penetrating type, it won't do any good because it can't get into the only spot where it would be needed.

Lubrication of bearing points in general is not recommended by piano manufacturers even though there may be instances where it would be desirable, because it's hard to control and shouldn't be necessary under normal conditions. Agraffes are made of hard brass rather than steel primarily because there is a natural lubricity between unlike metals. Bridge pins are usually plated for this reason, also, as are pressure bars and string rests. The part that would be the least lubricous in contact with the wire would be the V-bar or integral capo bar, because of the similarity of the metals. If lubrication is really needed there because of rust, it would be safest to let the tension down just enough to break the rust joint, space the strings slightly to one side and apply a fine petroleum jelly to the bar. When the strings are spaced back to where they belong, they will be riding on a film of lubricant which will not creep away and which will prevent further corrosion. That's a lot of trouble to go to, but if the piano is that rusty you're in for a lot of work anyway.

The trouble with even suggesting lubrication in certain isolated applications is that inevitably some technicians will overdo it. I have even heard technicians say that they squirt or spray some lubricant all over the bearing points of every piano before tuning it, whether or not there is any apparent reason for doing so. This is unnecessary and could be destructive to the piano.

Any lubricant with penetrating ability also has the potential to creep along the string to the pinblock or the bass string windings; and any lubricant without that property isn't likely to be effective. My advice would be that if you insist on using something, know its properties and use it very sparingly.

ASSESSING PINBLOCK CONDITION

Mr. Rothstein goes on to ask another question on pinblocks:

QUESTION: *"Is there any way to inspect or assess the condition of the wood where the tuning pins are inserted in consoles and spinets, similar to inspecting the pinblock in grands?"*

ANSWER: It is not possible to inspect any pinblock visually in any thorough sense. True, we can see the bottom lamination of the grand block and the top edge of a vertical block; this glimpse may offer some clues as to the condition of the wood inside, but without dismantling the piano and cutting the block into little pieces, a thorough visual inspection cannot be made.

This does not mean that we cannot make an accurate assessment; it just means that a different approach is needed. The best way to judge the condition of any block is to feel the movement of the pins while tuning. Every experienced tuner will have his or her own individual preference concerning the ideal torque value and feel of the pin in the block, but one facet that I feel all would agree upon is that these values should be consistent throughout the scale. Most technicians do not own a torque wrench, nor do they really need one unless it is to be used as a sales aid when discussing the need for a new block. The client has no tactile reference point by which to evaluate his piano, so the obviously loose pin may not seem so to him unless he can see numbers on a dial.

Techniques vary, but I like a block with uniform torque in the range of 100 to 140 inch pounds of neutral torque; some of my respected colleagues would say that anything over 80 is too tight, but they would at least agree that the torque should be very nearly uniform from pin to pin.

For good tunability, it should be possible for a skilled tuner to make many small movements of the pin in the block. If the pin twists and then suddenly jumps, or if it slides easily into position without sufficient resistance, there is obviously a problem which will require, at the very least, special attention to technique on the part of the tuner. If the string is to be brought to the proper pitch to stay, the tuner must render the string through the friction points to equalize tensions as much as possible among its segments. He must also neutralize or counterbalance the effects of pin spring, pin twist and string pull. If he is a skilled technician and still cannot do this, there is a problem with the pinblock.

Skilled tuners can usually handle tight blocks and even jumpy blocks most of the time; pound it in and it will stay there. After a suitable period of experience, usually defined as 5,000 tunings, the tuner can accurately assess the condition of a pinblock by the way it feels when tuning the piano.

BRASS POLISHING

Here's a letter from a member in St. Cloud, Minnesota:

"After reading the article in the March **Journal** *on finishing brass hardware in a high lustre finish, I was moved to contribute this letter. While I found nothing objectionable in the procedure published, I believe that as a working brass repairman (also an RTT) I can offer some additional information which will greatly enhance the results.*

"First, a few words about the motor used. Most standard bench motors run at 1725 RPM. The newest commercial machines for brass instrument buffing run from 2000 to 3600 RPM. While it would be impractical for all but the largest shops to have this type of machine, some things can be done to increase the speed at which the buffing is done. My first suggestion would be to use an 8" buff rather than a 6" buff as this will considably increase the surface speed of the wheel. Also, the comparatively low horsepower of the bench motor will drag down the speed if the hardware is pressed into the wheel with much force. Let the wheel and the buffing compound do the work. For those who do more than an occasional job, Ferree's Band Instrument Repair Supply in Battle Creek, Michigan, offers a ¾ HP 3600 RPM bench motor currently priced at $75 which is ideal for this type of work.

"Next, a word about buffing wheels and compounds. There are two types of buffs which should be

used for finishing the brass. The first is a spiral stitched buff used for rough buffing. These buffs are usually made of unbleached muslin and vary in thickness from 30 to 75 plies. There are few really tight places to get into on most piano hardware, so I would recommend using the thicker wheels as they will last longer.

"The second type is a loose (unstitched) buff made of cotton flannel which is used for final buffing. As to compounds, tripoli is the coarsest and works well for removing pits and deep scratches.

"I would like to add a word of caution here about knowing the material you are buffing. Occasionally we come across plated hardware. If you are buffing with tripoli, one good swipe across the wheel can remove the plating and you are left with a two-tone piece of hardware or a bill from the platers. If you are not sure, scratch the back side of the hardware to be sure it is solid. (Tech. Ed. Note: A brass or brass-plate piece can also be checked with a magnet — if the magnet sticks, you know it isn't solid brass. . . . **J.K.**)

"If it isn't solid, I would recommend using another compound called Nu-White once over **lightly** *to remove discoloration and watermarks left from stripping, then final buff with rouge. I like to use Nu-White for all but the deepest scratches, as it is much less greasy and puts in fewer surface scratches than tripoli. These two compounds are used on stitched buffs. Do not mix compounds on the same wheel.*

"For final or color buffing, use the unstitched flannel buff with jewelers' rouge. Where possible, try to buff at a 90° angle to the direction that you rough buffed. This will speed the removal of the small surface scratches left by rough buffing and, hopefully, will leave you with the mirror shine you desire.

"After buffing, the work must be cleaned of all dirt and grease left by the compounds in order for the lacquer to adhere. Alcohol works fine, as does the cold degreasing fluid available from band instrument supply houses.

"Finally, a few safety tips: (1) Wear safety goggles, as buffing is dirty work; (2) Always get a firm hold on the work — flying hardware can be hazardous to your health; (3) Always keep the work between 8 o'clock and 10 o'clock on the wheel; and (4) Buff continuous hinges vertically, both during rough and color buffing." — **Carroll Fisher**

NEWSLETTER TECH REPRINT

The following article appeared in a recent issue of *Soundboard Buttons*, the newsletter of the Twin Cities (Minnesota) Chapter, edited by lovable old Ed (Mr. Goodbanger) Fesler. The author of this piece is **Steve Nicholson.**

PIANO — Estey console (1940), Pratt–Read action, keys that are lowered in back to below keybed level.

CONDITION — action screws tightened, hammers shaped, some jack springs replaced, white keys recovered and levelled, blow distance set to 1⅝", lost motion adjusted, excess key dip removed (due to previous tuner's error in setting key dip too deep).

PROBLEM — some notes required excessive force; let-off occurred far too late, and adding more than regulation key dip seemed a solution (as it had to the previous tuner). The jacks were NOT striking their stops.

FIRST WASTE OF TIME — because some jacks seemed to drag on their butt leathers, the butts were removed and the leathers smoothed. This resulted in a tiny improvement, just enough to be misleading. One hour shot.

SECOND WASTE OF TIME — replaced more jack springs — again some improvement, but really just more time wasted.

THE REAL PROBLEM — was that the regulating rail was just slightly out of position. Since this particular action had unusually rounded jack "toes", the jacks would occasionally slide up BEHIND the regulating buttons. Some jacks had been doing this for many years and had worn the corner off their regulating punchings. If the worn side happened to be facing the jack, the malfunction was sure to occur. Otherwise, it might malfunction only on an unusually firm blow.

The excess key dip installed by the previous tuner had been an attempt to get things going again. It did sort of work, but it also caused jack spring breakage because the excessive dip compressed the spring too much. After I moved the letoff rail to its normal position, all other regulating procedures could be carried out normally.

MORAL – when you tighten action screws, PAY ATTENTION! I could have seen the real problem if I had just looked!

TECH TIPS

Jack Sprinkle, tuner/technician of note from Arlington, Virginia, submits the following two tips:

1. "I had a Steck console which I have tuned several times and replaced several plastic jacks with wood. Finally I told the customer

that the time had come to do the whole job. She agreed, so I called Pratt-Read and ordered a set of new compact wooden jacks. There were three problems with the replacement; removing the jacks, removing the jack flanges, and inserting the whippens back on the rail without breaking the plastic damper levers.

"The first problem was the easiest to solve. After removing the whippen from the rail, the jack was dislodged from its flange with an ounce or two of pressure sideways. The next problem was to remove the flange from its mortise. After trying brute strength and losing some wood, I discovered that by placing the whippen in a vise just behind the jack flange I could remove the flange with a Crescent wrench. With the jaws reduced to just a little over the flange size, a little snap from side to side broke the glue joint. The last problem was solved by using a small screwdriver as a quick wedge to keep the damper levers safely out of the way while reinstalling the whippens on the rail. Using this procedure, I didn't break a single damper lever."

2. "I recently tuned a small Baldwin grand which was badly in need of letoff regulation. Upon trying, I started snapping letoff dowels. I called my old friend Willard Sims in Cincinnati and discovered that instead of replacing all those dowels, the boards would be shipped complete with dowels. I was delighted to find this as I had estimated ordering all these dowels and twisting them all on myself. These dowel boards are equipped with three screw holes, and I have found that in all cases at least two would fit and the third had to be centerpunched and bored. To a Baldwin technician this would probably be obvious but I learned from experience. Perhaps it might help others."

Thank you, Jack Sprinkle, I'm sure it will. I might add that dowel breakage is usually caused by technicians using a pointed regulating tool. That type of tool not only has a tendency to wedge the dowel in two, but it also puts most of the stress on one side of the dowel. For this reason, Baldwin factory technicians use a straight grand damper wire to make this adjustment (see **Figure 6**).

Our next tip is reprinted from a recent issue of the Indy 440, the official newsletter of the Indianapolis Chapter. **Ron Berry** is the editor and presumably the author of the tip.

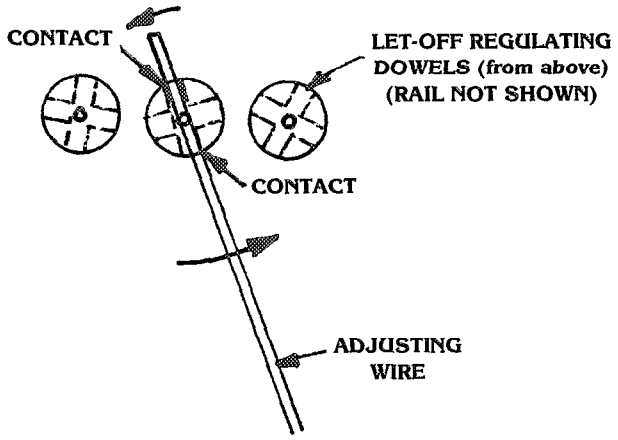


FIGURE 6

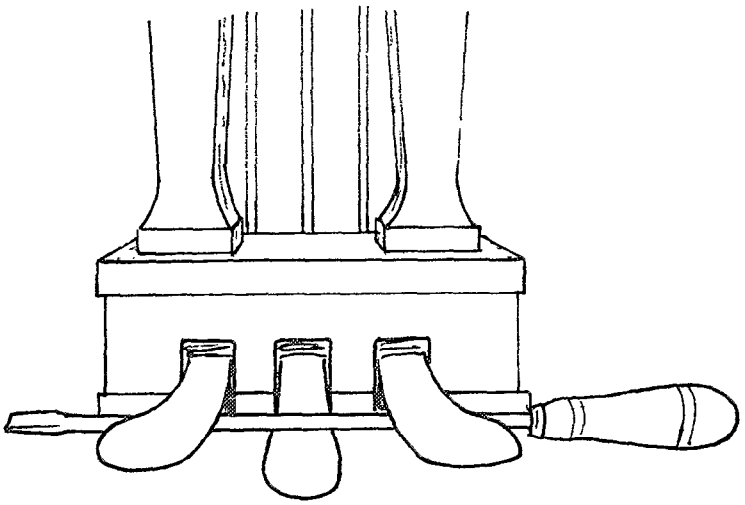


FIGURE 7

3. "Do you run into those new vertical pianos where the felt blocks that hold the hammer rest rail have compacted? This lets the hammers stand off the rail with no lost motion at all between the jack and hammer butt. This is death to good repetition. Don't go through and turn down all the capstans, as this takes a lot of time and is not the real cause of the problem. Use self-adhesive nameboard felt (it's thin enough to allow careful adjustment) and stick it to the felt to move the hammer rest rail forward and re-establish the correct blow distance and just a trace of lost motion for good repetition."

The above is an excellent tip, so simple and yet so often overlooked. I would like to add that a good way to check for lost motion is to hook a finger over the rest rail and pull it firmly toward you, watching the hammers as you do so. They should all follow the rail just a bit; if they do not, that means there is no lost motion and the action will not reliably repeat after a slow release of the key.

TIP OF THE MONTH

I learned the following technique from Stewart Cole of New York City. To tighten the underlever flange screws on a grand piano, first depress the damper pedal all the way with the right hand. Next, depress the sostenuto pedal with the left hand and release the damper pedal. Block the sostenuto pedal in this position by inserting a long screwdriver or something similar between the pedals as shown in **Figure 7**. This gets the underlevers up out of the way,

providing clear access to the screws. Obviously this won't do any good on a Steinway, but it will work on most other makes.

GADGET OF THE MONTH

This is a new feature of the Forum, which will continue so long as we get sufficient input from those of you who make and use unusual tools. This month's featured gadget is a special tool for removing and replacing keystrips which do not have knurled thumbnuts. The idea was submitted by **Bob Erlandson of Omaha, Nebraska.**

This tool will also adjust and tighten some grand rest rails, and is a smaller version of the tool used on split-circle nosebolt nuts. One end of the tool is a simple nut driver for keystrips supported by hex nuts; the other end slips over the projecting support stud and engages both slots of a split circle nut (see **Figure 8**) without damaging the surrounding wood as a screwdriver often does.

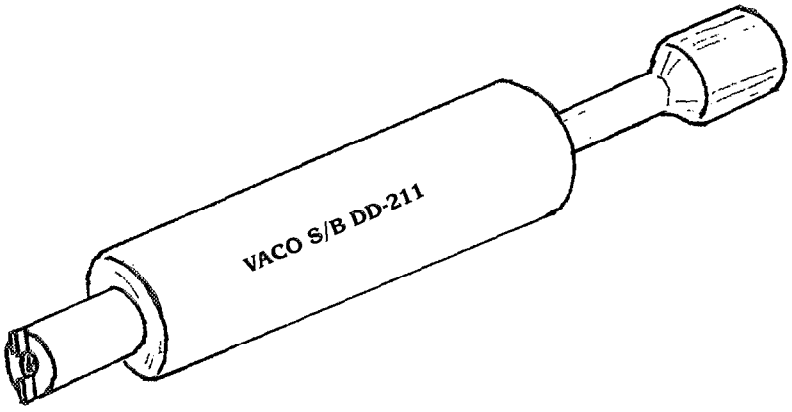


FIGURE 8

Bob found this tool in an ordinary hardware store. The name on the handle is "Vaco", and the type and size numbers are "S/B DD-211". If your hardware store doesn't have it in stock, they should be able to order it for you.

BRIDGES

QUESTION: *"Are capped bridges any better than solid bridges? Why or why not?"* — **Roger F. Hathaway, Woodland Park, Colorado**

ANSWER: A bridge must transmit vibrations to the soundboard, and to do that effectively the grain of the wood should run the length of the bridge so that the sound can be quickly spread over the entire vibrating area. Sound travels at a speed of over 1600 feet per second along the grain (the exact speed varies with the species) but only one fourth that speed across the grain. Therefore, a solid bridge would be very good for tone quality, especially if it were bent so the grain would run continuously along its length.

Unfortunately, if a bridge is made this way many of the bridge pins would be directly in line with the grain and the bridge would surely split. Another problem with solid bridge construction is that it is very difficult to notch such a bridge, particularly where the notches would cut right across the grain. A third problem is that if there are any defects in the wood leading to cracking, the entire bridge is quickly ruined. Solid bridges simply do not hold up as well as laminated or capped ones, although they could potentially be just as good from a tonal standpoint if the grain could be correctly oriented for continuity from end to end.

A capped bridge that has a solid body, as shown in **B** of **Figure 9**, is structurally the simplest of the laminated bridges, and has some distinct advantages over the solid bridge. The grain of the capping is placed at an angle to that of the body of the bridge, adding strength. This angle is a compromise between tone transmission and ease of notching, but carries the added benefit of supporting the bridge pins much better. The principal disadvantages of this construction are:

(1) the capping grain cannot be continuous along the length of the bridge for best tone transmission; (2) If the capping is flatsawn, the strings would have a tendency to dig trenches into the top of the bridge, especially if technicians become overzealous in tapping them down; and (3) the glue joint between bridge and cap represents a potential tone barrier.

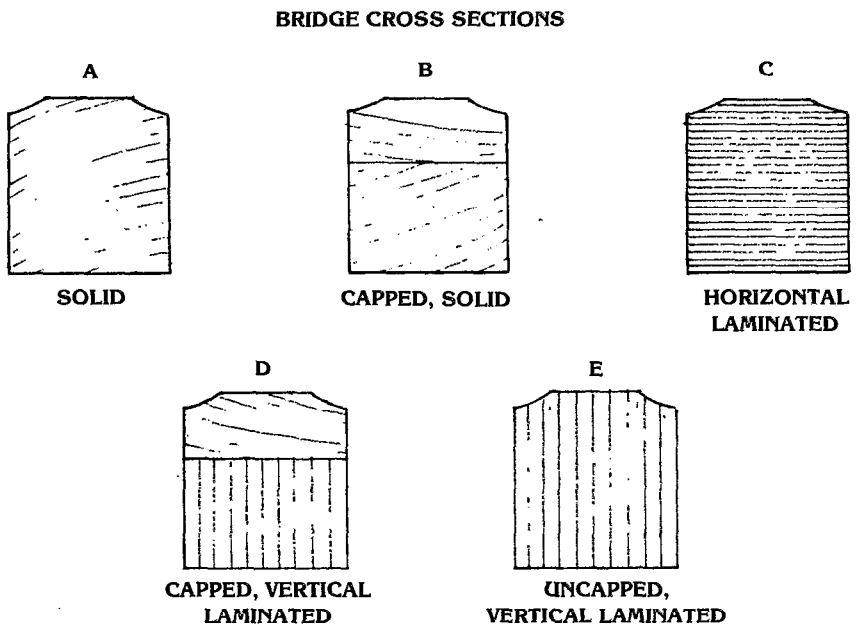


FIGURE 9

Some pianos, principally European ones, are built with horizontally laminated bridges as shown in **C** of **Figure 9**. If these laminations happen to be quartersawn so the hard grain runs up and down, they would tend to transmit tone better than if they are flatsawn or scrollcut. The principal advantages of this type of construction would include good stability and resistance to cracking, ease of manufacture (they can be sawn out of a laminated panel) and good pin-holding ability. The only potential disadvantage would be the number of glue joints between string and soundboard, plus a certain amount of difficulty in notching the cross-laminations.

A better bridge is shown in **D**, in my opinion. This has vertical laminations with continuous hard grain running up and down for good tone transmission the entire length of the bridge, all the way from the cap to the soundboard. The capping allows downbearing to be adjusted during manufacture by planing or routing the top of the cap as needed, and also makes for easy notching. Its only potential disadvantage, aside from possible checking of the cap due to pin pressure, would be the same as that of any of the capped bridges described above.

Still another way of making a bridge, as shown in **E**, is that of using vertical laminations without any capping. The advantages here are:

(1) There are no horizontal glue joints in the bridge;
(2) The hard grain is continuous, both up and down and the full length of the bridge;
(3) The bridge pins have excellent support; and
(4) The hard grain against the strings prevents them from digging into the bridge.

This is the way famed Pennsylvania rebuilder Willis Snyder makes his bridges, as taught at recent Guild conventions. The main disadvantages of this construction are:

(1) It is more difficult to notch; and
(2) It is more difficult to plane down, requiring that downbearing be set by regulating the height of the plate rather than that of the bridge.

THERMOSET ADDRESS

There have been a number of inquiries about epoxies and adhesives since we reprinted an article by Susan Graham on bridge repairs last year. You might recall that Susan recommended Thermoset 103, and that several readers wrote to say that they preferred the hardness of 104 for loose bridge pins. Further research has shown that both products are suitable, since even though 104 is nominally harder, 103 is variable, depending on how it is mixed — up to a hardness rating of Shore D-90 — with a compressive strength of 14,000 lbs. per square inch. The address is:

Thermoset Plastics, Inc.
5101 East 65 Street
Indianapolis, IN 46220

In passing, I might add that if the problem is simply one of loose bridge pins, the best solution might be the installation of oversize pins. When the problem is that the bridge is cracked, causing looseness of the pins, then the best on-the-spot repair would involve epoxy. Ideally, we would recommend a new bridge or bridge cap; but very often a minor split can be permanently taken care of at a much lower cost by filling the crack with a good commercial epoxy, with no loss in performance.

IN CONCLUSION

Reader response has been very gratifying in recent months, but we still can use technical articles, tips, comments and questions. If you have an idea, tell us about it; if there's a way we can make the *Journal* more useful to you, let us know. □

The Piano–A Workman And His Tools

Presented by Walter Kerber
Registered Technician— S.E.R.V.P.

1. Why should a piano teacher teach on a piano having regular tunings?
   - What are the advantages to the teacher?
   - What are the advantages to the student?

First of all, for a teacher to have a well-tuned and well-regulated piano (I would like to stress "well-regulated" as well as "well-tuned") is in line with the old adage: You can always judge a workman by his tools. This, of course, means not only the quality of the tools, but also the state of repair in which they are kept.

Secondly, if a teacher is compelled to listen to a piano that is continually and consistently out of tune, it certainly must wear on that person's nerves, as there is nothing worse in producing frayed nerves than continually listening to "unresolved dissonances", especially if nothing can be done about them. The teacher must stay in the same spot and listen to the instrument played by one student after the other; the student just plays on it for approximately 30 minutes at a time. If this is a busy teacher (one who has an enrollment of 20 or more students) this could be enough to cause considerable irritation and even loss of temper and mental balance, due to the constantly frayed nerves that could result.

Thirdly, if a teacher has even a middle-class instrument, it should receive at least one tuning a year to keep it in presentable shape. Of course, other repairs might and will be necessary from time to time, but that will be another matter. Ideally, of course, pianos (especially if they are used for teaching purposes) should have at least two or even three tunings a year regularly.

a) Among the advantages to the teacher will be:
   1) A happy state of mind, free from the frayed nerves that an out-of-tune piano could cause (sometimes students can cause enough frayed nerves; there is no need to add an out-of-tune piano to the situation).
   2) Satisfied students who will be pleased with what they hear in the music they produce.
   3) Security in knowing that a student's ears are being authentically trained in listening to such a piano.
   4) A feeling of satisfaction and enjoyment in listening to the music that students can produce on such an instrument.

b) Advantages to the student would include:
   1) Well-trained ears that are constantly and consistently hearing intervals in their true size, quality and value.
   2) The ability to judge a good tone when they hear one.
   3) Ease in determining the type and size of an interval since the pitch does not vary.
   4) A sense of security in hearing that they can produce beautiful music on such an instrument.

2. Why should a student practice on a piano in the home having regular tunings?
   - What are the advantages to the student?
   - What are the advantages to the teacher?

The student should have a well-tuned and well-regulated piano at home as well as in the teacher's studio to help in training his ears to hear good tone quality, correct intervallic distances, perfect nuances and fine tonal discrimination, even if he is not aware of the fact that all these things are taking place in the early stages of his musical growth. He needs good tonal experience in the beginning of his training just as much and perhaps even more than when he is at an advanced stage.

a) Advantages to the student include:
   1) Giving him the ability to hear a piece of music at home at exactly the same pitch and intervallic level that he did in the teacher's studio.
   2) Furnishing him with the security of being able to see a note on the printed page and determine with a certain amount of accuracy what its pitch is.
   3) Allowing him a chance to experiment with different touches and tonal modifications (at any level of advancement) according to his ability, so as to beautify his rendition of the composition.

b) Advantages to the teacher:
   1) The student will be more apt to come to his lesson well prepared or at least, better prepared.
   2) The student will be more enthusiastic about experimenting with sound and creating new pieces.
   3) The student will be less frustrated if he hears the same thing at home on his piano that he he heard on his teacher's.
   4) The student's ears will be better trained to recognize intervals, chords, etc. if the sound is always the same.
   5) The satisfied and enthusiastic student will spread his love of music to his friends and fellow-students.

6) student will be eager to perform for his friends and fellow-students.

I would like to add that I think it is a **must** for **all** piano teachers to know something about the working of the "inside" of the piano. Too many people still buy a piano as a piece of furniture because there are not enough properly trained teachers to help them select an instrument scientifically and professionally. I have always tried to explain to students, whether they aspired to be teachers or not, some of the intricacies of piano manufacture: i.e., 1) the different parts of the piano and their functions; 2) the various parts and functions of the piano action; 3) the stringing of the piano; 4) the function of hammers and dampers); 5) the different types and functions of the pedal action; 6) the idea of "tempered" tuning and meaning of A-440; 7) the tuning of the unisons of any given pitch; 8) how to correct minor difficulties, such as a key sticking due to the warping of the front board below the keys; 9) temperature and humidity control; 10) the danger of trying to use a vacuum cleaner to "clean" the inside of a piano; 11) the danger of keeping the piano closed and in a dark room for a length of time (causing moths and other vermin); 12) the differences, especially in the action, between the various styles of pianos — grand and upright — and the small so-called "spinet" (which I think is hardly worthy of the name except in very few instances); 13) some of the more reliable makes and names and factories where some of the name-brands are at present manufactured. — **Walter Kerber, R.T.T.** □

After Touch

David W. Pitsch

A CHECKUP AND A CHECK PART II

Last month we talked about a 50-point checklist and knowing what changes are taking place during action regulation. A three-question quiz was also given which will be repeated here:

1) Does regulating the jack height to the balancier affect the strength of the repetition spring?

2) Does regulating the let-off affect the backcheck distance?

3) Which of the following affect the amount of aftertouch: key height, blow, jack alignment, jack height, let-off, drop, backcheck, repetition spring?

Now that a month has passed to think about the answers, wouldn't it be great if there were some place to turn to look up the correct answers? How many of us have taken the time to thoroughly investigate and think out what happens in grand action regulating? Everyone should own or have access to a grand action model. These are a great help in trying to figure out a problem or to understand the hows and whys of the working parts.

Here is a grand regulation chart which lists the nine action regulation steps and how they *directly* affect each other. X's mark steps which are affected, O's mark those which are not.

It should now be quite easy to find the answers to the quiz. The answer to question #1 is yes. Think of the butterfly type repetition spring as now used in Bosendorfer, Steinway, and Yamaha grands. As the balancier is raised or lowered to the correct height above the top of the jack, the tension on the repetition spring is changed. Think of the balancier and whippen as opening and closing like a jaw. The tension on the spring increases as the balancier is lowered. However, the effect this style of spring has is the opposite one would expect. Even though the tension increases, the hook of the spring moves forward (toward the keyboard) in the spring slot on the

GRAND REGULATION CHART

This step directly ↓ affects →	Dip	Blow	Jack Align	Jack Ht.	Let-Off	Drop	Back Check	Rep. Spr.	Total
Key Height	X	X	X	O	O	O	X	O	4
Dip	—	O	O	O	O	O	X	O	1
Blow	X	—	X	O	X	X	O	O	4
Jack Align	X	O	—	O	X	O	O	O	2
Jack Height	O	X	O	—	O	O	O	X	2
Let-off	X	O	O	O	—	X	O	O	2
Drop	X	O	O	O	O	—	O	O	1
Back Check	O	O	O	O	O	O	—	X	1
Rep. Spring	O	O	O	X	O	O	O	—	1
Total	**5**	**2**	**2**	**1**	**2**	**2**	**2**	**2**	—

bottom of the balancier. This necessitates the spring tension to be increased in order to achieve the same effect, since the point of contact is now further from the balancier's flange.

In answer to question #2, the grand regulation chart is marked no. Now it is possible to argue that if the key is depressed slow enough, as when we regulate the let-off, and if the let-off is changed considerably, that the hammer will check at a different height. True, but the main factor here is not the let-off distance. Rather, the speed at which the key is depressed. In actual playing, the hammer must continue to move upwards after let-off in order to strike the string, then it falls back, going into check. Changing the let-off only changes the amount of power that the key gives the hammer. The backcheck distance does change, of course, on whether the player gives the key a hard or soft blow. On a hard blow, the hammer rebounds more forcefully into the check position and ends up a little lower. On a very light blow, the hammer may not even go into check. Anyway, we can be pretty safe if the backchecks are regulated before the let-off, since as can be seen on the grand regulation chart, the backchecks only affect the repetition spring strength.

For the third question, the factors which affect aftertouch are:

1- **Key height**. Changing the key at the balance rail affects the key at the front rail by a factor of about 1:2. Adding a .010 balance rail punching will increase the dip, and hence the aftertouch, by about .020.

2) **Blow**. Piano actions are designed so that the dip to blow ratio is about 1:5. Changing the blow changes the amount of key dip needed for total escapement. When we raise the capstan to lessen the blow distance, the effect of raising the whippen puts the jack tender closer to the let-off button and the end of the balancier closer to the drop screw. This causes escapement to happen sooner in the stroke of the key, giving more aftertouch.

3- **Jack alignment to the knuckle**. Since the jack has a double function of raising the hammer and also causing let-off, regulating the jack to the knuckle changes when the jack tender engages the button. Therefore, if the jack is moved inward, toward the keys, the tender moves down and away from the let-off button, creating escapement later in the dip, meaning less aftertouch.

4) **Let-off**. From what has already been said, it is obvious that let-off directly influences aftertouch. Making the let-off closer to the string creates less aftertouch.

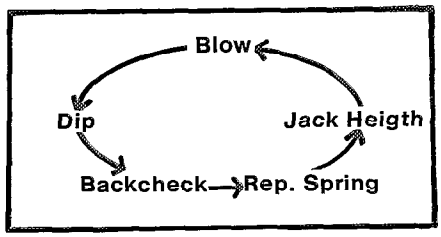
5) **Drop**. If drop is defined as the amount that the hammer drops after let-off, and that aftertouch is defined as the downward movement of the key after drop, then the amount of drop is proportionate to the amount of aftertouch. Decreasing the amount of drop increases the amount of aftertouch.

Notice that on the grand regulation chart the first left to right column is marked dip. This is the column which is read for aftertouch, since aftertouch is a part of dip. The factors which do not affect aftertouch are the jack height, backcheck distance, and the repetition spring strength. Of course, the jack height and repetition spring indirectly affect the aftertouch by affecting the hammer blow distance. But this chart only shows *direct* relationships.

Having answers to questions like these is a great help in figuring how to approach the specific action at hand. Remember last month that the order of section IV "The Touch" of the 50-point checklist may be changed to suit the needs?

IV. **Touch**
- 31) Jack height to the balancier
- 32) Blow
- 33) Let-off
- 34) Drop
- 35) Aftertouch
- 36) Backcheck distance
- 37) Repetition spring
- 38) Check gram weight resistance all 88 keys
- 39) Adjust key stop rail

This order would be fine for dealer preparation on a new piano. But what about an old action where the repetition springs are weak? Remember "the circle of five steps"?



then the jack height will vary each time the key is played, making it impossible to set the hammer line straight. In this case we could not begin with setting the jack height and blow distance. Rather, we should start with the backcheck distance and go immediately to strengthening the repetition springs. A quick glance at the grand regulating chart shows that only two steps affect the backcheck distance. One is the key height which was set in **step #12** on the checklist. The other is the dip. So after setting the dip be sure to go back and readjust the backchecks! See how easy it is with the proper information at hand? Now you can start with setting the jack height and blow and go on as is listed in IV Touch.

Remember in selecting the proper sequence in this IV Touch section that those steps which affect the others the most should be completed as soon as is possible. In reading the far right-hand total column we see that the key height and blow affect four other steps versus only one or two for the other procedures. Therefore, try to adjust the key height and blow first. Similarly, make sure that the dip is one of the last steps to be completed, since as seen in the bottom column, five other steps affect it.

Now that we have a grand regulation chart which shows how each step affects and is affected by another, we can use it as a check while going through the 50-point checklist. A checkup and a check! If we go one step further and put them both together along with a "how to", an excellent guide will be created which will help anyone through regulating a grand action. Coming next month, an enormous 50 - point guide to grand regulation. □

Ring the Bell

Bell Ringers Club **Points**

Everyone wants a chance to receive the prestigious President's Club award or to sport a Bell Ringers or a Restorers Club ribbon at the annual convention. To insure that every Bell Ringer point is credited to your "account," and that every Restorer of a former member is recognized, the Membership Department requests the following:

1. Please PRINT your name after your signature on the line "recommended by" when you wish to receive credit for bringing a new member into the Guild. Some signatures are difficult to read and we regret having to omit a name for this reason.

2. Please show your own chapter after your name. Some members sponsor a new member into a chapter other than their own.

3. If you wish credit for a RESTORED MEMBER, please write this fact on the application form. It is not always possible to trace a former member after a lapse of time.

4. If corrections should be needed in the records, please notify the Home Office promptly, as The Journal goes to print some weeks ahead of receipt.

The following points are scored for signing up the various ratings:

Craftsman — six points. Apprentice — five points. Allied Tradesman — four points. Associate — three points. Affiliate — two points. Student — one point.

When you have a total of 24 points you become a member of the President's Club; all others are Bell Ringers.

Sponsor a new member and win points in the Bell Ringers Club. Join the celebration at the 1980 convention in Philadelphia.

BELL RINGERS!

The last date for recording new members for points in the BELL RINGERS, RESTORERS, and PRESIDENT'S CLUB will be June 30th this year. Please be sure to notify the Home Office of all new and restored members by that date, so that everyone will receive full credit at the convention.

New members recorded in July will be credited to the 1980 Booster Club.

President's Club

DRAINE Robert 28
LILLICO, John 71

Restorers Club

BITTINGER, Dick
HAWKINS, Marshall
KERBER, Walter
MANWILLER, Ralph
SCHEER, Bob

ABBOTT, William Jr. 6
ACH, Philip 3
ACKMAN, Harold W. 6
BAILEY, D. Nelson 5
BAIRD, John 18
BAKER, Dean 6
BALIGIAN, Agnooni 16
BARRETT, Bruce 1
BARRUS, Ralph 11
BERRY, Ronald 5
BIBLE, Dana 1
BITTINGER, Dick 21
BLAND, Robert R. 6
BLANTON, Tom 6
BOOTH, F. Darrell 4
BROOKSHIRE, Jerry 3
BROWN, Glen 4
BROWNFIELD, Gary 18
BROWN, Walter 1
CALLAHAN, John C. 6
CATE, Allan 2
CAUETTE, Louis 5
CAUNTER, Gerry 14
CLARK, Peter M. 1
CLOPTON, John 12
COLEMAN, Jim, Jr. 2
COX, Merrill 3
CROY, Ronald 12
DANIEL, Pat 6
DANTE, Richard 6
DOERFLER, Richard 1
DONELSON, James H. 1
DROST, Michael 24
DRAINE, Robert 28
EDWARDS, William E. 3
ERBSMEHL, Charles 1
ERLANDSON, Robert W. 6
FAIRCHILD, Steven 1
FISHER, Allen 6
FISHER, Leroy 6
FRANZ, Dennis L. 1
FRANZ, Earl M. 6
GARRETT, Joseph A. 1
GARTEN, H. Dean 5
GERLER, Kenneth 1
GILLER, Evan 12
GOETSCH, Lawrence 12
GULLIXSON, Elisha 6
HANCOCK, William 6
HARMON, Clayton 7
HARRIS, Vaughn 6
HART, W. D. 6
HAWKINS, Marshall 11
HEINDSELMAN, Lois 17
HESS, James 9
HILBERT, Felton, Jr. 1
HOHF, Robert 5
JOHNS, Barney 1
JONES, Joel A. 5
KADWELL, Kenneth A. 6
KAST, Frank 10
KERBER, Walter 15
KINGSBURY, Richard 12
KLEIN, William N. 5
KOFORD, Lyn 5
KREITZ, Richard C. 5
LAMB, Elwyn D. 1
LEARY, Janet S. 1
LEWIS, Max E. 6
LICHT, Kenneth B. 6
LILLICO, John 71
LINDEMAN, Doug 23
MACCONAGHY, Henry 7
MACKINNON, Karl 1
MANWILLER, Ralph 6
MARCIANO, William 4
MARLING, Harold 5
MARTIN, Barbar 2
MATTHEWS, John 1
McCOLLOM, M. A. 5
McKAY, C. Guy 2
McANINCH, Daniel 1
MEEHAN, Joseph 18
MEHAFFEY, Francis 12
MEISSNER, Walter, Jr. 6
METZ, Albert J. 1
MOONAN, William 1
NICHOLSON, Steve 1
OLIVER, Stanley 1
OSBORN, Ralph 5
OVENTROP, Edward 6
OWENS, Bruce 1
PAULOZ, Richard 6
PEARSON, Walter 6
PEARLMAN, Sam 1
PERKINS, Robert 24
PETERS, George 27
PETERSON, Gerald 1
PHILLIPS, Webb 5
POTTER, Randal F. 5
PRATT, Orman D. 6
PREUITT, Ernest 11
REITER, Michael 6
REQUE, Styrk 1
RICHARDSON, James 11
RILEY, Martha 1
RODGERS, Thomas A. 6
ROE, Eugene 6
SANDERS, John 6
SEABERN, Paul 4
SCHEER, Bob 6
SCHMITT, Paul 1
SCHNEIDER, William 6
SCOTT, Dennis 1
SELLER, Marion 10
SERVISS, Kenneth 6
SEVERANCE, Davie 7
SIEROTA, Walter 6
SHANK, Dean 5
SHELL, Roger 6
SHROYER, Al 1
SMITH, Arthur 1
SMIT, Robert 6
SNELL, Marvin 1
SNYDER, Cecil 5
SNYDER, Willis 8
SORG, Herbert 6
SPEIR, Leon 6
STATON, Rocker 1
STONE, Sid 7
STRONG, Douglas 11
SWARTZ, Vern 1
TAPP, Kenneth 4
TAYLOR, Kendal 9
TITTLE, Martin 1
UPHAM, Russ 1
WAGNER, Lloyd 6
WAGNER, R. W. 16
WALKUP, Kenneth 16
WARMINGTOn, Carl 6
WEST, Richard E. 6
WHITTING, Ted 4
WICKSELL, Carl 7
WIGENT, Don 6
WILEY, John 5
WILLIAMS, Arthur 6
WILLIAMS, Robert V. 6
WILLIS, Aubrey 10
WILSON, Richard D. 2
WINTERS, Kenneth 8
WOODS, Edwin 5
WURZ, Douglas 10
ZEHME, Uwe 6

Calculating Technician

Part X

Dave Roberts

Last month we continued with our recent articles on algebraic formulas for piano scale evaluation or modification. It was indicated that one can resolve the question of suspected flaws in a piano scale by calculating three acoustical quantities for each unison in the suspect part(s) of the scale. In approximate order of importance, these quantities are:

- String inharmonicity
- Loudness/sustaining factor
- Hammer/string contact time factor

Our rule for good scales is that, with the possible exception of the loudness factor at the bass/treble break, each of these acoustical quantities ideally should change in a smooth and proper fashion from unison to unison across the entire keyboard. We have already discussed the 2nd and 3rd quantities in the April and May 1980 articles and also the role which string tension plays in scale evaluation in the March issue. This month, let's tackle the most important acoustical quantity of all, string inharmonicity. This quantity is vitally important because it determines the tunability of a piano scale and is an important factor affecting the voicing of piano tones. No amount of voicing of the hammer felt or regulation of the action can affect string inharmonicity in any way. Hence, once the piano has been strung, one is struck with whatever scale flaws may exist with respect to string inharmonicity, unless someone is willing and able to modify that scale.

Actually, there are several sources of inharmonicity in pianos. These include wire stiffness, nonrigid string terminations, soundboard resonances and wire nonuniformities, such as caused by corrosion, overstretching, uneven wrapping of bass strings or variations in wire diameter during manufacture. Also, the short, bare segments at the ends of wound strings cause inharmonicity. So can improperly designed swaged regions near the wrap ends. Even accumulated debris or corrosion between adjacent wrap turns can cause inharmonicity. We can rectify some of these problems. Soundboard resonances and motion of the bridges cannot be eliminated. Except for these last two effects, the two most prominent sources of inharmonicity in a well constructed instrument are:

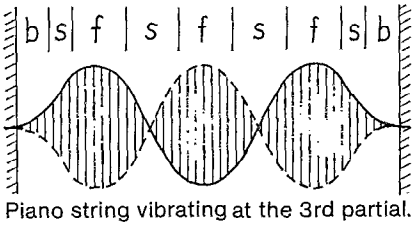
- Inherent stiffness in the piano wire
- Presence of unwrapped ends on wound strings

The (predictable) inharmonicity caused by these sources, unlike the other forms of inharmonicity just mentioned (unpredictable and random), are not necessarily problematic and can even have some musical virtue if dealt with properly by both the scale designer and the tuner.

The piano industry as a whole apparently did not consciously grasp the concept of string inharmonicity, let alone deal with it on a quantitative basis, until more than a half century after the effect was first treated mathematically (Donkin, 1884; Rayleigh, 1894). Around 1938, Railsback measured note frequencies on several grand and upright pianos and demonstrated that tuners 'stretch' octaves. This phenomenon was correlated with string inharmonicity in a paper by Schuck and Young in 1943. However, it wasn't until contributions were made to the subject of inharmonicity in wound strings by Miller (1949) and Fletcher (1963) that the piano industry had an explicit mathematical formulation for inharmonicity in both plain and wound strings. Interestingly, traditional (empirical) craftsmanship coped rather well with inharmonicity in the large concert grands, even near the turn of the century. However, without adequate knowledge of acoustics, these same makers of excellent, full-sized instruments did not necessarily cope properly with string inharmonicity as the smaller instruments were developed. This probably reflects the fact that inharmonicity is much easier to cope with in the large instruments and not as much painstaking development was given to the smaller pianos.

Today the piano industry is more knowledgeable about inharmonicity, but I believe that manufacturers have kept this information pretty much to themselves. Although I do not have the resources of a modern piano manufacturer, I have been able to determine a reasonably accurate algebraic formula for the inharmonicity in piano strings, taking into account both wire stiffness and also unwrapped ends on wound strings. This formula was based originally on the theoretical works of both Miller and Fletcher, but I have since modified the formula to agree more closely with a number of wound string experimental data obtained by myself and by Lou Day of the Denver Chapter of the Piano Technicians Guild. Before presenting this formula, let's first refer to the following sketch and discuss inharmonicity effects produced by stiffness and windings. Here, we represent a vibrating string at an instant in time when its moving segments have reached their maximum amplitude (solid line). At ½ period of vibration later, these same segments would coincide with the dotted line and at other times would lie somewhere in between. The termination conditions in a piano force the string to bend near its ends in the regions marked **b** (Shankland and Coltman, 1938). I have marked the other sections of this string by the letters **s** and **f** to indicate that these sections, for the most part, either remain 'straight' or are 'flexing' as the string vibrates. Theoretically, any stiffness in the wire in the flexing regions will cause them to flex

less easily, thus raising the frequency of vibration. This is because a stiffer object always has higher natural vibration frequencies, everything else being equal. The more flexing regions there are, the greater this effect will be, which explains why the higher partials have greater inharmonicity. If wrap is added to the string, theory tells us that two things will happen. First, the wrap in the flexing regions will *increase* inharmonicity because the wrap adds inertia plus its own stiffness which further inhibits the flexing motion. Secondly, however, adding wrap also increases the inertia to transverse motion, which slows down the vibration frequency. Thus, the string must be pulled up in tension to maintain the string at the same pitch. The higher tension partially overcomes the resistance to flexing in a stiff wire and more than offsets any flexural inertia or additional stiffness due to the presence of the wrap itself, particularly if the wrap turns are not touching one another. Unless debris or corrosion gets between the wrap turns, in effect causing



Piano string vibrating at the 3rd partial.

them to be connected together, the turns will indeed be separated, due to the act of pulling the string up to pitch. In any case, the net result of adding wrap to regions **s** and **f** is to **decrease** inharmonicity. The principal difference between regions **b** and **f** is that there is very little transverse motion in regions **b**, just flexing, Hence, adding wrap here increases inharmonicity without the offsetting effect of higher tension. This is one argument for keeping winding wraps from coming too close to the bridge and agraffe terminations. We'll have more to say in a future article about winding lengths and also a complication introduced by swaging (flattening) the core wire at the wrap ends.

With these qualitative remarks behind us, let me now present a formula for calculating inharmonicity (in cents) in plain or wound strings which takes into account the effects described above:

$$I_n = 1731(n^2-1)\left\{S\left(1+\frac{B}{8}\right)+\frac{3B}{1+B}\left[\left|\frac{a}{L}-\sqrt{S}\right|^3+\left|\frac{b}{L}-\sqrt{S}\right|^3\right]\right\}$$

The symbol I_n is a shorthand notation for saying 'the inharmonicity of the **n**th partial'; i.e., **n=4**, we would denote this by I_4. The symbols **a** and **b** represent the lengths (in inches) of the short unwrapped portions of a wound string at the agraffe and bridge ends, respectively. The total speaking length **L** should also be expressed in inches. The letter **S** denotes a quantity which is closely related to the mathematical 'stiffness' of the steel wire and can be calculated from string tension **T** (in lbs.), speaking length **L** (in inches) and steel wire diameter **d** (in mils) as follows:

$$S = d^4/139430\,L^2T$$

Finally, the letter **B** denotes a quantity that we have calculated before, namely, the weighting factor due to wrap on a wound string:

$$B = A\left(\frac{D^2}{d^2}-1\right)$$

where **d** and **D** are the steel wire diameter and overall diameter, respectively, and **A** is **0.89, 0.79, 0.27 or 0**, depending on whether the string is wrapped with copper, iron, aluminum or is not wrapped at all.

Let's do an example calculation. Again, let's use the familiar Bechstein F1 monochord since, for this unison, we've already shown how to calculate tension **T** and the quantity (1+**B**) in the December, 1979 article. Recall that **T** = 474 lbs., (1+**B**)= 4.83, **d** = 63 mils and **L** = 75 inches. Before we start calculating, let me explain some features of the inharmonicity formula and also outline a plan of attack. First, notice that we not only have the usual parentheses **( )**, square brackets **[ ]** and curly brackets **{ }**, but also some vertical brackets **| |**. The latter have a very special meaning, which is to regard the calculated expression inside these brackets as being a positive number, whether the calculation works out this way or not. Programmable calculators usually have an ABS button or a $|x^2|$ button to perform this operation. Next, our plan of attack: (1) calc. **S**(1+**B**/8); (2) calc. 3**B**/(1+**B**); (3) calc. the 2 expressions associated with the vertical brackets; (4) add these 2 expressions together, as indicated; (5) then multiply by the result from (2); (6) then add all this to the result from (1); (7) then multiply this (i.e., the expression inside the curly brackets) by (n^2 **−1**); (8) finally, multiply again by 1731. OK? In order to calculate **S** in *step (1)*, you must raise **d** to the 4th power, i.e., multiply **d** by itself 3 times. Thus,

$$S = \frac{63x63x63x63}{139{,}430x75^2x474} = 0.0000424$$

Since (1+**B**/8) = 1.48, then **S** (1+**B**/8) = 0.0000424 x 1.48 = 0.000063, so we've completed step (1). For *step (2)*, since (1+**B**) = 4.83, then **B** must be 3.83, so 3**B**/(1+**B**) = 3 x 3.83/4.83 = 2.38. For *step (3)*, let's assume **a** and **b** are both 0.8". Also, we know **S** now, so $\sqrt{S} = \sqrt{0.000042} = 0.0065$ (use the square root button on your calculator). Therefore, each expression in vertical brackets is (0.8/75)− 0.0065 = 0.01067 − 0.0065 = 0.0042. This is already a positive number, so the vertical brackets don't really change anything. Finally, we have to raise this number to the 3rd power, which is 0.0042 x 0.0042 x 0.0042 = 0.000000074. There are 2 terms like this, so *step (4)* gives 0.00000015. *Step (5)* says multiply this by 2.38 which gives 0.00000041. *Step (6)* gives 0.00006341, demonstrating that, in this particular example, the contribution to inharmonicity from the unwound ends **a** and **b** is negligible compared to the contribution from wire stiffness **S**. If we're interested in the inharmonicity of the 4th partial **(n=4)**, then *step (7)* gives (4^2 − 1) x 0.00006341 = 0.00095. Finally, *step (8)* gives 1731 x 0.00095 = 1.6¢. Thus the calculated inharmonicity in the 4th partial of the Bechstein F1 monochord is 1.6¢.

We'll continue with this subject next month, so stay tuned to this column.... □

Reference: Fundamentals of Musical Acoustics, A. H. Benade, Oxford University Press, New York (1976). All other pertinent references can be found in this book.

IN MEMORIAM
A TRIBUTE TO ED MENKE
Bill Faulkner
(CHICAGO CHAPTER)

I was about 17, I guess, when I became acquainted with Ed Menke, who had a Tuning School connected with the Illinois Industrial Home for the Blind. The year was 1921. He turned out quite a few good tuners from this school. I never heard anyone speak a bad word against Ed Menke nor did I ever hear him speak ill of anyone. The only positive statement I can recall Ed made was "When you think you know this business it's time to die".

I can say this much about Ed; he was a good friend, he was a good teacher, he was a good author; in fact, he was just an all-around good man.

As a youth living in New Orleans with an Uncle, he lost his vision as a result of a fire works accident. With this lost, he knew he had to do something about it. He and his Uncle moved to Chicago, where there were more opportunities for the blind. It was here he learned the tuning business. He was the origin and editor of the Braille Piano Technician, for which he wrote many articles. But his greatest accomplishment was his book, 'Grand and Spinet Pianos'. I honestly believe this is the best textbook ever written for the blind Piano Technician.

When I first knew Ed, about all I could do at that time was to measure different things which he seemed to appreciate very, very much. He did everything he could for his students, even finding employment for them after graduation. Ed was responsible in getting the Chicago School Board to give all their piano work to his students. Sometimes having five or more students out in the field and two or more in the shop. It was steady work, well paid, that the boys could do. Ed also did some tunings himself, but he gave most of it to his students or ex-students.

The first convention I attended with Ed was the 1956 Detroit Convention. He and I attended a good many things after that, including early Piano Technicians Guild Conventions.

Ed Menke was my friend and he was a friend to all the blind. He was an excellent teacher, doing all he could for his students. Giving beyond the call of duty as far as he could, to see that they had everything possible to give them a good start. □

BUT YOU CAN FEEL IT
by Emil B. Fries
Binford & Mort, 414 pp., $12.50

Review by Don Galt

How do you go about reviewing an autobiography? And particularly the autobiography of someone you have known for many years? And again, particularly one in which the author tells of his lifetime experiences in a profession with which you are thoroughly familiar? How can you be sure you are being completely objective as a reviewer ought to be? How can you certainly avoid confusing what you are reading with what you already know?

These questions fill the thoughts of the bemused reviewer until it dawns on him that they are not important, because he finds no conflict between what he already knows and what he is reading. Besides, most readers of this review are also acquainted with the profession, and a great many of them also know the man.

But You Can Feel It is the story of a successful life. Emil Fries has lived his way through and around the obstacle of failing eyesight to achieve independence and success in the practice of an important vocation. He also has trained and inspired scores of other people to achieve the same independence and success themselves. How he did it is what this book is about.

The style of writing is as forthright as the man. The wealth of remembered detail drawn from the author's well-ordered mind is a reproach to those of us who have trouble finding notes on our cluttered desks.

Fries leads us through a rather spartan boyhood with his Danish-born parents and their other children in the Okanogan valley of Washington. It is a life style with which few of us can now identify. It is also a life style in which is rooted the author's stubborn refusal to be defeated by later troubles.

When failing eyesight made it impossible for young Emil to do the required work in the country school, his formal education was interrupted for five years. The hia-

tus ended when a conscientious and sympathetic teacher began giving him special attention. This led indirectly to his enrollment in the Washington State School for the Blind at Vancouver, and to new horizons. Training in Braille opened new doors, and the specialized professional atmosphere of the State School helped to nurture the expanding social adjustment of the apt and eager young man.

With the piano tuning skill learned at the school, Fries later financed his college career at the University of Washington, where he earned a degree in education. In the succeeding years, his two-faceted career of practicing and teaching the art of piano service work has been pursued with outstanding success. The Emil B. Fries Piano Hospital and Training Center continues to thrive as a monument to this career.

The author's personal account of his life experiences is told with frankness and good humor. Some of the story lies between the lines, as he is not one to dwell unduly on the problems encountered. Rather, what comes through is his enthusiasm for their solutions. This fact is nowhere more apparent than in his selection of the title "But You Can Feel It". In this, he quotes his mother's response to an early complaint that he could not see something he had been sent to find. He writes, "Positive thinking became the cornerstone of my little school. I hope that by example, my values and priorities have instilled in students a wider outlook on life with a determination toward steady improvement in workmanship. My mother's advice ... became the foundation for my piano skills and through my teaching enabled many to equal or surpass me in working by touch."

Fries' purpose in writing this book goes far beyond the mere wish to tell a story. For him, counseling and inspiration have always been as important a part of teaching as the impartation of skills and information. In this book he presents his philosophy of teaching which is so inseparably bound up with his philosophy of life. It is his hope that he can contribute to the success of others whose work is the education of the visually handicapped by sharing his own extensive experience. No mere theorist, he recounts a number of case histories showing that his philosophy works. The ultimate proof of the author's purpose is in the fact that he intends that the profits from the sale of this book be placed in a scholarship fund at the Piano Hospital and Training Center.

This is a warm book, and anecdotal. For me, it fulfills the wish expressed by the author in a flyleaf note in my copy, "It is my hope that this book will give readers a clearer understanding of the visually impaired, especially those who service pianos." I hope it will do the same for you. □

Piano Technicians Guild

July 14-18, 1980
23rd Annual Convention and Technical Institute

Philadelphia, Pennsylvania

WHERE IT ALL BEGAN!

Attending a Piano Technician Guild Annual Convention isn't all classwork; you can relax with your friends (old and new) and enjoy the many activities planned for you.

EXHIBITS:

This year, arrangements have been made for over 30 exhibits by many of the industry's top companies. It will be your opportunity to discuss ideas, problems and possible solutions with the very people most likely to know — the service representatives and company officers of piano manufacturers, supply companies, importers, trade schools, electronic tuning equipment firms and others. This year the exhibit will be located in a much more convenient area off the main lobby of the Ben Franklin Hotel.

BANQUET:

Each year the banquet serves as the convention's social highlight. The entertainment planned promises you a wonderful evening! You will be pleased to know that the banquet is being returned to our usual Wednesday evening and will be held in the glamorous Georgian designed "Crystal Ballroom". The spaciousness affords us adequate room for the reception and banquet, which will allow us to have the largest banquet the Guild has ever held.

SPECIAL FEATURES:

Plans have been finalized to add a special feature, "THE BLOCK PARTY" to be held in the Crystal Ballroom, Thursday evening. This event will create the atmosphere of a street carnival complete with booths, games, entertainment, clowns, street musicians, etc.

In addition, there will be a "Flea Market", allowing Technicians and Auxiliary to display their skills and unique items for sale. More details to follow regarding this exciting event. Note: This evening will be kicked off by an enticing "hors d'oeuvre" party to be held in the same Ballroom.

CLOSING LUNCHEON:

At the closing luncheon you'll bid farewell to retiring Guild officers and welcome their replacements, share in award presentations and say goodbye to friends for another year. This is a "must-attend" event that's guaranteed to make you glad you came to "WHERE IT ALL BEGAN!"

Be an "Early Bird" by completing and mailing to the Convention Registration Form to the Home Office.

BENJAMIN FRANKLIN HOTEL

"Blessed is he that expects nothing for he shall never be disappointed." — Benjamin Franklin, 1737

Conveniently centered in the heart of downtown Philadelphia activity, the Benjamin Franklin Hotel is but a short walk from our country's most revered historic shrines: Independence Hall, Carpenters' Hall, Christ Church, Betsy Ross House, Old Custom House, First Bank of the U.S., Elfreth's Alley, and many other reminders of our revolutionary past, including renowned Society Hill and its restored Colonial homes.

BE A WINNER!

"A penny saved is a penny earned." — Benjamin Franklin, 1740.

Register early (by May 15th) and be a winner! There will be two free dinners at the Benjamin Franklin Hotel awarded during the Opening Assembly, $100 awarded at the Closing Luncheon, and four nights lodging given at the Wednesday Evening Banquet. (Winner of the free lodging must be staying at the Benjamin Franklin and must be present at the Wednesday Evening Banquet.) One drawing ticket will be given with your deposit when you register early (May 15th).

REGISTRATION CANCELLATION POLICY

"Well done is better than well said." — Benjamin Franklin, 1738.

Full registration will be refunded if cancellation is received postmarked no later than June 10th. After this date, a 30 percent cancellation fee will apply to all refunds made prior to July 10, 1980. There will be no refund made on any registration cancelled on or after July 10.

CONVENTION $30 CERTIFICATE

Nonmember technicians attending the new convention may obtain a special NEW MEMBER CERTIFICATE valued at $30.00 which may be used to cover the full new member application fee payable to the local chapter when accepted as a Guild Technician before December 31, 1980.

Nonmember spouses may use $6 of the registration fee as Auxiliary dues at the convention.

1980 Technical Institute Update

This may be the last of my "Technical Institute" series before the convention. As much as I have tried to give you new information each month, there is still much to be covered in little space. So let me just list some more classes in an effort to inform you as well as I can.

The subject of "Lubrication" has rarely been covered at National Technical Institutes in the past. John Ford has it all ready for presentation in his class called "Lubrication — Where, When and How". John will not only include every possible area of the piano that needs lubrication, but also show the products most suitable for the job.

One of the most important aspects of successful piano service, I am sure you will agree, is not only being a fine tuner technician but also a good business approach. This year we will have two business-oriented classes. Richard Flegle will repeat his very successful session "The Customer and You" (income tak-tics) and Robert Wagner, newcomer to the Technical Institute, will present his "Selling the Job and Yourself". This class was a tremendous success at last year's Pennsylvania State Conference. If you can use more income, both classes are a must.

In recent years, more and more electric keyboards have made their way to popularity. Electronic instruments are widely used and the tuner technician is often asked to service them. I am happy to announce a brand-new class for the technical institute called "Electronic Instrument Overview –Keyboards and Electronics" will be presented by Kathryn Nickerson. Kathryn will cover amplification, transfer of sounds to electronic energy, as well as tuning aids. Most tuner technicians cannot know enough about piano hammers. Bob Johansen and Ray Negron will show all aspects of production, preparation and partly installation of piano hammers.

Another subject added to the Institute is "Basic Piano Finishing". Wayne Clevenger will show and tell how to strip, prepare, fill, stain, seal and finally rub. Speaking of finish, for some time a new type of finish, widely used in Europe and Japan, is making its way to the American piano market — polyester. Lee Sankey will show factory applications and demonstrate repairs, followed by a "hands-on" period of sanding and polishing.

After years of absence at national institutes, I am happy to welcome an old favorite, Jim Hayes, who will elaborate on the "Behavior of Strings". Jim has studied strings in depth and is considered an authority on the subject. In this class, two registrants will participate and actually splice some strings and make tails.

There is more — and more — but no more space, so permit me to extend an invitation to you. COME TO PHILADELPHIA AND PARTICIPATE IN THE TECHNICAL INSTITUTE. IT WILL BE A 'HANDS-ON" EXPERIENCE. □

—Ernie Juhn,
Institute Director

MEMBER REGISTRATION COPY

Name _____

Home Address _____

City _____

State/Province _____ Zip _____

Nickname for Badge _____
(if not the same as above)

☐ Member ☐ Non-Member
☐ Visually Handicapped
☐ Will be staying at the Benjamin Franklin

Spouse's Name _____
(if attending)

Nickname for Badge _____
(if not the same as above)

Children (names and ages) _____

_____

REGISTRATION CUTOFF DATES
(Cutoff Dates are Firm and Absolute)
Check Boxes and Total

TECHNICIANS

Guild Members

Postmarked by June 1 ..... ☐ $ 80.00
Postmarked after June 1 ..... ☐ $100.00

Non-Guild Members

Postmarked by June 1 ..... ☐ $135.00
Postmarked after June 1 ..... ☐ $155.00

Private Tuning Tutoring (1½ Hours) ☐ $ 25.00
☐ Aural ☐ Visual

Grand Rebuilding ..... ☐ $ 25.00

Installing Grand Pin Blocks (1 Day) ☐ $ 5.00

SPOUSES AND CHILDREN

Auxiliary Member ..... ☐ $ 30.00
Non-Auxiliary Member ..... ☐ $ 40.00
Children (15 and under) ..... ☐ $ 5.00

OPTIONAL FUNCTIONS

Banquet ..... ☐ $ 17.50
Closing Luncheon ..... ☐ $ 12.50

TOTAL ENCLOSED $_____

Tickets for optional functions must be bought no later than 48 hours before the event.

NOTE: Spouses of Piano Technician Guild members and their sons or daughters, age 16 or over, may register for Institute classes at Piano Technicians Guild member rate. Guides of visually handicapped technicians may attend classes at no charge.

CUT CUT CUT CUT

HOME OFFICE REGISTRATION COPY

Name _____

Home Address _____

City _____

State/Province _____ Zip _____

Nickname for Badge _____
(if not the same as above)

☐ Member ☐ Non-Member
☐ Visually Handicapped
☐ Will be staying at the Benjamin Franklin

Spouse's Name _____
(if attending)

Nickname for Badge _____
(if not the same as above)

Children (names and ages) _____

_____

REGISTRATION CUTOFF DATES
(Cutoff Dates are Firm and Absolute)
Check Boxes and Total

TECHNICIANS

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Postmarked after June 1 ..... ☐ $155.00

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☐ Aural ☐ Visual

Grand Rebuilding ..... ☐ $ 25.00

Installing Grand Pin Blocks (1 Day) ☐ $ 5.00

SPOUSES AND CHILDREN

Auxiliary Member ..... ☐ $ 30.00
Non-Auxiliary Member ..... ☐ $ 40.00
Children (15 and under) ..... ☐ $ 5.00

OPTIONAL FUNCTIONS

Banquet ..... ☐ $ 17.50
Closing Luncheon ..... ☐ $ 12.50

TOTAL ENCLOSED $_____

DO NOT WRITE HERE

Date Rec. _____ Priority No. _____

Amt. Pd. _____
Cash _____ Check _____ Money Order _____

Chapter No. _____ Member No. _____

Classification _____

FILL OUT AND MAIL TO:

PIANO TECHNICIANS GUILD
113 Dexter Avenue North
Seattle, Washington 98109

1980 Technical Institute

New Classes

Sharpening the Tools of the Trade — a "hands-on" class with Priscilla and Joel Rappaport

Aftertouch in Grand and Vertical Pianos – with the "Yamaha Team" of LaRoy Edwards, Jack Caskey and Kenzo Utsunomiya

Grand Dampers — a "hands-on" class with Cliff Geers and Willard Sims

Tuning Techniques — with Ben McKlveen

Rebushing Workshop — a "hands-on" class with Evan Giller

Lubricating — When, Where and How — with John Ford

Grand Regulation — a "hands-on" class with models and tools presented by Roger Weisensteiner and his team

Grand Hammer Installation — another "hands-on" class with Willard Snyder, Homer Wagman and David Snyder

Selling the Job and Yourself — with Robert Wagner

Electronic Instrument Overview — with Kathryn Nickerson

Special Tools for Piano Technicians — a class oriented toward the visually impaired, presented by Paul and Jack Sprinkle

Piano Hammer Construction and Preparation — presented by Bob Johansen and Ray Negron

Inharmonicity — What It Is and How to Deal With It — presented by Dr. Albert Sanderson

Hazards of Piano Tuning — a lecture class presented by Walter Pearson

Servicing Harpsichords — with Bill Garlick

Repeat Classes

The Behavior of Strings — after a long absence at conventions, with Jim Hayes

Servicing Teflon Bushings — a "hands-on" class with Fred Drasche

Aural and Visual Tuning — with George Defebaugh and Jim Coleman

Voicing and Tone Regulating — with Norman Neblett

Vertical Servicing and Regulation — presented by Bob Hill, Bud Corey, Lou Herwig, Cliff Andersen and Larry Talbot

The Customer and You — income tax tips with Dick Flegle

Advanced Player Piano Repair and Servicing — with Norman Heischober

Servicing the Aeolian Player Piano — presented by Bob Snyder

Servicing the Rhodes Piano — with Harold Rhodes

Humidity Control Installation — presented by Allen Foote and Wendell Eaton

Special Classes

Complete Grand Rebuilding — this special class will be presented exclusively by Connecticut Chapter members Wally Brooks, Scott Welton, Chris Robinson and Frank Stopa

Pinblock Installation — with Jack Krefting, one day, six periods, repeated three times

Private Tutoring

There will be private aural and visual tutoring classes with the finest instructors possible — Newton Hunt, Carl Wicksell, Bud Willis, George Morgan and others.

MEMBER CALENDAR (Preliminary)

Saturday — July 12, 1980

1:30 pm- 6:00 pm	Registration Open

Sunday — July 13, 1980

10:00 am-12:00 n	Council in Session
12:00 n - 6:00 pm	Registration Open
1:30 pm- 5:00 pm	Council in Session

Monday — July 14, 1980

8:00 am- 9:45 am	Chapter Workshop
8:00 am-	Complete Institute Office Setup
8:00 am- 6:00 pm	Registration
9:00 am- 4:00 pm	Classroom Setups
10:00 am-12:00 n	Council in Session
1:30 pm- 2:15 pm	Regional Caucuses
2:15 pm- 5:00 pm	Council in Session/Officer Elections
7:30 pm- 9:00 pm	Opening Assembly
9:00 pm-10:30 pm	Exhibit Opening/Ribbon Cutting

Tuesday — July 15, 1980

7:30 am-12:00 n	Exhibits (Drawing)
7:30 am-	Membership Services
8:00 am- 6:00 pm	Registration Open
8:30 am-12:00 n	Institute Classes in Session
9:00 am-10:30 am	Board Committee Appointments
1:00 pm- 6:00 pm	Exhibits (Drawing)
1:30 pm- 5:00 pm	Institute Classes in Session
5:15 pm- 6:15 pm	Feminine Technicians Meeting
6:30 pm-	Young Technicians Meeting

Free Evening

Wednesday — July 16, 1980

7:30 am-12:00 n	Exhibits (Drawing)
7:30 am-	Membership Services
8:00 am-	Registration All Day at Office
8:30 am-12:00 n	Institute Classes in Session
1:00 pm- 6:00 pm	Exhibits (Drawing)
1:30 pm- 5:00 pm	Institute Classes in Session
6:45 pm- 7:30 pm	No Host Cocktail/Reception
7:30 pm- 9:30 pm	Banquet

Thursday — July 17, 1980

7:30 am-12:00 n	Exhibits (Drawing)
7:30 am-	Membership Services
8:00 am-	Registration All Day at Office
8:30 am-12:00 n	Institute Classes in Session
11:45 am- 1:30 pm	Membership Services Open
1:00 pm- 6:00 pm	Exhibits (Drawing)
1:30 pm- 5:00 pm	Institute Classes in Session
7:00 pm- 9:00 pm	Block Party — Flea Market

Friday — July 18, 1980

8:00 am- 9:00 am	Committee Meeting
7:30 am-11.00 am	Exhibit Finale (Drawing)
8:30 am-12:00 n	Institute Classes in Session
12:30 pm- 2:00 pm	Closing Luncheon

FILL OUT AND MAIL TO:

PIANO TECHNICIANS GUILD
113 Dexter Avenue North
Seattle, Washington 98109

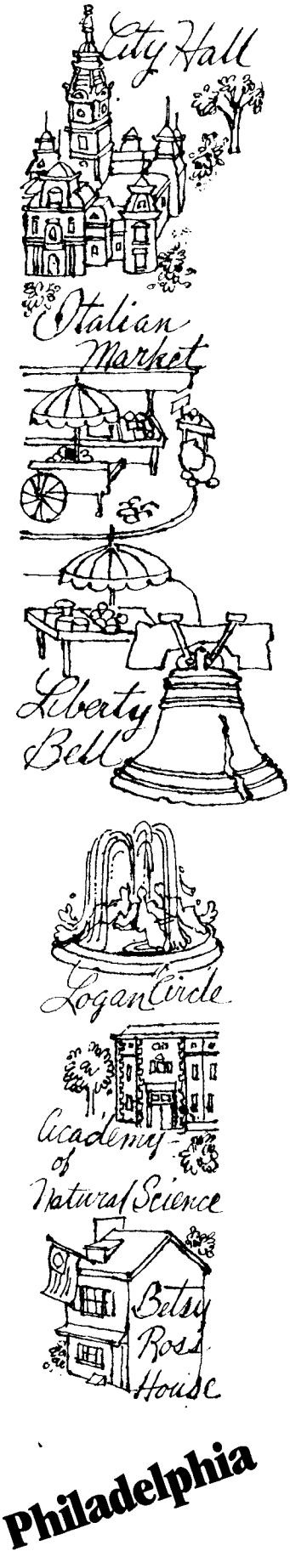
TECHNICAL INSTITUTE
JULY 14-18, 1980

	CLASS	INSTRUCTOR
1.	Sharpening the Tools of the Trade	Priscilla and Joel Rappaport
2.	Aftertouch in Grand and Vertical Pianos	LaRoy Edwards, Jack Caskey, Kenzo Utsunomiya
3.	Grand Dampers	Cliff Geers, Willard Sims
4.	Tuning Techniques	Ben McKlveen
5.	Rebushing Workshop	Evan Giller
6.	Lubricating - When, Where and How	John Ford
7.	Grand Regulation	Roger Weinsensteiner, Eric Johnson
8.	Grand Hammer Installation	Willis Snyder, Homer Wagman, David Snyder
9.	Selling the Job and Yourself	Robert Wagner
10.	Electronic Instrument Overview	Kathryn Nickerson
11.	Special Tools for Visually Handicapped Tech.	Paul and Jack Sprinkle
12.	Piano Hammer Construction and Prep.	Bob Johansen, Ray Negron
13.	Inharmonicity and How to Deal With It	Dr. Albert E. Sanderson
14.	Hazards of Piano Tuning	Walter Pearson
15.	Harpsichord Maintainance	William E. Garlick
16.	Basic Piano Refinishing	Wayne L. Clevenger
17.	Polyester Finish and Touch Up	Lee M. Sankey
18.	Soundboard Soundings	Mathew Slaats
19.	Harmonics and Partials	Gary H. Schultz
20.	The Behavior of Strings	James W. Hayes
21.	Servicing the Teflon Bushings	Fred Drasche
22.	Aural and Visual Tuning	George Defebaugh, James Coleman Sr.
23.	Voicing and Tone Regulating	Norman Neblett
24.	Vertical Servicing and Regulation	B. Corey, B. Hill, L. Herwig, C. Anderson
25.	The Customer and You	Dick Flegle
26.	Advanced Player Repair and Service	Norman Heishober
27.	Player Piano Forum	Norman Heishober
28.	Servicing the Rhodes Piano	Horst L. Absmann
29.	Humidity Control Insulation	Allen Foote, Wendell Eaton
30.	Servicing the Aeolian Player Piano	Robert Snyder
31.	Complete Grand Reguilding	W. Brooks, S. Welton, C. Robinson, F. Stopa
32.	Pinblock Installation	Jack Krefting
33.	Private Tutoring	N. Hunt, C. Wicksell, B. Willis, G. Morgan
34.	Kohler and Campbell (Product Clinic)	Ruth Ann Jordan, B. Connelly Otis Oxford, Baxter Edmisten
35.	Schaff Piano Supply (Product Clinic)	David Johnson
36.	McCall and Monroe Piano Service (Product Clinic)	Raye McCall
	Tuning Concert	Charlie Huether 3:00 pm - 4:30 pm

* CLASS PERIODS 1 = 8:30 am to 10:00 am 2 = 10:30 am to Noon

TUESDAY 15TH PERIOD *				WEDNESDAY 16TH PERIOD *				THURSDAY 17TH PERIOD *				FRIDAY 18TH PERIOD *		CLASSROOM
1	2	3	4	1	2	3	4	1	2	3	4	1	2	
X	X			X	X						X	X		Poor Richard "B"
X	X					X	X					X	X	Franklin
		X	X			X	X	X					X	Poor Richard "B"
X	X					X	X	X			X			William Penn
		X	X	X	X						X		X	Valley Forge "A"
X	X					X	X				X	X		Poor Richard "A"
X	X	X	X					X	X	X	X	X		Betsy Ross "B"
X	X	X	X	X	X	X	X							Betsy Ross "A"
X							X	X						Commodore
										X	X			Valley Forge "B"
		X					X							Room 455
								X		X		X		Betsy Ross "A"
		X	X	X	X							X	X	William Penn
	X					X			X					Commodore
		X		X									X	Poor Richard "A"
X					X					X				Room 455
	X					X		X						Room 455
					X			X				X		Room 404
									X	X				Poor Richard "B"
		X	X	X	X					X	X			Franklin
X	X					X	X	X				X		Valley Forge "A"
X	X	X	X	X	X	X	X					X	X	Valley Forge "B"
		X	X	X	X	X	X	X	X	X				Valley Forge "B"
														Washington
			X	X							X			Commodore
	X			X										Room 454
											X			Room 454
			X		X			X						Poor Richard "A"
		X			X					X				Commodore
			X			X								Room 454
														Philadelphia
														Room 456
						X								Room 404
									X					Room 404
			X											Room 404
														Franklin Suite

3 = 1:30 pm to 3:00 pm 4 = 3:30 pm to 5:00 pm



Class Description

1. SHARPENING THE TOOLS OF THE TRADE — Priscilla and Joel Rappaport — After demonstration of the preparation of cutting tools used in the shop, participants will sharpen commonly used tools and complete a short project. Sources of tools and paraphernalia will be provided. Tools and stones will be sold following the last class (sale at 10:00 a.m. July 18th).

2. AFTERTOUCH IN GRAND AND VERTICAL PIANOS — LaRoy Edwards, Jack Caskey, Kenzo Utsunomiya and Joe Dennis — Aftertouch in Grand and Vertical pianos. An exploration into their subtleties of regulation as the designer of actions intended. Discovering the functions of the vertical action that replace the repetition lever and spring of the grand action. It lays the groundwork for deciding unknown measurements and how to bend the rules for special situations.

3. GRAND DAMPERS — Cliff Geers and Willard Sims — The class consists of parts like presentation and parts "show and tell". Various types of damper felts and felt characteristics will be discussed and explained. Damper bending and actual bending of the wires will be covered as well as trouble shooting.

4. TUNING TECHNIQUES — Ben McKlveen — A class designed to help tuners deal with tuning problems. There will be a little discussion of theory. Main accent will be on practical application of skills. Included will also be discussions and demonstrations of various temperaments, development of good hammer techniques, octave tuning and stretching as well as problems encountered with different pianos.

5. REBUSHING WORKSHOP — by Evan Giller

6. LUBRICATION — WHERE, WHEN, HOW AND PRODUCTS — John Ford — Will cover all areas in the piano that need lubrication. It will be thorough coverage, not only of parts to be lubricated but also the lubricants to be used.

7. GRAND REGULATION — Roger Weisensteiner and Eric Johnson — This is a basic Grand Regulating Class. It will cover everything from the floor up (Pedals and Keybed) to actual action regulation with "Hands On" regulating done by participants. Although no prior knowledge is presumed, this class should also be of value to the experienced technician. Models of Renner, Schwander and Pratt Read will be available as well as regulating tools.

8. GRAND HAMMER INSTALLATION — Willis P. Snyder, Homer Wagman, David B. Snyder — A "Hands-On" class which will cover complete grand hammer installation, including preparation, etc.

9. SELLING THE JOB AND YOURSELF — Bob Wagner — This class will focus on increasing your income by selling the job and yourself. Emphasis will be on basic and advanced concepts of selling, and special approaches for the technicians products and work. Also included will be verbal communication, pre-selling and professional image.

10. ELECTRONIC INSTRUMENT OVERVIEW — Kathryn Nickerson — Keyboards and Electronics — Will cover types of keyboards; amplification — Why it is necessary; the acoustic piano and amplification; music theory and electronic implications; the transfer of sound to electrical energy; the amplification process, and tuning of electric keyboards and electronic tuning aids.

11. SPECIAL TOOLS FOR VISUALLY HANDICAPPED TECHNICIANS — by Paul and Jack Sprinkle

12. PIANO HAMMER CONSTRUCTION AND PREPARATION — Bob Johansen and Ray Negron — In this class all aspects of production, preparation, installation and ordering of piano hammers will be covered. This class too will include some class participation.

13. INHARMONICITY AND PIANO TUNING — Dr. Albert E. Sanderson — Inharmonicity is both the piano tuners best friend and worst enemy. This class will begin with the definition of inharmonicity and go into some theory — what causes it and how to measure it and the effect will be demonstrated. Finally a two octave aural temperament will be demonstrated.

14. HAZARDS OF PIANO TUNING — Walter Pearson — This is a class not intended to teach tuning, but deal with other related and sometimes little understood problems. It should be of interest to the experienced tuner and short cut to experience for the novice.

15. HARPSICHORD MAINTENANCE — William Garlick — This class deals with routine maintenance of the harpsichord. Participants will have an opportunity to actually perform some of the work involved in the servicing of the instrument.

16. BASIC PIANO REFINISHING — Wayne L. Clevenger — In this class the basic piano refinishing process will be explained with samples and slides. Included will be stripping, wood preparation, filling, staining, sealing, final finish and rub down.

17. POLYESTER FINISH AND TOUCH-UP — Lee Sankey — Lee will start with a brief slide presentation of factory applications and will continue with discussion of what polyester is and finally a "hands-on" session including sanding and polishing.

18. SOUNDBOARD SOUNDINGS — Mathew Slaats — A presentation dealing with the principles and function of the soundboard in the chain of sound reproduction in the piano. Included will be a number of slides and graphs and above all questions from class participants which should make this presentation lively and informative.

19. HARMONICS AND PARTIALS — Gary H. Schultz

20. THE BEHAVIOR OF STRINGS — Jim Hayes — A class that deals with the tensile strength of knots, calculation of tension, and the practical application of the above to the piano. This includes tuning techniques as applied to string behavior. Group participation will include making splices and tails.

21. SERVICING THE TEFLON BUSHING — Fred Drashe — Technicians will have an opportunity to actually perform all necessary steps required in servicing the Teflon Bushing. Included will be installation, reaming for proper fitting of center pin as well as discussion on how to remedy too tight and too loose bushings.

22. TUNING, VISUAL AND AURAL — George Defebaugh and Jim Colman Sr. — Explanations and demonstrations on pitch-raising, fast temperament setting (2 minutes), fine tuning, inharmonicity, and aural and visual comparisons on grand and vertical piano tunings.

23. VOICING AND TONE REGULATION — Norman Neblett — Outlines 40 minutes of slides showing the principles of tone regulation including strings, hammers, dampers and hammer filing. Following this is the actual demonstration of all the things shown in the slides. Questions are invited at all phases of the demonstration.

24. VERTICAL SERVICE AND REGULATIONS — Bud Corey, Bob Hill, Lou Herwig and Cliff Anderson — This class will cover trouble shooting and key problems, examination and service of back and stringing, "False Beats". Removal of drop type action, student participation using three key-action models as well as sounding board and repairs with Lou Herwig. This class lasts all day and is repeated three times.

25. THE CUSTOMER AND YOU — Dick Flegle — Examines customer relationships and how to put yourself in control when dealing with clients, plus money-earning ideas on how to raise your income.

26. ADVANCED PLAYER SERVICING AND PLAYER PIANO FORUM — Norm Heischober — For player piano technicians who wish to examine more fully the intricacies involved in this area of piano service.

27. PLAYER PIANO FORUM — Norman Heishober — A discussion area which will be used to explore in depth various problems encountered in the field of player piano service.

28. SERVICING THE RHODES PIANO — Horst L. Absmann — Includes complete introduction into the Rhodes Piano including all models over the last 15 years. Covered will be tuning techniques, action regulation and repair, tone bar replacement, etc.

29. HUMIDITY CONTROL INSULATION — Allen Foote-Wendell Eaton — Class will be set up in teams of two. Each team will work on individual mock-up piano cases doing actual installations of humidity control products.

30. SERVICING THE AEOLIAN PLAYER PIANO — Bob Snyder — Class will include explanation of the operation of the Aeolian Player Piano with servicing hints.

31. COMPLETE GRAND REBUILDING — Wally Brooks, Scott Welton, Chris Robinson and Frank Stopa — This class will be aimed at the technician with a good working knowledge of piano repairing and regulating, who wishes to proceed in his/her trade in the art of complete restoration. Some of the subjects to be covered include: appraising and estimating plate removal and replacement; action and key restoring; hammer replacement, fully fitted pin block replacement, sounding board repairs, bridge capping, restringing, fine regulating and voicing the finished piano. There will be some "Hands-On" sessions and the piano will be completed for sale at the convention.

32. GRAND PINBLOCK REPLACEMENT — Jack Krefting — Lecture-Demonstration: 1) Principles and Theory 2) How-To: Tools and Techniques 3) Installation problems - specific makes 4) Drilling equipment and procedures 5) Questions and answers.

33. PRIVATE TUNING TUTORING — Newton Hunt, Carl Wicksell, Bud Willis, George Morgan, Ruth Ann Jordan, Bill Connelly and others — These private classes are for technicians who have already had several years of training but would like special help in certain areas involving tuning. Classes are not for beginners and all discussions must be only on tuning.

34. KOHLER AND CAMPBELL PRODUCT CLINIC — Otis Oxford, Baxter Edmisten

35. SCHAFF PIANO SUPPLY PRODUCT CLINIC — David Johnson

36. McCALL MONROE PIANO SERVICE PRODUCT CLINIC — Raye McCall

THE AUXILIARY EXCHANGE

Luellyn Preuitt

"My apologies to Belva Flagle for misspelling her name in the May Journal."

We are going to hear first this month from **Bert Sierota**, a member of the Philadelphia host chapter to the twenty-third annual convention of the Piano Technicians Guild and its Auxiliary. She says — "WELCOME!! Did you know — Did anyone ever mention that ... a hotel has been located on a particular site in Philadelphia since 1860!!!! It is the Benjamin Franklin Hotel, site of the twenty-third annual Piano Technicians Guild convention, July 13-18, 1980, and it presents an atmosphere of good will and Philadelphia spirit. Franklin himself would admit that this spirit cannot be bought and paid for. Though a stranger in the city the guest senses the feeling of a home away from home, made possible by the staff's efforts to make your stay a pleasant one.

"Its structure of steel and concrete towers eighteen stories high covers almost one city square with an exterior of dull red brick and Indiana limestone in Georgian lines. The three tower construction gives outside light and air to every guest room.

"The majestic lobby, with its marble floors and columns, walls and stairways, and beautiful lofty ceiling, is a sight to behold. Ornamental plaster work on which pure gold has been used forms a magnificent ceiling. A feeling of intimacy within a spacious area is achieved by the careful placing of lounges and chairs in small units throughout the lobby.

"There are a variety of shops for your convenience; a Newsstand, Gift Shop, Jeweler, Florist, Beauty Salon, Barber, etc., etc.

"The Benjamin Franklin is indeed an ideal site for a convention because of its unlimited facilities.

"Of course, it was not always thus. In 1858, the Continental Hotel, a structure six stories high on the Chestnut Street front, rising to eight stories on the back, was erected. The Continental was the largest hotel in the United States, and had no superior in the world.

"The Continental Hotel had many important guests. A few were — the Prince of Wales, afterward King Edward VII, the Japanese embassy, Charles Dickens, P. T. Barnum, 'Buffalo Bill' Cody, Dom Pedro Emperor of Brazil, General and Mrs. Grant, Sarah Bernhardt, Melba, Lillian Russell, Abe Lincoln, and other greats.

"On February 21, 1861, President Lincoln visited the Continental Hotel and held an informal reception at the head of the grand staircase. The following day, he delivered his historic address at the raising of a flag over Independence Hall.

"On October 21, 1861, while traveling to his inaugural, Lincoln, referring to 'The Teachings coming forth from that sacred Independence Hall' proclaimed: MAY MY RIGHT HAND FORGET ITS CUNNING AND MY TONGUE CLEAVE TO THE ROOF OF MY MOUTH IF I EVER PROVE FALSE TO THESE TEACHINGS'. On the one hundredth anniversary of this proclamation a plaque was dedicated.

"The Continental Hotel was replaced by the Benjamin Franklin in 1925, an even larger and more modern hotel still providing hospitality to the distinguished of today.

"If Ben Franklin could return to Philadelphia today and visit the hotel bearing his name he would be pleased to see that the Old Philadelphia Spirit combined with all the modern facilities still remain. He would find that Philadelphia's old reputation for providing comfort and good cheer is well maintained.

"Join us in Philadelphia in July and experience for yourself all that we seem to take for granted! WELCOME — **Bert Sierota**"

Doesn't that make you more eager to attend??????

President Jewell has additional information for us —

"Hello to all. Time certainly flies by, doesn't it!!! I can hardly believe it's only a month to convention time. We have had a good year, welcoming several new members and a renewed chapter. I'll let membership chairman **Julie Berry** tell you about this later.

"Convention planning has gone very well and you will find that the Philadelphia chapter has an excellent program for our enjoyment. With skyrocketing inflation, what better way to expend your vacation dollars than by attending an educational program, combined with fun and entertainment? The Auxiliary Hospitality room is open to everyone. We will have, in addition to the classes and tours, continuing crafts, entertainment and friendship for one and all. Children are welcome.

"All auxiliary functions will be held in the hospitality room with

the exception of the President's Tea and Installation Luncheon. These will be held in the beautiful Crystal Ballroom.

"If you are attending convention for the first time, don't be shy and stay in your room. Come to the Hospitality Room — there will be someone there to greet you and make you welcome. It will be easy to find. It is the Thomas Jefferson room, on the second floor. Take the hallway to the right of the elevators, go to the end and turn left. We will be in the last room on the right (next to the 'Weight Control Center!').

"By now you should have your packet containing the convention program information and agenda. As you will notice, I have nothing scheduled for the two days of the Piano Technicians Guild Council meeting. Those of us who will be there during that time will 'ad lib' — maybe taking in a matinee or concert in the park. You will also notice I have not planned a chapel service. There are many great historical places of worship near the hotel for your own discretion. Or, we can visit the Old Swedes Church (the first church built in Philadelphia), which I believe is still in use.

"In my planning I have tried to include one class per day of interest. **Barbara Martin** is going to present her class again this year. There were many requests from those who missed it last year for it to be included. **Kathryn Snyder** will give her outstanding slide show on pianos. **Bill Pealer**, a craftsman member of the North Virginia chapter, has made miniature models of pianos which can be taken apart and re-assembled while discussing the functions of each section. Then, if time allows, I may be able to get **Jack Sprinkle** to give his talk about the different types of piano actions.

We will again have our talent show, under the direction of first lady **Ginny Russell**. I hope we have a good turnout of talent as we did last year. I will not be belly dancing this year, I promise.

The Past Presidents will be honored with a tea and concert performance by our own **Marge Williams**. The installation of officers will be under the command of **Ruby Stiefel** during our annual luncheon.

The three tours which will be offered all three days will be: 1) The Mint; 2) Independence Square; and 3) The Gallery, a beautiful new shopping center.

"On the afternoon of the seventeenth, I wish to meet with members of the Western Region and set plans for the twenty-fourth annual convention, to be held in San Francisco. Friday morning has been left free for packing, etc.

"There is a surprise in the planning. You will have to come to Philadelphia to find out what this is. I hope you will like it! WELCOME!!! — **Jewell**"

As **Jewell** promised, membership chairman **Julie Berry** has news of new members and a reorganized chapter. We certainly welcome the following new members; **Melinda (Mrs. Gerry) Caunter**, 2485 West 7th Avenue, Vancouver, B.C., Canada, V6K 1Y6. Melinda is a member at large. Another new member is **Nona (Mrs. Lynwood) Koford**, 4112 Cathann Street, Terrace, California 90503. Nona is a member of the Los Angeles auxiliary. WELCOME to Melinda and Nona!

Julie also reports on an Auxiliary chapter which has recently reorganized and will receive a new charter in Philadelphia. This is the Syracuse chapter. Its members are; **Mrs. Marjorie Williams, Mrs. Marge Moonan, Mrs. Frances Bliss and Mrs. Jacque Grenning. Their officers are; Marjorie Williams, president, Marge Moonan, vice-president, Frances Bliss, secretary-treasurer. Marge Williams and Frances Bliss** were members-at-large, and **Jacque Grenning and Marge Moonan** are new members. The new president writes: "We are not overly active as a group but will be this next year as there is going to be a New York State Seminar in Syracuse October 16-18, 1980, and I think we will have work to do all right!" Congratulations to the Syracuse chapter on the occasion of its renewal!

Julie also has a message for us this month — "Not long ago President **Jewell Sprinkle** suggested I write something for the Auxiliary Exchange about my role as membership chairman for the Piano Technicians Guild Auxiliary. After reading **Martha Riley's** article in the March 1980 Auxiliary Exchange, I was prompted to sort out my thoughts about working as membership chairman for our group.

"Martha begins her article with a theme which gives us enough food for many years of thought: 'Changes are occurring in the makeup of the Piano Technicians Guild and of the Auxiliary. The Auxiliary now serves the needs of a number of different groups of women, and even some men.'

"The fact that our group must meet the needs of several different types of people is not a new idea to us, so I don't think we should be afraid to flow with the changes that are taking place. Ever since our organization began, we have been challenged to blend and to appreciate our differences. We have always been a group characterized by a variety of backgrounds, interests, and ages. In fact, it has often amazed me to find I really *enjoy* spending time in the company of people who are very different from me in many ways; in the beginning it was difficult to make my way among such an awesome group, but soon I discovered that the things we shared were a good starting point for learning about the things which make us different.

"As I read Martha's letter, I wondered if some of our members might be afraid to think about the changes which are ahead of us. Status quo often seems to be more comfortable than changes because no one knows exactly what change will bring. I think Martha's point that even though we may not feel directly involved, these changes affect us all, . . . , and our ways of relating to each other, is a point well taken. We cannot hide from the fact that men may want to become active in our group or that some of our members may want to know about business building and technical work while others don't even want to be in the same room with a

whippen or a flange. However, the thought that we must all acknowledge we have different interests should not threaten us. It is only natural for us to wonder what kind of programming we can arrange to please such a diverse group. There is no way for us to know what the best arrangement will be. In fact, it will take us a while to learn what kind of programs will be most successful. The men who are brave enough to join our group will not know in most cases exactly what to expect from the group, but I know they won't be harsh on us for not knowing exactly how to change to meet their needs as members of the Auxiliary.

"It is not only with our male members that we will have to learn what the Auxiliary can do to accommodate; we will also have to figure out what kinds of ways we can serve the needs of Auxiliary members who come to the Piano Technicians Guild functions to spend a little time away from their own careers but who are not interested in piano tuning-related things. What are our responsibilities to this segment of our membership, or rather, what can we offer that they will enjoy? And what can we offer that will please the young mother as well as the retiree? In fact, is it feasible, or even possible, to please them both at the same time?

"I offer these observations for your consideration:

1) "the problem is not a stumbling block but a challenge for us to come up with some creative solutions for meeting the widespread needs of our membership.

2) "the situation takes on new dimensions once we get to know the 'male spouse', the 'young mother', or the 'retiree', because then we begin to think of these people as individuals with personalities and characteristics which transcend the labels which classify them. (For instance, when I read discussions of how auxiliary members and women technicians should work together for better communication, it sounds like a big order. But when I think of the friendships I have with the women who are craftsmen in our local chapter, I realize it isn't such an improbable idea. In fact, it is a natural occurrence.) If we relate to each other as people who assume they will enjoy each other's company, many of our differences don't enter into the picture at all.

3) "We should each remember how we felt when we were on the outside looking in at Auxiliary membership. Everybody feels different and alone before being accepted by the rest of the group, even if the only reason for not being accepted is that no one inside the group realized how it feels to be an outsider. If we make an effort to bring that outsider in, the challenge of how to serve the needs of our membership will be half met. Thanks for listening — **Julie**".

Julie's last point must bring back memories to many readers. She is right when she says we should remember how we felt when we were on the outside looking in at Auxiliary membership. We so need to conquer our reluctance of the unknown — be it a person, a circumstance or a change in direction — and cultivate a willingness to participate in the "new age".

See you in Philadelphia — WELCOME!!!! □

As of this time, **Layleth Qualls** has been hospitalized for nine weeks for extensive testing for a heart condition. Cards and good wishes may be sent to her in care of:

Floyd Qualls
111 N.W. 25th
Oklahoma City, OK 73103

VACUUM LINE

Raye McCall

A short time ago I received an inquiry asking for some information about pumps. One might think that this is a simple subject with which to deal. However, when you think about it a bit, you soon come to the awareness that this is a fairly exhaustive subject and in order to get the most out of it, we will all have to work at it. Since there is quite a bit that needs to be said on the subject of pumps, the subject will be dealt with in two parts; this article being the first installment.

Pumps come in several configurations and sizes. The word "vacuum" has already been discussed and so will not be dealt with further. I mention it here simply to refresh your memory that the player piano operates on vacuum so therefore the function of the pump is to produce or generate said vacuum. When I was a small boy, my grandfather used to tell me that little children should be seen and not heard. This same philosophy applies to the vacuum pump. It should fulfill its role of producing an ample amount of vacuum, and do it very quietly. Once in a long while an electric pump will get noisy so that it begins to wheeze like a household vacuum cleaner. When this happens about the only thing you can do is replace it with a new unit from the proper manufacturer.

To paraphrase a childhood rhyme:

The time has come, the
technician said,
To talk of many things;
Of fabrics, leathers, gussets
linkages and springs.

This little ditty will serve to introduce the type of pump with which you need to familiarize yourself first — the foot pumper.

The foot pump assembly will consist of two exhausters connected to and operated by two foot pedals, at least one vacuum reservoir or equalizer, a full complement of linkages, slide and flap valves, and springs. The springs use either inward or outward pressure. They are flat, riveted together at one end while at the opposite end there are two points at 90 degrees to the flat surface of the spring. The purpose of the points is to penetrate into the wood. WHEN HANDLING THESE SPRINGS, TREAT THEM WITH RESPECT!!! If you are not careful, they will bite.

For purposes of this discussion, I am going to assume that you are completely restoring the foot pump assembly. Therefore, in order that our thinking will be together, I will be talking about a complete disassembling of the unit. As in any other aspect of piano work, we have to deal with several different manufacturer's ways of building. In some pumps, everything is screwed together, hence it comes apart easily. Obviously this will greatly simplify your task because you can work on one part at a time. You will find other pumps in which everything is glued together. These are much tougher to work with because you must constantly wrestle with the whole unit in everything you do. It becomes readily apparent that this commentary will not address itself to a particular design but rather procedures in general.

Since we are now beginning to consider the process called restoring, there are some very basic principles that need to become an indispensable part of your thinking. The first of these is the need to make complete notes augmented by very concise drawings. These will contribute greatly to your efficiency and are paramount to your success, especially if you are a novice. Second — when you remove screws, put them in an envelope on which you have identified them. Third — label *all* parts. You might think that very elementary but let me assure you that when everything is disassembled and several weeks have passed, you are suddenly face to face with the stark reality of your limited powers of retention. Of course you will not neglect to take some measurements and these will also appear in your notes. The measurements you will want are the width of the exhausters and equalizer(s) at full, open capacity and the total distance around each one.

Upon completion of all of the above, you are ready to disassemble everything ... EVERYTHING. When you take off the exhauster fabric, you may find gussets inside. If you can carefully remove these and use them again, do so. Most likely you will find when you have removed them all they are good for is to use as a pattern from which to make new ones. (Gussets, what they are, their correct size and placement will be discussed

later.) All of the metal parts in the pedal assembly should be cleaned. You may find brass parts which can be polished as well as those which should be chrome plated. If you have never worked with a chrome plater, do all the checking you can possibly do to ascertain who is the most reliable. What you do not need is someone who loses parts for you!

All of the wood parts need to be sealed on the inner surfaces and a new finish applied to the outer or exposed areas. Cosmetics does not have a lot to do with function but if you say you are restoring it, take enough pride in your work to polish screw heads. You will find it pays off. About sealing the wood: materials which can be used are either lacquer sanding sealer or white glue. White glue is easy to use and not too costly. For this purpose it must be thinned fifty percent with water and applied using a paint brush.

You should also replace the four flap valves which you found in the exhausters — two outer and two inner valves. It has been our experience that the selection of leather for use here must be done very carefully. We have tried several kinds and finally settled on Ooze Split leather. After we cut out our new flap valves, we then seal the leather using PVCE glue. When it has dried we put talcum powder on the sealed surfaces and this removes all tackiness. If the leather is not sealed, vacuum will be lost through it.

The selection of fabric to cover the exhausters and equalizer(s) is also critical. The fabric which is sold as being the correct material for pumps is not what we use. The material with which we have had much success is black convertible car top fabric. We have found it to be more airtight and capable of longer life.

The next issue of Vacuum Line will be a continuation of the discussion on the subject of pumps. □

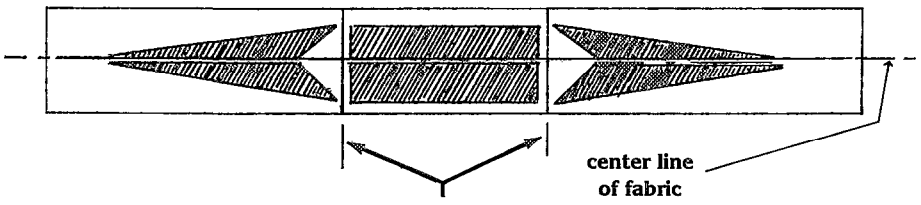


FIG. 1

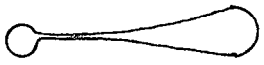


FIG. 2

Coming Events

Notices of seminars will be accepted for insertion in THE JOURNAL no sooner than six months before an event. In addition to the listing below, your seminar may be publicized through one free display ad, two columns by two inches deep. It is the responsibility of the advertiser to submit copy for the ad to the Home Office. Material must be received six weeks prior to the publication date of THE JOURNAL.

Note: *All seminar dates must be approved by the Conference Seminar Committee. Please submit the appropriate information on the Request for Seminar Approval Form* **which may be obtained from the Home Office.**

June 7, 1980
FRESNO CHAPTER TECH. SEMINAR
Fresno, California

Contact: Charles Hansen
504 North Walch
Porterville, CA 93257

July 14-18, 1980
Piano Technicians Guild
23RD ANNUAL CONVENTION & TECHNICAL INSTITUTE
Philadelphia, Pennsylvania

September 19-21, 1980
WISCONSIN DAYS SEMINAR
Milwaukee, Wisconsin

Contact: Jonathan Moberg
2420 N. Bremen Street
Milwaukee, WI 53212

October 5-7, 1980
FLORIDA STATE CONVENTION
Jacksonville, Florida

Contact: Barney J. Johns
3546 Oleander St.
Jacksonville, FL 32205

October 11-12, 1980
OHIO STATE CONFERENCE
Cincinnati, Ohio

Contact: Willard Sims
c/o Baldwin Piano & Organ
1801 Gilbert Avenue
Cincinnati, OH 45202

Oct. 16-19, 1980
New York State Convention
of Piano Technicians Guild

Contact: William Moonan
811 Amherst Drive
Rome, NY 13440

October 17-18, 1980
TEXAS STATE SEMINAR
Dallas, Texas

Contact: Martin Wisenbaker
808 Cordell
Houston, TX 77009

A Chapter Report

Libby Blatt, Journal Correspondent, Washington, D.C. Chapter
Fred Fornwalt, Chairman, Teacher Relations Committee

The Washington, D.C. Chapter had the rare opportunity of being in contact with hundreds of music teachers from all over the United States and several foreign countries when the Music Teachers National Association held their National Convention at the Shoreham Hotel in Washington, D.C. March 14-21, 1980. This Chapter had the privilege of representing the Piano Technicians Guild at this event where 1,426 music teachers attended 7 days of programs, classes, and recitals.

On Friday, March 14th, 17 pianos were delivered to the hotel (most of them green — straight from the crate) and from then on through the 21st, the dedicated technicians of the Washington, D.C. Chapter prepared and tuned those instruments for the many performances, competitions and classroom demonstrations for which they were destined. In all, 55 tunings were done as well as numerous adjustments and spot repairs. In exchange for the tunings, 2 classroom sessions were provided us which we utilized as follows: "*Piano Service and What It Really Means*" was presented by Ned Dodson and Carlos Ralon and included an explanation of the Guild, the advantages of selecting a Guild technician, what to expect from your technician, things **not** to do with your piano and why a piano goes out of tune. A lively question and answer period followed which brought to light (again) that piano teachers are sincerely interested in learning more about the care of their valuable instruments. "*Reconditioning and Rebuilding – The Important Differences and Regulation and Voicing – Why and When*" was presented as a panel discussion with Marshall Hawkins as moderator and panelists Wendell Eaton, Dave Hipkins, Ernie Weissenborn and Orman Pratt. As in the previous class, the audience showed enormous interest by their attention and questions and really seemed genuinely fascinated — so much so that when the session was closing and they were invited to come up if they wanted to continue to speak with the panelists, they rose as one and converged on the podium.

From March 18-21st, the Booth was manned by 14 different Chapter members who demonstrated grand hammer hanging, filing and regulation. An upright piano also was used to demonstrate tuning and upright action regulation. We also displayed the Guild Banner and a poster-sized Credo. A high degree of interest was shown by the number of teachers who stopped questions about piano maintenance and where to find a "good technician". They were delighted with our ability to look up technicians in their area with our directory. A good deal of giveaway literature was available along with pencils inscribed "*Happiness is a tuned Piano – Compliments of the Piano Technicians Guild*".

This was a dedicated effort by the entire chapter membership and we are all proud to have taken part in this most important event.□

VON DER WERKSTATT

Priscilla and Joel Rappaport

HOW "REBUILT" IS REBUILT?

We would like to continue last month's discussion of what is meant by the term "rebuilt" by taking a closer look at rebuilt pianos that we have run into over the past few years. Let's look at some old pianos that have never had an extensive overhaul. Twenty to thirty years ago an upright or grand built before 1930 was certainly in better shape than it would be today. With many of these instruments it was possible then (20-30 years ago) to "recondition" them; that means cleaning, hammer filing, new bass strings, oversized tuning pins here and there, and regulation. Candidates for this reconditioning still had good boards and relatively new pinblocks.

Today these instruments are now 50-80 years old and their condition has further deteriorated from 20-30 years ago: soundboards could now be severely cracked or falling out, pinblocks need replacement, mice and moths have been there several times eating everything that appeals to them, actions don't work, etc. These instruments need a *complete* major job to restore them to "rebuilt" condition.

Let's look at several definitions of the term "rebuilt" as we have found out in the field. The list shows categories (we assure you there are many more) that represent an actual rebuilding job. The list starts with the most complete like-new piano and ends with the least satisfactory job.

PIANO REBUILT I

Everything is newly replaced except plate and case parts. New soundboard, new pinblock, new action rails and parts (hammers, shanks, whippens, damper felts). Rebush lyre.

PIANO REBUILT II

New soundboard, new pinblock, new action parts. Original action rails, stack and keyboard. Dampers refelted, guide rails and keys rebushed. Rebush lyre.

PIANO REBUILT III

Soundboard repaired or used as is if it is in perfect condition, new pinblock, whippens repinned, frame refelted, new hammers and shanks. Rebush lyre.

PIANO REBUILT IV

Same as in III except *old* pinblock has been repinned with larger pins. Block may or may not be doped.

PIANO REBUILT V

Soundboard with cracks left as is but refinished. Restrung using old block and larger pins. Plate sprayed. Action work same as in II: parts refelted, repinned, new hammers, shanks and whippens.

PIANO REBUILT VI

Soundboard left with cracks. Plate sprayed in piano. Restrung with old block and larger pins (block laminations coming apart). New hammers, new whippens, old damper felts, no action repinning.

PIANO REBUILT VII

Soundboard left with cracks, ribs loose. Restrung with oversize pins. New hammers, new key tops. Old damper felts, old shanks and knuckles (flat). No new felts in action.

PIANO REBUILT VIII

Dust Blown Out!

Leading technicians recommend not to take on a job unless you are prepared to handle it all in your shop or through colleagues by farming it out. Technicians often get into trouble by not accurately assessing the entire instrument and what it really needs. Many just say, "I'll restring it — that's all it needs"; that's all they can do and ignore many other major areas of work that need to be done to bring that instrument up to good standards.

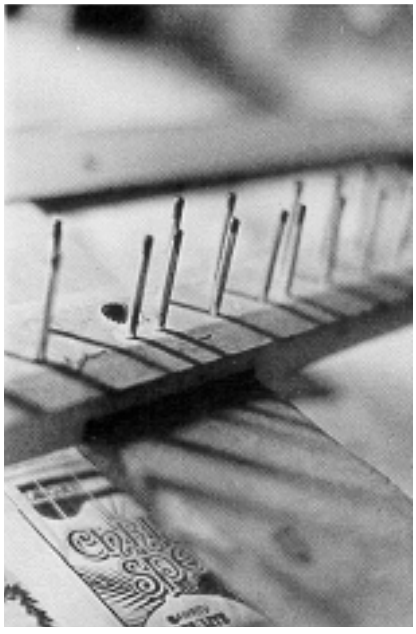
If we assume the definition of rebuilt as discussed in this column last month, one should be cautioned against representing work in categories IV-VIII as being called "rebuilt." Work on pianos such as mentioned in these categories is truly not rebuilding and to call it such is misleading to the customer and degrading to the profession. For a piano to be rebuilt, you should be prepared to do all the work in categories I-III that is needed for that instrument.

There are many pianos around in poor to wretched condition, needing everything from soundboards to new actions. Many of these are owned by families trying to give their children the opportunity to learn piano. They got the instrument for next to nothing and call you to tune it and fix it up for about half of what they already have in it. You must be prepared to accurately evaluate this type of situation and take a firm stand on

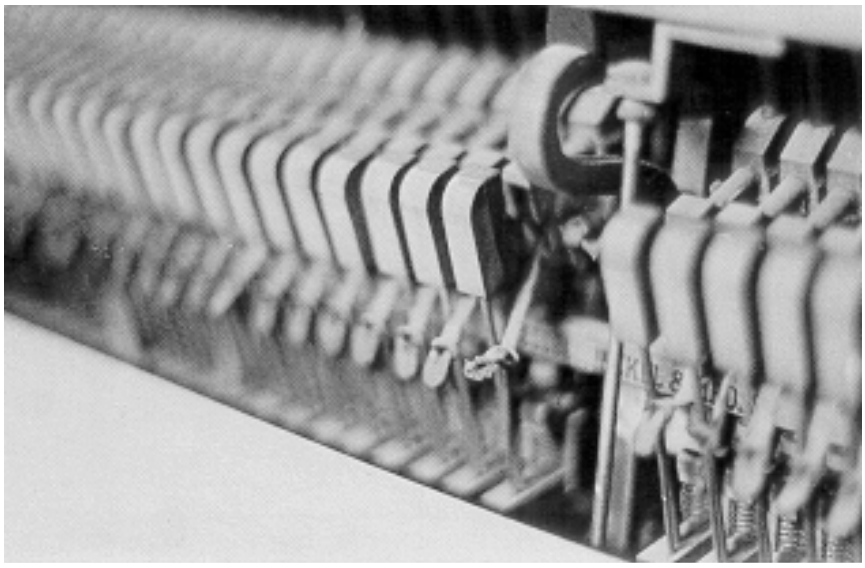
what can and can not be done. Many instruments can, with minor repairs, be made playable for a few years. Others need extensive, major work even to function. It is important for the technician to differentiate between these types of work, to the customer and to her or himself. Sometimes the "compleat" technician gets accused of being too high-priced when the comparison of his or her work and that of the "patch-up" artist is made, but the work is not the same, and the comparison is not valid.

Often, student technicians get drawn into this situation. It may seem to provide an opportunity to learn new things and a chance to earn a little money. Steve Jellen once told us his attitude toward learning piano work which we would like to share with you. "If you want to learn something that you don't already know how to do, or haven't done before, go out and buy an old piano and experiment around with it; you then have nothing to lose." So don't experiment with or use customer's pianos to learn on.

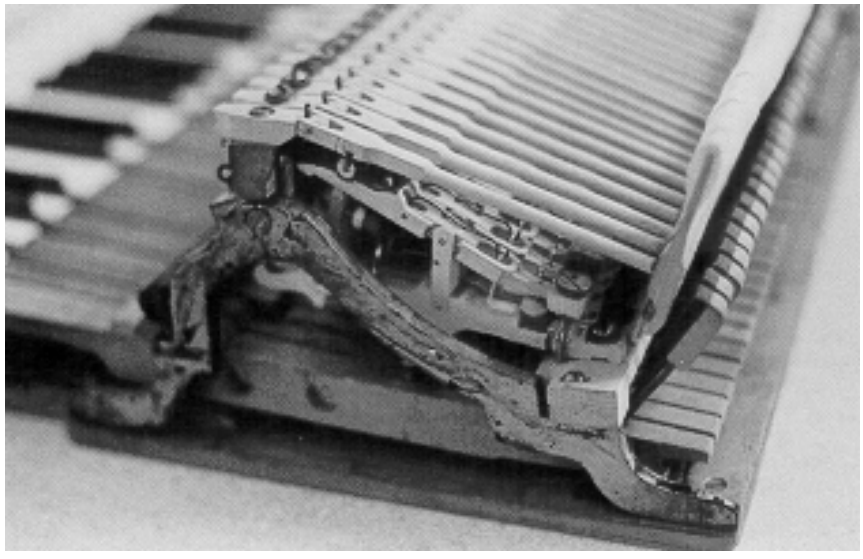
The following pictures illustrate some conditions found in so-called rebuilt pianos. □



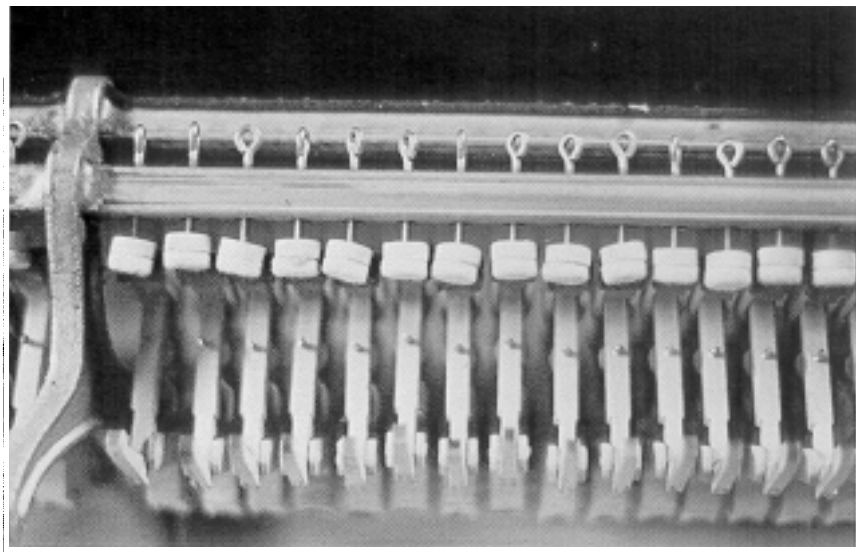
#1. The balance rail pins in this upright were extremely rusty. If the keys are rebushed with new cloth, the rough, rusty pins must be dealt with. In this case, the pins should have been replaced.



#2. A quickie bridle strap repair. Although this repair may be fine on the road when your supply just ran out, or in an emergency, this would not really meet the standards of good quality workmanship in a rebuilt piano.

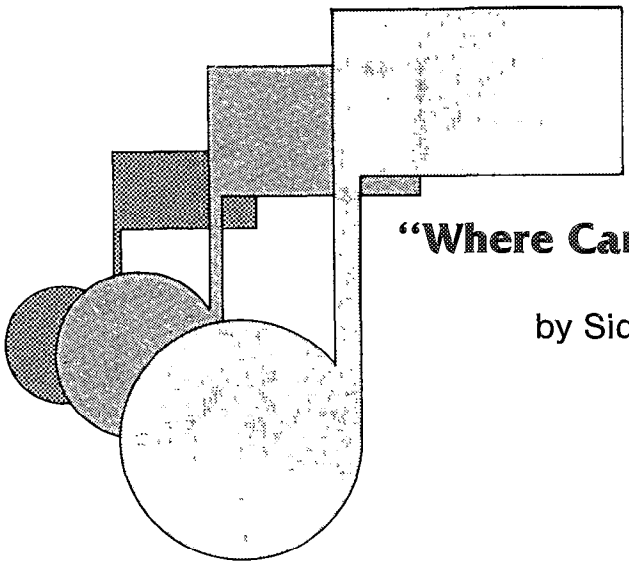


#3. New action parts in a 6' rebuilt grand piano. Unfortunately, these new parts don't meet the specifications of the original action design, and the action simply doesn't regulate or even work!



#4. New let-off buttons on a rebuilt Steinway. The buttons are so loose they are ready to fall off. New parts should be installed carefully so that they are straight and function as they should; otherwise, your regulation will not be very accurate or stable.

#5. WOW! Look at those nice sharps. But to rebuild this, what else needs to be done — inside and out?



"Where Can I Learn Piano Tuning?" Part II

by Sid Stone, Vice President

About ten years ago a limited training program in piano tuning and repair was started with one or two students at one time. The training of the first few students was on a makeshift basis, and it was a learning experience for instructor as well as student. With each new student, notation of errors experienced and areas neglected were made to improve the course for future students.

There has never been a need to advertise for students. So few Registered Technicians are doing anything to help the people who desire to enter our profession that word gets around if there is a course available. The problem comes in determining who, among all the enquirers, should be accepted. Not all who have the desire, the money, and the time required are acceptable. They should know which way to turn a screw to get it out and a few other basics.

Since my course is full time (40 hours per week) and the way it is set up, the most convenient number of students at a given time is two. If the starting time is six months apart, this allows the "advanced" student to learn by teaching the beginner in certain areas of repair and regulation.

Students are required to enroll in one of the two correspondence courses formerly approved by the Piano Technicians Guild — and also pay a tuition fee of $1,000, which is payable in advance and non-refundable. This by itself often separates the chaff from the wheat. However, if the student remains in the course, that money will be refunded in the way of tools, convention expenses, personal rebuilding jobs, etc.

Training in repair comes before tuning. In fact, no practice tuning is done the first six months or before having listened to 100 tunings. If tuning were taught first, there might be the temptation to drop out before the repair is learned.

Visual tuning is taught before aural tuning. This allows for hammer technique to be practiced and learned without the added problems of temperament and intervals. However, before the first year is over, aural tuning is taught ... first with unisons, then octaves and fifths, then temperament and the rest.

Before accepting a student there must be an interview and a week's on-the-job observation. When someone calls about learning piano tuning and repair, nothing is said about the course over the phone. If they are not interested enough to come for a personal interview, time on the phone should not be wasted. In the interview the course is presented in full. Questions by the prospective student are encouraged; and questions to the applicant are made concerning such areas as:

1. Why do you want to become a piano technician?
2. What is your educational and musical background?
3. Do you have family responsibilities or employment that would prohibit your training full time?
4. Are you financially able to pay the tuition required and to live for one year without income?
5. How does your spouse (or your parents) feel toward your becoming a piano technician?

Also in the interview the advantages and disadvantages of this profession are both pointed out to the inquirer. The training takes a long time and there is no guarantee of making a lot of money.

If the interview proves encouraging and before a contract is signed, the prospective student accompanies the instructor two or three days in the homes of his customers; and two or three days in the shop. While in the homes it is all observation — no questions asked. While in the shop it is mostly observation with a few basic questions allowed. Also, an aptitude test is given in the form of a simple but painstaking repair job such as rebushing a set of keys. Of course, explanation and demonstration precedes the test.

Students are expected (almost encouraged) to make mistakes in the shop. They are never admonished unless they fail to tell the instructor of those mistakes — or if they blatantly fail to follow directions and known procedures. They

are expected to remember the Students' Motto: "Think not what you are doing for the Company... Think what the Company is doing for you." Finally, students are expected to join the Piano Technicians Guild as soon as possible.

The contract that is signed by both student and instructor protects the instructor from any injury occurring during the first year (in the second year protection will come with payment for work done). The contract protects the student if anything happens to the instructor that stops the training.

OUTLINE OF THE COURSE (Tuning, Repairing, Regulating, Trouble Shooting, Customer Relations, Business Building)

A. First Six Months (Time divided between home and shop)
   1. In the Home (accompanying instructor
      a. Map reading
      b. Customer relations — appearance, conduct
      c. Answering customer's questions
      d. Acquaintance with different makes of pianos & how they are assembled
      e. Trouble shooting — minor repairs
      f. Listen to tunings
      g. Piano appraisals — for sale, for insurance, for estates
      h. Estimating repair jobs, with detailed check list
      i. Time to study

   2. In the Shop
      a. Observing and assisting in repairs
      b. Nomenclature — Piano parts and their functions
      c. Store experience — sales, rentals, problems in having a store
      d. Study time — correspondence course, Journals, Books, etc.

   3. In the Office (either in first or second six months)
      a. Assist secretary one week — taking calls, scheduling appointments, recording in log & appointment book, order supplies, mailing hammers & strings for replacement, sending reminders and billings, making deposits, government reports, pay roll deductions, weekly reports, 3x5 card files, etc.
      b. Take over one week

B. Second Six Months
   1. Basic tuning
      a. Use of electronic tuning instruments
      b. Practice tuning unisons and fifths
      c. Temperament
      d. Pitch raising
   2. Intermediate & advance repair
   3. Introduction to piano player repair
   4. Introduction to refinishing
   5. If possible work with another Craftsman for one week
   6. Business building and starting a business
   7. Toward end of second six months, selected outside tunings, where no charge is made (churches, rental pianos, friends, etc.)

C. Second Year (still in training) as stipulated in the contract wages per hour or percentage of tuning and repair done. This is to be increased if Craftsman status is made.

MOVING? CHANGING YOUR ADDRESS?

Be sure of your regular Journal delivery by asking the Post Office to forward your Journal to your new address. Journals that cannot be delivered because the addressee has moved are not returned to us. We are sent a notice only and must pay .25¢ for each non-delivery notice.

To mail a duplicate copy means double Journal costs plus the return postage notice cost plus around $1.00 remailing charges plus office overhead. The Home Office has done this whenever possible but we are finding that it is becoming more difficult to do so now that we no longer have so large an overrun of the Journal printing each month.

BECAUSE WE WANT TO BE SURE YOU RECEIVE YOUR REGULAR JOURNAL EACH MONTH!

1. Please ask the Post Office to forward your Journal to you when you move.

2. Please notify the Home Office as soon as possible, 5-6 weeks before you change your address.

3. *Should you not receive a Journal, please advise us immediately. On such prompt notification we can usually send a duplicate. When notified after any delay, we are not able to promise a duplicate Journal.*

Your Security Blanket

Eloise Ross,
Sunset Insurance Associates

Insurance policies offered by the Guild insurance broker are made available as a membership service and are neither endorsed nor recommended by the Guild in preference to other similar plans.

Beautiful, delightful month of June. Too, convention time is approaching rapidly, plan on being there. You will be richly rewarded.

One inspiring aspect of going to conventions is the young people — there are more and more! It is great for the Guild to grow in youth. However, we need the maturity of the older ones!

Which brings up an area of coverage we've never written about, Medicare: what it does and doesn't cover. Think; perhaps you know someone who is approaching 65.

Being informed on subjects that have an influence on your life is important.

There are two parts to Medicare: Hospital (Part A), and Medical (Part B). Part A is automatic (premium paid by the government); Part B **can be** declined. In other words, it, too, is automatic; one has to decline the coverage by notifying the Social Security Office. If accepted, you pay the premiums.

MEDICARE PART A:

After payment of the $180 deductible, Medicare pays most usual and customary hospital charges for 60 days for each illness or injury. The next 30 days (total 90 days) you pay $45.00 per day. There is a 60-day "lifetime reserve" one may draw upon if a "benefit period" extends beyond 90 days; the cost is $90.00 each day used. There is a provision for 100 home calls for health care by skilled medical personnel, including needed therapy.

MEDICARE PART B:

After an annual $60 deductible, Medicare will pay 80% of **reasonable** medical charges. Medicare determines the schedule of "reasonable" charges, which are usually less than a physician's normal fee. If your doctor accepts the Medicare schedule, your out-of-pocket expenses would be $60.00 plus 20%. However, if not, your out-of-pocket expenses would be $60.00 plus 20% plus the amount charged over the Medicare schedule.

Other Part B benefits pay toward diagnostic tests, prosthetic devices, medical supplies, lab tests, some ambulance service, radiology and pathology, plus other out-of-hospital charges including limited out-patient psychiatric, chiropractic and dental surgical care.

There are "gaps", not too costly for a short illness or injury, but which could be catastrophic for a long illness and recovery. Thus, the need for a plan to pick up these expenses.

Should you need further information for yourself or someone you know, you may contact your local Social Security office.

At age 65, the Piano Technician's Guild Comprehensive Health and Dental plan automatically takes over, "fills the gaps". Simply put, it keeps your "out-of-pocket" costs to your chosen deductible plus 80% to $2,000. In addition, there are fewer restrictions, more coverages.

Please re-read the **first** page of your Certificate of Insurance booklet. We must reiterate the problem in case of divorce; coverage on the non-member spouse ceases as of the date of divorce. Notify us **prior** to the final date — give the noncovered one an opportunity to obtain other medical coverage.

A Joyous Spring to you and yours! □

Obituary

Bruce G. Utterberg
Chicago Chapter

Gerson N. Davis
Connecticut Chapter

New Members/Reclassifications

REGISTERED TECHNICIANS

Boston Chapter
MULHOLLAND, JOSEPH E.
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Brookline, MA 02146

PAGANO, JOSEPH L.
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Boston, MA 02118

Indianapolis Chapter
BOWEN, MICHAEL L.
1200 N. Indiana, #81
Bloomington, IN 47401

Milwaukee Chapter
DE PONS, LAWRENCE J.
6830 W. Bennett
Milwaukee, WI 53219

Montreal Chapter
CAREY, MARCEL
1156 Evangeline #2
Sherbrooke, P.Q. J1H 4Z9

Philadelphia Chapter
JOSEPH, C. PAUL
220 Penn Blvd.
E. Landsdowne, PA 19050

Pittsburgh Chapter
JOHNSON, DALE A.
234 Kentucky Dr.
Lower Burrell, PA 15068

Portland Chapter
MERRILL, DAVID A.
Rt. 2, Box 264
McMinnville, OR 97128

Seattle Chapter
HART, THOMAS D.
2228 44th Ave. S.W.
Seattle, WA 98116

Toronto Chapter
MORGAN, DAVID H.
50 Thomas
Aylmer, Ont. J9H 3G8

ALLIED TRADESMEN

Lansing Chapter
KOLLAR, DAVID K.
c/o K.E.A. House
Olivet College
Olivet, MI 49076

Phoenix Chapter
SIMON, WILLIAM A.
Box 1081 Black Cyn. Stage
Phoenix, AZ 85029

Reading-Lancaster Chapter
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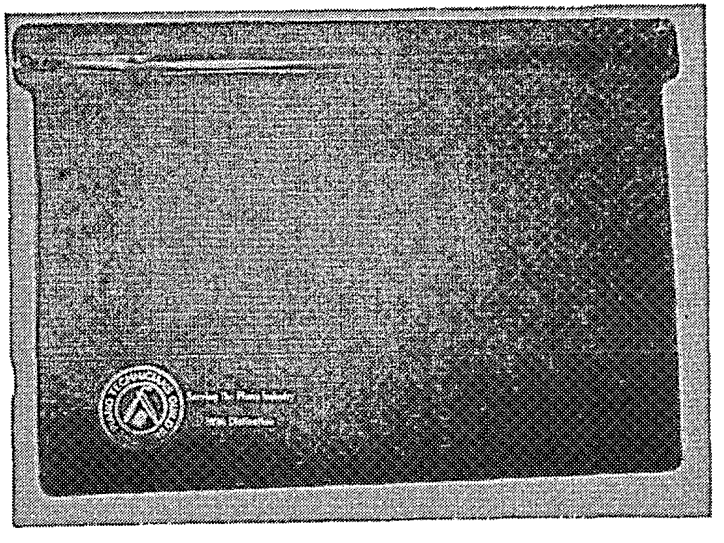

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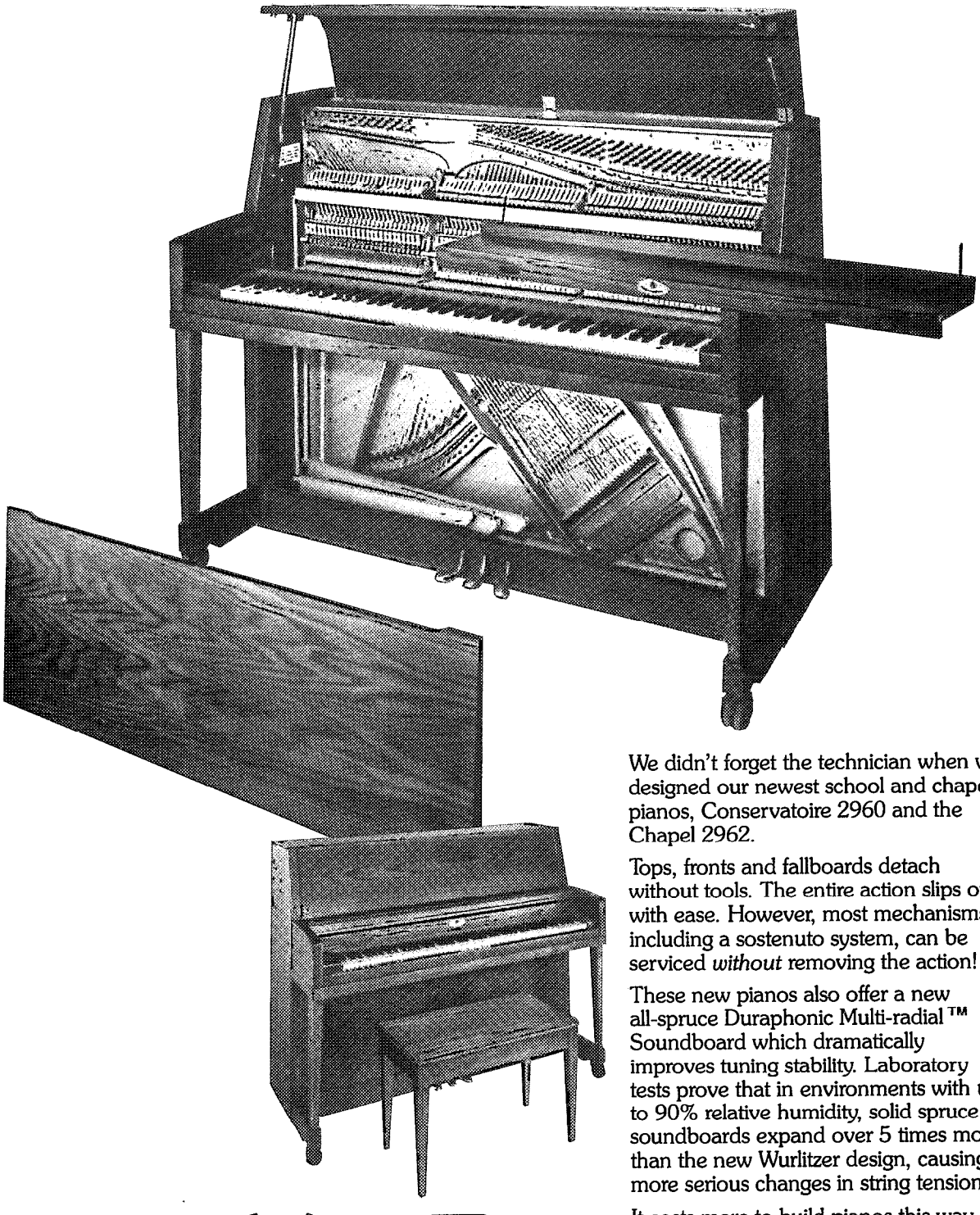

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JUNE 1980 UPDATE

Proposed New Examination Procedures

TUNING TEST

A special meeting for open discussion on the new tuning test procedures has been arranged for 8:00 a.m. Sunday, July 13 on the morning of the first Council session in Philadelphia. Your Examination Committee and officers will all be there to answer your questions. SHARE YOUR VIEWS AND HEAR WHAT OTHERS THINK OF THE NEW TUNING TEST PROCEDURES.

WRITTEN TEST

The new series of written questions distributed to all delegates at the last Council session has now been updated and will be available for any member to examine at the convention.

Guild Roster

The new Guild Roster is now being printed and contains the most current information received from chapters and members up to the day of printing. The roster should be in your hands before the first part of June.

Please note that the new format takes advantage of our computer system and lists members' telephone numbers where these were given to the Home Office.

Council Agenda Books

The Council Agenda Books were mailed to chapter presidents at the end of April. Members are urged to ask to see the agenda book and to review the reports and budget material before the book is handed to the delegate.

Delegates whose names were received before April 23rd are listed in the agenda book. Names received after that date will be included on the delegates list shown on the convention notice board and on the official list held by the Guild Secretary. Additions and changes may be announced during the council session.

Bellringers And President's Club

All new members' applications received by Monday, July 7th, will be counted for Bellringers' points for the 1980 convention. To receive credit points for this year, please be sure to have the new member applications in before the deadline.

New Annual Membership Cards

The new annual membership cards are distributed to members after the full annual Guild dues have been received by the Home Office. A mailing of these cards is made at the end of each month.

Editor
Piano Technician's Journal
113 Dexter Ave. N.
Seattle, WA 98109

Mr. Santy:

With the January, 1980, cover of the *Journal*, you have finally put out the most appropriate, interesting, and well-composed cover — and one of the best issues, inside, since I have been receiving the *Journal*. Please, more covers of unusual stringed instruments, small player devices, etc. — not the sort of thing we see daily, however abstracted the representation.

Kudos,

Charlie McDonald

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Continuation of ByLaw Committee Report

The following material has been submitted to the Bylaw Committee for consideration by Council at its annual meeting, July 1980. The items are loosely grouped by general category so that related items can be considered in groups.

FINANCES

#1) DUES INCREASE

Increased costs of operation, inflation and developing programs require that dues be raised starting 1981. The Board has recommended that a minimum increase of $12.00 per annum be considered. The committee recommends an increase of $24.00.
Amend: Bylaws Article VI Sec 1, changing references to $84.00 to $108.00.

#2) ENTRY FEES

At present when a member joins, his dues do not start until the following calendar quarter. By the time he starts paying dues he will have received from one to three copies of the Journal. Home Office recommends, and Board agrees, this be changed so that dues for a new member will begin the month following his acceptance. This will be a source of a small amount of additional income and would be operating as soon as passed.

Amend: Bylaws Article IV, Sec 3 b) delete " . . . to the beginning of the next calendar quarter . . . ."
Substitute: " . . . from the beginning of the month following acceptance.

#3) STUDENT FEES:

To coincide with a dues increase and to cover increased administrative costs, the Student Fee of $60.00 should go to the home office in its entirety. Chapters would then be able to assess the Student whatever dues considered reasonable. In addition to a small increase in income for PTG, this would also provide the even more important benefit of simplifying the process of handling this category of membership, saving money as well. Requested by home office and recommended by Board.

Amend: Bylaws Article IV Sec 4, a) delete: "Of this amount . . . . . to the home office."
Substitute: "This fee shall be forwarded to the home office. Chapters may assess an additional chapter dues fee of up to $20.00.

#4) RECLASSIFICATION FEE

Home Office suggests and requests a fee of $10.00 for each change of reclassification in membership.
It would go a long way to cover costs of administering the change, i.e., bookkeeping and computer changes etc., and it would be in conformance with what is currently being done in other professional organizations.

Amend: Bylaws Article III. add a new paragraph: "A reclassification fee of $10.00 shall be sent to the home office with the reclassification application and request.

#5) CHANGE IN DROP DATES

The new three part payment system has, for the first billing, a delinquency date of March 31. For those who do not respond, the drop date becomes May 1. The delinquent person will have received five Journals without paying for them by that time. Home office suggests that the delinquent date be made earlier, making it conform with second billing procedure and saving Journal costs.

Amend: Bylaws Article VI Sec. 6, a) delete "March 31" and substitute "February 15".

#6) JOURNAL SUBSCRIPTION

Setting Journal subscription has always been a function of Board. Bylaws Article XII Sec 2 e). Article VII e). also specifies a subscription rate. This provision has been inadvertently placed in the bylaws. The committee asks that the above provision be deleted so that the Bylaws will not be in conflict and conform to past practice.

Amend: Bylaws Article VII e). delete section in its entirety.

#7) SUBSCRIPTION FOR SPOUSES OF DECEASED MEMBERS

Nebraska Chapter proposes raising the one year rate for spouses of deceased members from $5.00 to $20.00. Since this is only for the first year, regular subscription rates applying for succeeding years, and this is a gesture of interest and concern for the survivor of a member, the Bylaws committee does not think it a good idea. Recommend rejection.

Amend: Bylaws, Article VII, f) change dollar amount from $5.00 to $20.00.

#8) BUDGET PRESENTATION

Nebraska Chapter proposes an amendment to Bylaws Article XII, Sec 2, d) to give the Council a better financial picture with which to enact the recommended budget.

Amend: Bylaws Article XII, Sec 2, d) by addition: " . . . budget to the Council annually with itemized budgets from the two previous years."

#9) LEGAL RESERVE FUND

The Nebraska Chapter proposes the following amendments:
Amend Bylaws: Article XVI Section 3:

A) Change name to Emergency & Legal Reserve Funds.
B) Amend Sec 3a by deleting one percent and substituting two percent, to be divided and deposited into two separate savings accounts to be known as: The PTG emergency fund and the PTG Legal reserve fund.
C) Sec 3b insert after emergency, "and legal funds."
D) Sec 3c insert after emergency. "and legal reserve funds committees."
E) Sec 3 change singular "fund" to flural "funds" throughout Sec 3.

The Nebraska Chapter reasons: This would provide funding for a legal affairs committee. The purpose of which would be to: protect copyright infringments: use of the PTG Logo (trade marks); classifications and use of titles thereof, and to help Executive Board, The National, Individual Chapters and/or its members by providing direct legal assistance and/or advice through the judicial system deemed necessary for the general welfare of the PTG members, Chapters, or National Organization. This committee may initiate legal action on other legal problems brought to its attention."

The Bylaws Committee cannot recommend this proposal for the following reasons: Regular legal expenses are usually carried and provided for in the annual budget. Emergency situations which require unscheduled legal expenses must be provided for through adjusting budgetary expenses or from the already established Emergency Reserve Fund. This fund already provides funds for ALL emergencies, even Legal. Further, in the plan as proposed, institution of Legal action in a very general sense; plus commiting the organization to legal expenses becomes a function of the "Legal Affairs Committee". This is a direct assignment of basic management functions to a committee, which are already properly in the jurisdiction of the Executive Director and the Executive Board. It represents a fracturing of present management and administrative functions which can only do PTG harm.

#13) ELECTIONS AND OFFICERS

Chuck Burbach, Chairman of the Nominating Committee reports: "I feel that the requirement in our Bylaws that a request for Nominations be published in the October Journal is much too early in the year - - coming only three months after the elections, it almost smacks of a vote of "no-confidence" of the elected Board. I would propose that this publication be moved up to the December issue. I also feel that the Committee Selection, traditionally published in the April update, be changed to May Journal, on time. This will still give every Chapter at least one meeting in which to discuss.

Amend: Bylaws Article XI sec 4, a) from October to December and Sec 4 d) from Feb 1 to April 1.

#14) CAUCUS ELECTIONS

Nebraska Chapter proposes that the President be required by Bylaw amendment to read to delegates the proper procedure for conducting a Caucus before the Delegates leave the council for such elections. This could be Article XI Section 6 e) spelling out the details of the caucus procedure.
The Bylaws committee reports that . . .
Such detailed instructions are already in the caucus packet provided for each regional group. It is the duty of the caucus chairman to read these to the assembled caucus, and to observe them in his conduct of the meeting. To spell them out in detail in our Bylaws and require the President to read them to the assembly is redundant and time consuming. We can reasonably assume that delegates will be responsive to detailed instructions and act accordingly.

#15) CHAPTER OFFICER ELECTION

RVP Bittinger proposes that Chapters be required to hold elections for officers during the months of November and December. Two main reasons are given. 1) It would make chapter records more accurate for the roster as developed in the early part of the following year; and 2) the shorter period of elections (two vs. three months) would simplify home office record keeping.

Amend Bylaws, Article VIII Sec 6, a) delete "April, May, June" and substitute . . . "November or December".

#16) INCAPACITY OF OFFICERS

Under the present Bylaws there is no way an officer can be replaced if he is incapacitated. To eliminate this shortening in PTG Bylaws, the Bylaw Committee proposes the following:

Amend: Article XI, Sec 8, add c) In case of incapacity due to illness or otherwise which restricts an officer from properly fulfilling his duties of office, the President, upon agreement of 2/3 of the Board that such incapacity exists, can appoint a replacement provided the workload of the vacant office demands replacement and that appointment is approved by a 2/3 vote of the Executive Board.

COMMITTEES

#17) USE OF TITLE CHAIRMAN

The Nebraska Chapter proposes:

Amend Bylaws, Article XIII Sec 3 c) . . . . add after chairman " and/or Chairwoman, and/or chaired."

Reason: to conform to current language use, to give more options to people holding these positions for titles.

#18) LEGAL AFFAIRS COMMITTEE

The Nebraska Chapter proposes to add under Standing Committees a "Legal Affairs Committee". If Item #9 has been approved, this would be necessary and its duties, etc. would be as outlined in that proposal.

The Bylaws committee does not recommend this committee as proposed for the reasons stated under #9.

AMENDMENTS

#19) NOTICE OF DEADLINE

Nebraska Chapter proposes a change in deadlines for proposed amendments so that adequate notice to members is given for those who wish to submit amendments.

Amend: Article VIII Section 1 c) addition to paragraph . . "Notice for Amendment Deadline shall be published in the Journal at least 200 days prior to the opening meeting of the Council Session."

#20) JOURNAL

Nebraska Chapter proposes the following:

Amend Bylaws Article VII add g) Auxiliary Exchange shall be published as an addendum to Journal (in center section - "Yellow Pages") and not in main body of Journal. The same for Chapter Notes.

Reason: To limit publishing costs: to segregate technical information from non-technical information; to make the Journal more professional in format to subscribers who are not members - - such as school libraries, industry and non-affiliated subscribers.

Committee has reservations about imposing what is basically editorial policy through a Bylaw. In addition, PTG has no jurisdiction over the affairs of PTG Auxiliary, which is completely autonomous. Council can certainly recommend, and such recommendation would be more likely accepted by all parties involved. No one likes to be commanded.

#21) PROUNOUNS

Nebraska Chapter proposes the followins:

Amend Bylaws Article VII, add paragraph: "In all publications to use in lieu of the pronouns: he, his, him; to use the pronoun combinations; he/she. his/hers, him/hers, or a suitable neuter-pronouns wherever applicable.

Reason: to conform with current literary practices and to avoid segrating membership of the PTG.

Committee feels this is basic editorial policy and as such is not properly a subject for Bylaw legislation. Council certainly can direct and provide Editorial with a resolution of its concern and wishes.

MISCELLANEOUS

#22) SOUTH EAST REGION

Board recommends that the Southeast Region be expanded to include the Virgin Islands and Puerto Rico. These islands are geographically appropriate to be in this region plus they are parts of the United States.

Amend: Bylaws Article IX, Section 2 b) adding, the Virgin Islands and Puerto Rico.

#23) MEMBERSHIP

To make the Bylaws consistent with adopted terminology, Amend Bylaws, Article III Section 1, delete "Craftsman - National Sustaining and Craftsman - - Chapter Sustaining" and substitute, "Registered Technician - - National Sustaining and Registered Technician, Chapter Sustaining."

#24) MEMBERS OVER 70

Board is concerned about the possibility of losing older, inactive members who cannot affort dues because of limited activity but nevertheless are important contributors to the organization by virtue of experience etc. Bylaw Committee proposes the following:

Amend Bylaws Article VI e by adding a new paragraph:

f) An active member over 70 years of age drawing social security benefits may elect to pay PTG dues at one third the normal rate providing the member complies with the provisions listed in (e) above.

Reletter existing paragraphs (f) and (g).

#25) ANTI TRUST AMENDMENTS

Bylaws Committee was requested to provide any amendments necessary to insure that our Bylaws and Regulations did not conflict with anti-trust laws. The Committee was unable to find any conflict.

#26) COUNCIL MINUTES

The Bylaw Committee recommends that the following amendment be adopted:

Amend: Regulations, Article III Section D, 3) delete "copy" and substitute "Resume".

Comment: It has been practice the last couple of Council meetings, to provide a Resume of the meeting in the Journal "Up-date" immediately after the Council meeting. This has been followed by the detailed minutes. It has been found that the Resume, since it is presented in a succinct and readable manner is more informative and of more benefit to members than the detailed minutes with their sometimes confusing detail. Since this publication requirement is to inform members as to what happened, not to confuse them, the simplifying amendment is offered.

How To — Starting the Chapter Newsletter

by Dick Truax, Committee Member

There are various difficulties to be considered when starting and maintaining the regular publication of a Chapter Newsletter. This article concerns itself with just two — sharing the workload and passing on responsibilities.

Assuming that you understand and accept the importance of the Newsletter to the Chapter organization, your next problem usually will be getting someone to accept the responsibility and workload for the project. Generally, we sight in someone we suppose to have the talent for the job, and the ability to get the work done on time, if such an individual is available. The next trick is to convince that one individual to accept the post. Most often, that person will realize that once accepted, the mantle of "Editor" can become more like a "millstone" if there is no one to share the workload. If the situation is further complicated by the lack of a prospective successive editor, attempting to have that one individual accept the position may be a fool's errand.

To be sure, reluctance to accept the on-going responsibility and work of a regular publication has brought about the demise of more than one organizational newsletter and is certainly a prime factor in the lack of Newsletters from many Piano Technicians Guild Chapters not now publishing.

We do not offer here a cure-all answer — that would be foolish to assume. We do offer a possible solution, for your consideration.

1. Reconsider the requirements for an Editor of your Newsletter

The job **does not** *require a great deal of literary talent. After all, we are not going to write a best-seller. An Editor should have an ability for organized thought, a normal grasp of the English language, some imagination, and a willingness to work. That should help broaden the field of candidates.*

2. Resist the temptation to set ambitious standards for a beginning Newsletter

As the name implies, the Newsletter should communicate news, using a letter form. While it may seem desirable to model your own Newsletter after the leading Piano Technicians Guild Chapter Newsletters, it could be fatal to your own publication. Remember, these imaginative, interesting, and highly organized letters are the result of much collective work, and many years of development. Their standards should be cited more correctly as goals for eventual achievement. So, setting somewhat less ambitious standards for a beginning Newsletter should further broaden the field of possible Editors, and contributing writers.

3. Committee Organization

We feel that the use of a committee to publish a Newsletter is desirable.

Most of us have heard the saying, "A Camel is a Horse designed by a Committee". The implication is that committees, due to conglomerate input, have a way of distorting the recognizable features of the end product. But a committee is also more likely to get the job done on a regular basis. In our case, the Newsletter Committee is desirable because it is also a transferrable entity. The committee should be organized into basic sections that (a) write copy; (b) Edit/Administrate; (c) organize and set composition; (d) print or reproduce; (e) circulate or mail.

We will assume that your new Editor will also be the committee chairman, and as such, will complete the above outlined organization of the committee. If the Editor/Chairman will then write up a detailed organizational outline and complete job description, you will then have a tangible instrument that can be passed to a succession of Chapter members.

In conclusion, let's review the problems and possible solutions. The problems of shared workload and successive editorship for a beginning Newsletter could possibly be surmounted by:

(1) setting more modest qualifications for your new Editor/Chairman;

(2) setting more realistic standards for your new publication;

(3) establishing a Newsletter Committee, organized into functional sections; and

(4) writing up an organizational outline on this Newsletter Committee.

Suggestions (1) and (2) should broaden the field of possible Newsletter personnel, thus spreading the workload and adding diversity in writing style. Suggestion (3) will not only organize the effort, but will also provide a transferrable entity. Suggestion (4) should further facilitate such transfer of responsibility.

Starting a Chapter Newsletter with somewhat modest standards can seem deceptively simple. But as the scope of the letter increases, so does the responsibility and work load. If when organizing such a project you can offer the participants a lighter work load, and some confidence that their responsibilities can be passed to a successor, you will probably have more volunteers than you thought.

The Chapter Newsletter is probably the most significant document this organization circulates. This article would probably be more correctly concluded with a paragraph devoted to selling the virtues of a Chapter Newsletter. But that would take a book length discourse, and still not accomplish the purpose. The Newsletter is practically a Chapter obligation — once you start publishing one, you will wonder how you ever got along without it.

If you wish to consult further on this, or any other subject concerning your Newsletter, contact Chairman **Clarence "Clancy" Stout, 750 W. Baseline, No. 36, Tempe, AZ 85283** □

Gene Wood
Lloyd Fritz
Dwight Davis
Mike and Dorothy Silva
Elvah Brown
Connie Chesebrough
Libby Blatt
Chuck Gibson
Keith and Jean Huffman
Joe Merando
Gus Hearst
John and Genevieve Travis
Chuck and Judy White
John Farrell
Ray La Motta
Jim Heilman
Bill Ridley
William and Cindy Brandom
Robert and Lois Lutzke
Richard and Jeanne Davenport
Alan and Roz Pogson
Morton L. Zack
Howard Jackson
Harold and Ruby Staaf
Sally Kraus
Michael Jameson
Harry and Thelma Berg
Jonathan Nye
Irene and Barney Johns
James Kranendonk
Michael Shapiro
Mario Sinisi
Ken Bryant
Walter W. Thomas
Robert W. Snyder
Randy Douglas
Leon and Ruth Levitch

Registration as of May 12, 1980 . . . . .

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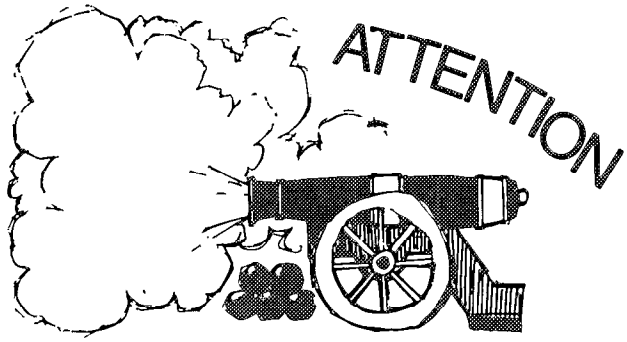
Chapter Management Meeting

Be sure to have at least one member of your chapter attend the Chapter Management Meeting — no breakfast, coffee will be available — at the Philadelphia Convention. It will be at 8:00 a.m. on Monday, July 14, which is the second day of council. This workshop can help with the skills needed to successfully run a chapter. Bring your problems and your answers. Be sure to attend. □



All's Well In Altoona

JULIE BERRY

Spring seminars are always a treat to me because they give us a chance to renew our skills, our spirits, and some important friendships at a time when the fresh warm breezes and wooded hillsides seem to echo our sentiments. So we were in a holiday mood as we left town early on the morning of April 17th headed for Altoona, Pennsylvania. Nine hours later we pulled up under the portico of a Sheridan Motor Inn nestled in the rounded mountains of Western Pennsylvania. Sure we had driven 500 (tax-deductible) miles to get there, and we would end up spending over $150 before the weekend was over, even though Ron would end up seeing only one class because his services and equipment were called for to assist in the testing procedure taking place in a remote wing of the inn. But the positive returns we harvested repaid us our investment before the weekend ended. As part of the Auxiliary schedule one instructor saved us over $500 on next year's taxes, plus an additional 10% off our dinner. And Ron felt the one class (a Willis Snyder original) which he did manage to attend was worth the trip in itself. As an extra bonus the long drive gave us a chance to talk and relax away from the busy schedule and persistent phone. We stopped on the way home at a Holidome and enjoyed a swim, a sauna, and a whirlpool (again, tax-deductible) to top off our trip.

An article like this is hard to write because if I tell you about a particular lunch we had with a prominent PTG technician who shared certain ideas or a banquet table conversation we had with a physicist-inventor-piano technician and a service manager for a top piano company or a fascinating topical conversation which took place in the hall of the hotel at some odd hour in the morning, you still won't have a grasp on the total package of benefits which a person receives at a regional seminar or national convention.

All I can say is that the same people, no matter how long they have been in the business, keep showing up as registrants and participants at these seminars. Each year they keep telling me about new things they are learning, new ideas they are exchanging with other technicians. And in our more leisurely conversations I hear about the financial rewards and material benefits which their increasingly more successful businesses are bringing them.

And I cannot help but compare these seminar-going folks with the non-participatory variety who can't seem to rake up the money to join the Guild or to attend a seminar close to home.

(Please do not take offense at my judgmental remarks. I am not referring in any sense whatsoever to the members who know what seminars are about but who have conflicting interests which keep them at home. I am taking aim at the people who deprive themselves of this valuable experience by pretending they'd like to go but are prohibited by a supposed lack of time or money when they are spending both time and money on other pursuits as they lament.) — **JB**

We now have 14 participants in the "FLEA CIRCUS". Your perusal of the following list of chapter tables may give you some ideas for your display and what your competition is offering. It's not too late to fill out the form and join the fun ... AND MAKE MONEY FOR YOUR CHAPTER....

CONNECTICUT CHAPTER:

Key bushing cauls, Becket chisels, assorted tools and specialties.

CLEVELAND AUXILIARY:

Macrame items and dried flower pictures.

CLEVELAND CHAPTER:

Individual single string loop makers.

SID STONE, VICE PRESIDENT:

"Surprise".

RICHMOND VIRGINIA CHAPTER:

Damper adjusting blocks (Grand) — Music Clips — Thread Holding Rack (Sewing) — Key Hooks or holders — small number of regulating tools.

SACRAMENTO VALLEY CHAPTER:

Prints-Lithographics of Norman Rockwell's painting titled "The Piano Tuner".

BALTIMORE CHAPTER:

Tools — New and Used and Parts.

BUFFALO NY CHAPTER:

"Undetermined".

CAPITOL AREA NY CHAPTER:

Becket Poppers; In-Piano Emergency Hammer Voicing Needles; Squares for Hammer Installation; a few other as yet undetermined items.

WASHINGTON, D.C. CHAPTER:

"$282.00 for you in 82" — Dinner for 2 and lots more.

PORTLAND OREGON CHAPTER:

Book titled "But You Can Feel It" by Emil B. Fries.

TWIN CITY CHAPTER:

PTG Coasters, sundry piano repair tools and parts.

HOUSTON TEXAS AUXILIARY:

4 Card Table Size Tablecloths with PTG emblem — 1 Banquet Table Size with PTG emblem.

READING-LANCASTER CHAPTER:

Home made shop tools (esp.) steamer kits, piano supplies left over from projects. Ladies' auxiliary will have craft items.

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FLEA MARKET SIMPLE RULES

1. The tables will be cloth covered and 6' in length.
2. Use table signs only – not over 2' high.
3. Setup time 6:30 p.m. – ½ hour before opening at 7:00 p.m.
4. Limit noise level so not to interfere with your neighbor.

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A NEW IDEA FOR YOU

Buffet Supper to be held in conjunction with the "FLEA CIRCUS" in the Crystal Ballroom from 7:00 p.m. to 9:00 p.m. Thursday evening. Tickets will be on sale at the convention Registration Desk at a nominal price to provide you a delectable treat. This is done so those of you who would like to make an "evening of it" at the Flea Circus will not have to take a food break elsewhere.

FLEA MARKET

We have 14 chapters who have responded in "great style" to the participation in the FLEA MARKET — Hurry and add your wares to help your chapter treasury grow and grow! Reserve your table now for Thursday, Eve, July 17th.

YES!

WE plan to participate in the FLEA MARKET at the 1980 Convention.
We are going to sell the following item(s):

_____

_____

Reserve a table for our chapter/Auxiliary project.

_____ _____

Chapter President/person responsible — Name of chapter

PLEASE RETURN TO THE HOME OFFICE