Piano Technicians Journal
MARCH 1980

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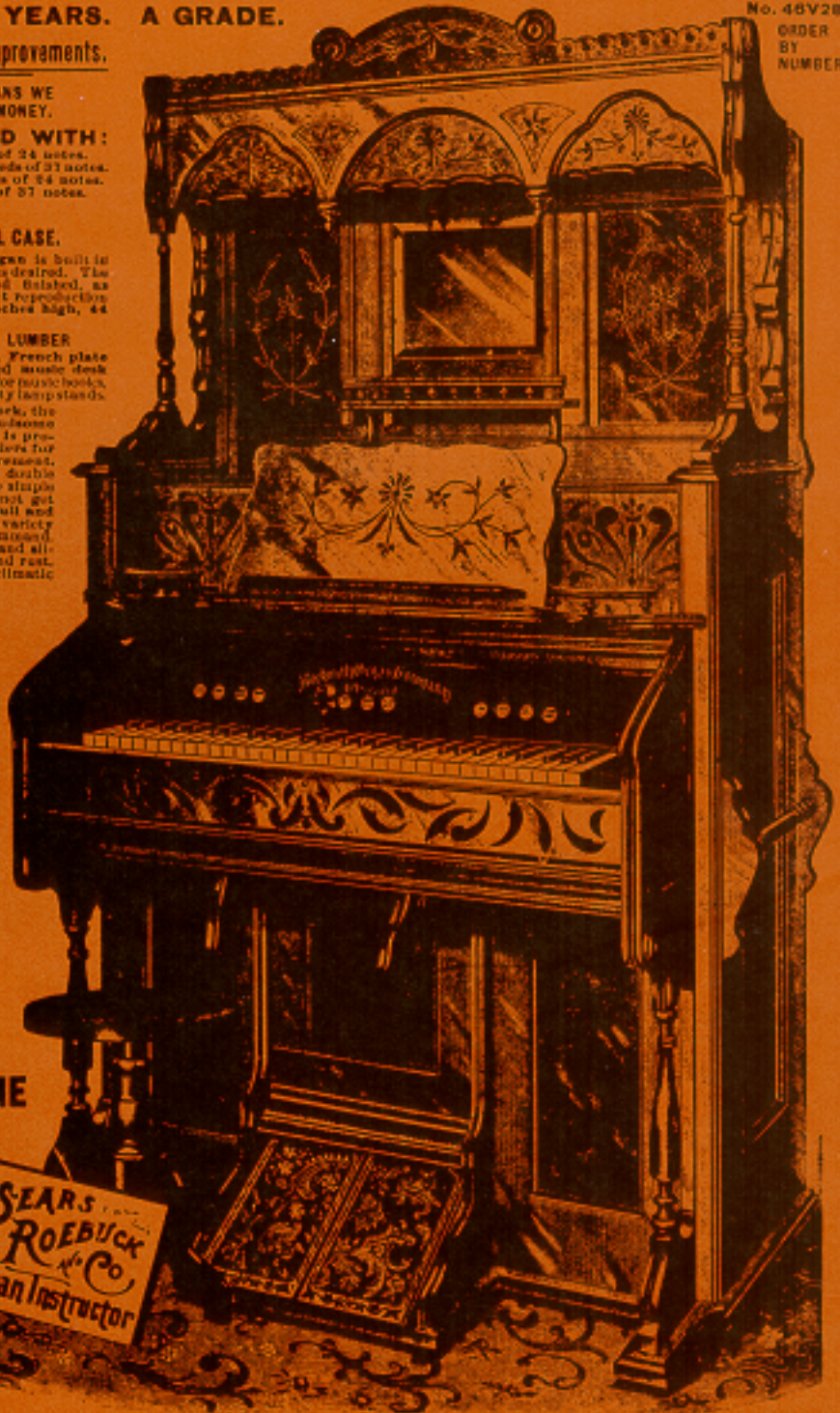

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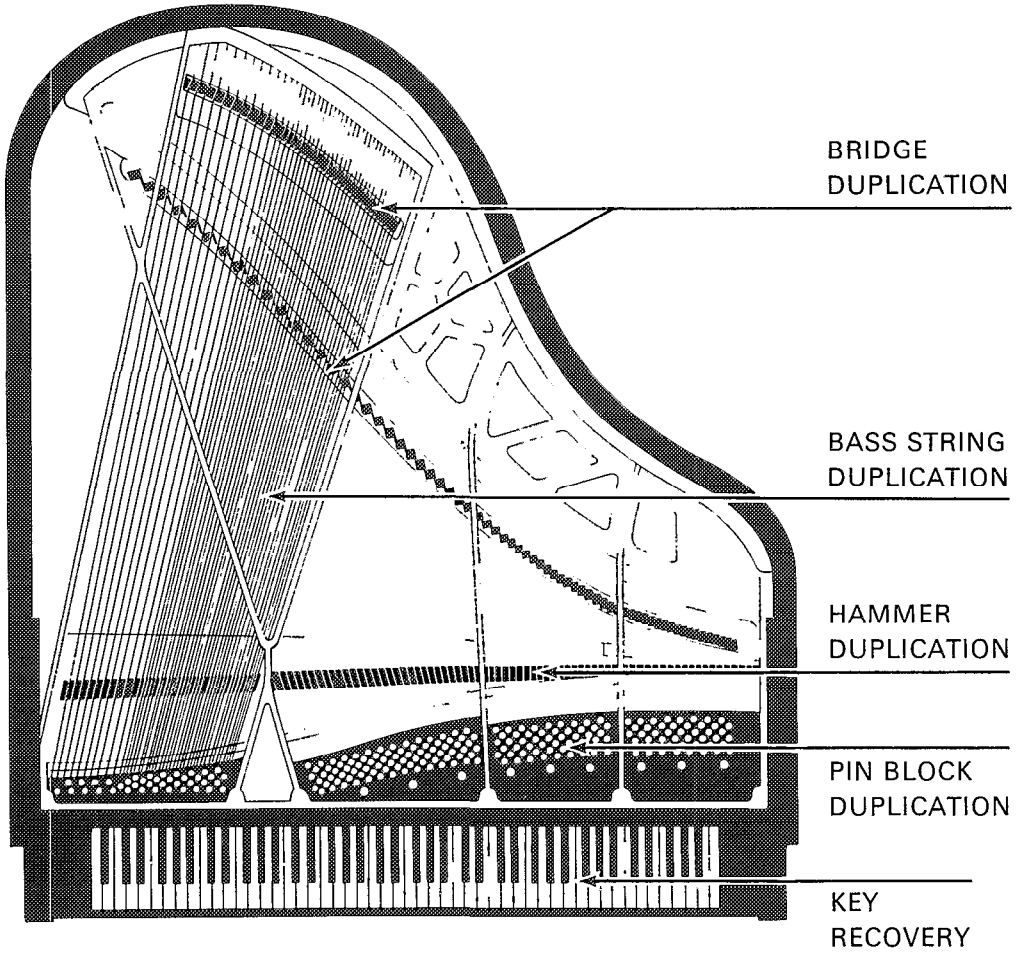

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Piano Technicians Journal

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COVER ... You could mail-order a 122-reed organ in the 1890s from Sears & Roebuck for only $34.35. Grade AA model with 159 reeds was three dollars extra. From the Sears catalogue.

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EDITORIAL

Don L. Santy, Executive Director

WHAT CHOICES DO WE HAVE?

I remember years ago when haircuts were just haircuts. They were short and all the same. I recall a barber who used to complain about the limitations of income in his field of work. I noticed that he was also in a rut insofar as his trade was concerned. He was cutting hair, day in and day out, with a complete lack of imagination.

This routine was accompanied by a constant dialogue on his personal problems, opinions about local and national scenes, paying little attention to what he was doing. This rut soon turned out to be his business grave because when new trends showed up in the field of hair care, he was not ready or willing to participate. He went into selling housewares, and probably failed at this, too, since he had little imagination and was sorely short on ambition.

When men's hair styling came into vogue, those barbers with imagination, ambition and pride in their trade went back to school. They soon put class and flair into their businesses, decorated their shops, and charged three times the price for their time and skills. Hair stylists are making good livings and finding their work both stimulating and enjoyable. The old-style barber is now an endangered species.

Similarly, I once had a client who operated a dry cleaning shop. He used to complain about the lack of customers, the competition, the encroachment of dry cleaning substitutes on the market, the long hours, damaged goods and complaining customers.

He had a competitor just across the street. This businessman never lacked for customers. He saturated the neighborhood with fliers giving discounts and extolling the quality of his work. He removed the window coverings over the street front of his store so the public could see his personnel busily engaged in their daily work, dressed in clean, crisp uniforms. He had the interior of his shop decorated in bright colors and made sure that his people at the desk flashed "toothpaste ad" smiles at every customer. He charged 30 percent more for the same work, and he also got three times the business volume of the griping, struggling, unimaginative drycleaner across the street.

I read a squip in a local newspaper which I would like to share with you:

AN ODE TO MY COMPETITORS

My competitors sometimes do as much for me as do my friends. My friends are too polite to point out my weaknesses, but my competitors go to great expense to advertise them.

My competitors are efficient, diligent and attentive. They make me continually search for ways to improve my services.

My competitors would take my business away from me if they could. This keeps me alert to hold what I have, get and create more.

My competitors prevent me from becoming lazy, incompetent and careless. I need the discipline they enforce upon me.

My competitors deserve the highest price. I salute them. They have been good to me.

THANK YOU!

One of the most difficult ideas to get across to small businessmen and businesswomen, is that their competitors are not their enemies: they can be their best friends. This is proved over and over again in every chapter throughout the Guild. Lifetime friendships develop among people who operate businesses in the same city and even the same community. They help one another in times of heavy demand, trading services back and forth for convenience and mutual benefit. This is as it should be. Everyone benefits.

In the final analysis, this is Free Enterprise working at its best: each person applying his or her craft to "make it" on the basis of their individual abilities, imagination, personality, knowledge, ambition, personal enterprise and skill.

WHAT IS FREE ENTERPRISE?

Free Enterprise has nothing to do with politics, wealth, business or class. It is a way of living in which you and I, as individuals, are important. Many little things make up this way of life, but think of what we would lose if we ever surrendered it.

Free Enterprise is the right to open a gas station or a grocery store or buy a farm. The right to be your own boss — or to change your job if you don't like the person you are working for.

Free Enterprise is the right to lock your door at night.

Free Enterprise is the right to save money if you wish, or blow it all on a good time.

Free Enterprise is the right to argue.

Free Enterprise is looking on a police officer (or any other governmental representative) as someone to protect you, not threaten you.

Free Enterprise is the right to speak freely about anything you wish, at any time you wish, or to anyone you wish.

Free Enterprise has nothing to do with how much money you have — or don't have — or what your job is or is not.

Free Enterprise means the right to be yourself instead of some nameless number in a horde bossed by a few despots.

Free Enterprise is the precise sum of many little things — and how miserable we would be if someone stole it from us!

In this wonderful free enterprise system of ours, a trade association or guild is a voluntary, nonprofit organization of independent and competing business units engaged in the same industry or trade, formed to help solve that industry's problems, promote its progress and enhance its service. It is a graduate school of business, a conduit of legitimate information, and a vehicle through which people engaged in the same industry can upgrade their skills, increase their knowledge, and improve their lot in life on their own individual merits. □

A Man and His Piano

Philippe Entremont and Bösendorfer

The gleaming Bösendorfer piano by Kimball which has dazzled audiences with its beauty and magnificent singing qualities now accompanies the dazzling French virtuoso, Philippe Entremont. The piano that was built to match the unique artistry of Liszt now will enjoy the sensitive performances of Entremont and together will delight audiences throughout the world. But delighting audiences is not new for Bösendorfer, the choice of the masters, Wagner, Brahms and Strauss: neither is the exceptional standard of quality it sets. Bösendorfer today is still handcrafted by perfectionists in Vienna, Austria. The craftsman's skills are the integral part of the creation of Bösendorfer that separates this masterpiece from anything ordinary. Each mechanism takes over a year to complete. The lumber used on the pianos is seasoned outdoors from three to four years. The additional width of the Imperial Grand piano (it has nine additional keys), enables the entire lower range to have extraordinary resonance. The piano's exceptional singing capability allows each chord a clarity and distinctness throughout every performance, not usually associated with an ordinary Concert Grand. In a world of ordinary things, the Bösendorfer piano by Kimball stands out as an extraordinary achievement. If you would like to learn more about Kimball's Bösendorfer, contact James Birk, Kimball International, Inc., 1549 Royal St., Jasper, IN 47546.

Philippe Entremont, the music director and principal conductor of the Vienna Chamber Orchestra playing the 9'6" Bösendorfer Imperial Grand piano, the official piano of the Vienna Chamber Orchestra.

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PRESIDENT'S MESSAGE

Bob Russell, President

The theme for my message this month is committees. Some people feel that the real heart of an organization is shown in the performance of its committees. Other people feel that committees are a slow and meaningless effort, or lack of effort. I believe 100% in favor of committees. If the members of a committee have a purpose and a goal, the committee at the chapter level or national level can make things happen.

The gathering of people into a small unit to accomplish a given task or project is my idea of a committee. The sharing of ideas and thoughts within these units provides material that contributes to the strength and growth of the organization. Due to the fact that a committee works on a specific aspect of our Guild, there can be more in-depth detail on its subject.

It is through this important part of an organization that we see bright stars emerge. It is a wonderful experience to witness these members, who display the ability to lead, think and complete a goal, as they work for the betterment of all of us. They enjoy their achievements and usually gain a better insight into their organization and its workings. Through their efforts they have helped to mold policies and add strength to the Guild. After a few years of learning and understanding, they are ready to take their leadership position, whether locally or nationally, with confidence. This confidence stems from their committee experience, understanding and insight of the total Guild, and the knowledge that they have a lot to contribute.

So I repeat, committees are very important. They must function and complete their goals, but maybe more than that, they are the proving ground for our future leaders. Leaders who will do a fine job because they understand our organization from the bottom up.

You will find it is much more rewarding to work for the Guild and to really feel that you are a part of its growth, rather than "just belong" to it. □

1970s RETROSPECTIVE

A SPECIAL REPORT
BY RECORDING SECRETARY/TREASURER
CHARLES HUETHER

We are leaving the 1970s and entering the '80s. Everyone has been reviewing and predicting, so why not me? As one of the senior members of the board, I am taking that liberty.

The 1970s were a time — —

When Guild membership finally passed the 3,000 mark.

When the notion of a strong, centrally-controlled organization was challenged.

When membership opted for a strong chapter orientation and responsibility.

When the role of Regional Vice President was examined and debated, and out of this debate developed Regional Vice Presidents who function with energy, skill and enthusiasm on a variety of levels, including membership promotion, chapter building and development of national policy.

When national officers became known to the membership as never before. Improved communications and a willingness to travel developed a rapport between officers and membership which has led to better understanding and two-way communication.

When the Constitution and Bylaws were reviewed, rewritten and recast in a new form as Bylaws and Regulations, a task which could have gone on indefinitely, but was completed in four years because of membership cooperation and hard work.

When criticism of existing testing procedures was heeded and an attempt was launched to develop a standard test which could be administered the same way throughout the entire Guild. The test is on the verge of acceptance.

When new chapter programs were developed. New films were produced in a successful pilot program, and from this, the start of a film series was put under way. Films, slides and tapes will continue to be developed on a regular basis.

When financial operations and a variety of related management procedures were reviewed. The resulting changes have provided a better-informed board and membership. The organization survived a threat of insolvency and remains strong, with only minimal dues increases.

When conventions increased in attendance and content to the point where they are classic examples of their genre.

When The Journal continued its unique position as a technical resource for the industry, growing better each year, each issue.

When the Guild set an example for the times in the way it has welcomed, encouraged and assisted women technicians.

When the first concrete steps were taken to develop international fellowship and cooperation among piano technicians.

And what can we expect for the 1980s? I would be foolish to try to predict, but I will offer a few of my hopes.

The 1980s can be a time when:

Chapter development will have top priority. Not just for new chapters, but to strengthen old ones.

Chapter leadership will be developed, giving us nationwide strength and a potential for new national leadership.

Membership programs will be reviewed so that programs can get a new wind, a new focus. Old members will be encouraged to continue active participation in chapters.

Chapter programs will continue with fresh ideas in films, slides and tapes. Chapters will have no excuse for not having interesting meetings.

The Guild library will become the world's greatest resource for piano technology and related information.

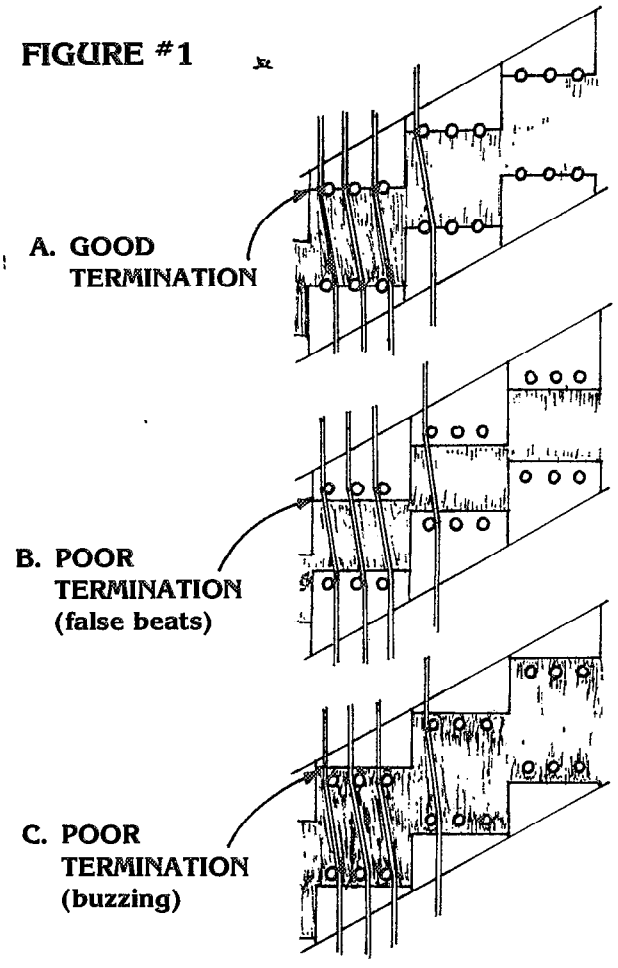
The Guild will develop its publishing program so that it becomes the prime source for new and out-of-print books on piano technology and related information.

International relations between piano technicians will grow and point the way to world peace through harmony.

Piano Technicians Guild members will advance themselves in skill, prosperity, job satisfaction and happiness so that all members will realize ;their true potentials as skilled technicians and human beings. □

THE TECHNICAL FORUM

Jack Krefting, Technical Editor



In this issue I want to discuss vertical bridges, with particular emphasis on newer pianos. Most of the principles will naturally be valid for grands as well, but we will focus on verticals because of some of the bridge problems found on these pianos are inherent to design, such as strut notching and keybed clearance.

VERTICAL BRIDGE PROBLEMS

Leaving aside design problems, about which we can do little in the field, we will discuss four areas associated with the manufacturing process: notching, pinning, glue joints and wood defects.

For a solid string termination point at the bridge end of the speaking length, the notch must be cut cleanly through the centerline of the bridge pin holes. As **figure 1** illustrates, any deviation from this centerline cut will cause problems because the string does not leave the wood at the same time it leaves the pin. Obviously, either the pin or the notch is in the wrong place, and one or the other must be changed. Because of the way bridges are made, it is most likely bad notching rather than poor pinning; but it does make a difference because if you move the pin up or down, you are changing the speaking length of the string. It can be argued that renotching does the same thing, but since most verticals rely more on sidebearing than downbearing, the upper pin may be said to provide a more positive termination than the notch.

If the bridge is misnotched as in **B of figure #1**, the technician has only one viable option; that of relocating the pins. A technician cannot very well put wood back into the notch, so the pins must be moved to the notch even though the speaking length is changed by so doing.

If the problem is that the notch was not cut all the way to the pins as in **C of figure #1**, renotching would seem to be the best solution. Loosen the affected strings, remove them from their hitchpins and bridge pins, and tie them out of the way. Pull the bridge pins out with a pair of pliers and renotch with a very sharp chisel. The first step in renotching is to establish the termination point across the exact center of the pin holes. Do this by holding the chisel perpendicular to the bridge as shown in **figure #2**, and give the chisel a sharp bump with the heel of the hand. Check the side cut and deepen it if necessary to avoid splintering the bridge cap, and then push the chisel through the area to be notched with a scooping motion to avoid going too deep.

Let's go back to the side cut for a moment, as it is too important to

pass over lightly. This is the cut that is roughly parallel to the strings, near the right-hand string of each unison on the treble bridge. **Figure #3** shows that the exact placement of this cut should represent a compromise between string clearance and pin support. It should fan out slightly to the right to allow string excursion without the possibility of contact, but not so far to the right that the left string of the next unison lacks support.

The side cut can be made with the notching chisel, but since the notch bottom is curved and the chisel point square, this is a difficult operation and compromises must be made. A better alternative would be the use of a curved Japanese azebiki saw for the side cut. (This saw is available from Woodcraft Supply Corporation, 313 Montvale Ave., Woburn, MA 01801. The price is around $11, and well worth it.) Japanese saws are much thinner than American saws because their teeth point the opposite way. They cut on the pull stroke, which makes them easier to control in fine woodworking operations.

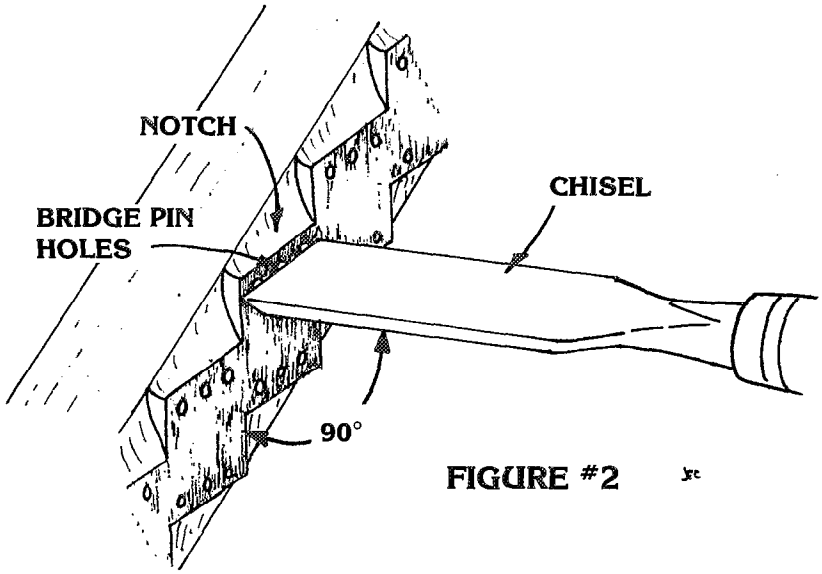


FIGURE #2

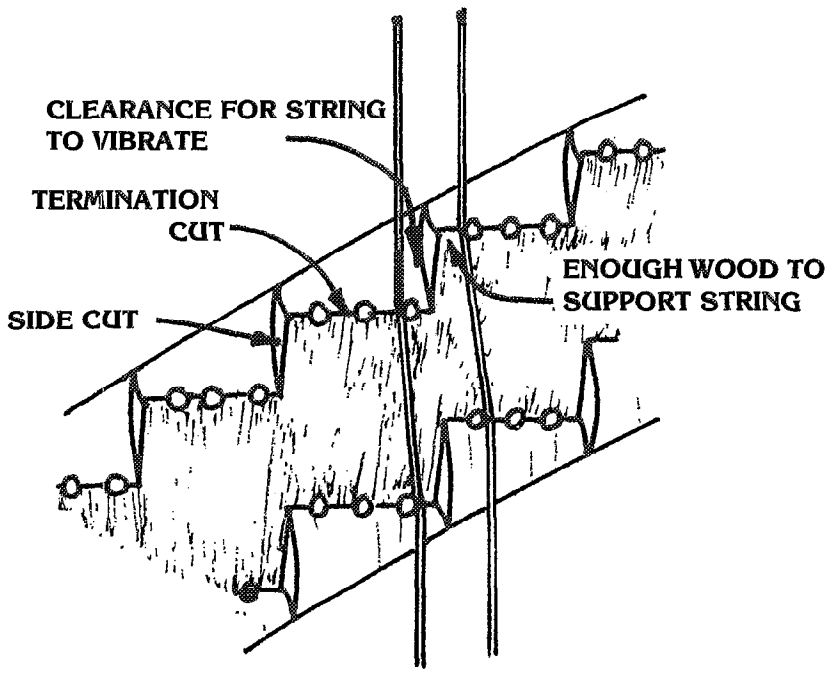


FIGURE #3

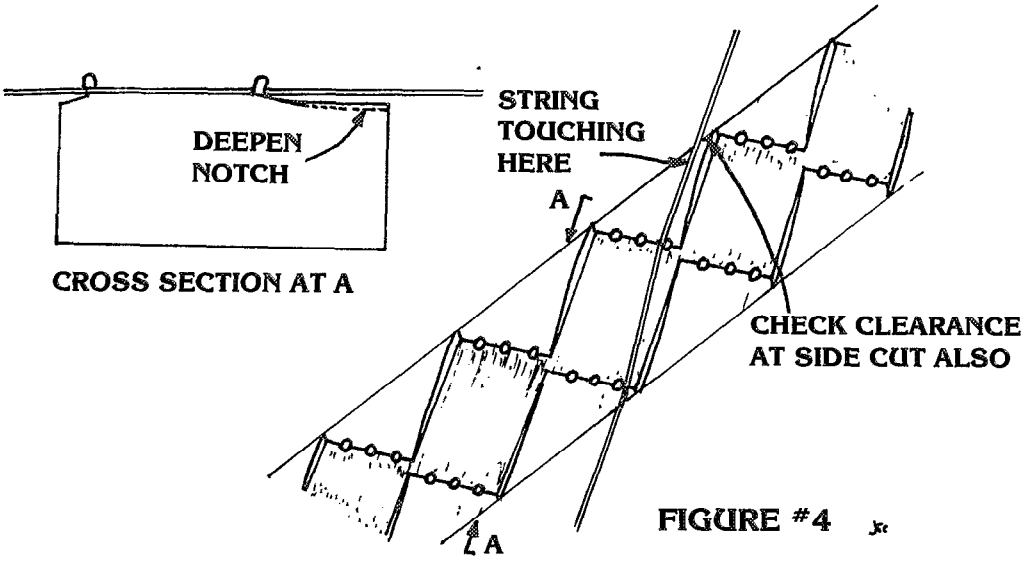


FIGURE #4

Sometimes a piano that appears to have good notching will suffer from twanging sounds that sound like something other than the hammer is striking the strings when a hard blow is struck. Occasionally this can be traced to excessive damper lever travel, but more often it is caused by too shallow a notch, especially in the tenor section where strings pass over the bridge at quite an angle. **Figure #4** shows a typical case where strings can touch the bottom of the notch during maximum excursion. The solution to this one is easier, because usually the bridge pins need not be pulled. The notch is simply carved a bit deeper with a chisel or hobby knife.

Incidentally, the chisel that Willis Snyder recommends and uses in his bridge building classes is a ¾" square nose lathe chisel made of Sheffield steel by Sorby in England. This tool is also available at Woodcraft, and should be modified as shown in **figure #5**. When the slight curve has been ground into the lower face, grind and strop the cutting edge. If you ever feel you need a hammer or mallet, just sharpen the chisel, instead.

Probably the most common problem associated with vertical bridges has something to do with the way they were pinned. As I mentioned earlier, most manufacturers rely on sidebearing to a greater extent than downbearing for sound transmission, so any string that has no visible stagger through the bridge is almost sure to cause trouble. The practice of bending pins to increase sidebearing is highly questionable in my view, because not only is it unreliable over the long haul, but it can cause ovaling of the hole right on the surface of the bridge cap at the termination point. This is the most important spot on the entire bridge, so it's no place to take a shortcut.

The easiest solution, assuming that the situation requires only a slight bit of added sidebearing, is to install oversized pins in both holes associated with that string. This will increase sidebearing on that string because the larger diameter of the top pin moves the speaking length of the string slightly to the left, while that of the bottom pin moves the waste end length further to the right (**see figure #6**).

If a greater change is needed, one or both pins must be relocated. An easy way to do this is to pull the offending pin, drive a square maple shoe peg into the hole, relocate the string with an awl (**see figure #7**) and drill a new hole at that point. The string must be loosened, of course, but need not be removed for this operation. If shoe pegs are not available locally, an upright hammershank may be whittled down and used in the same fashion. Do not use toothpicks or matchsticks, as they are too soft to support the pin.

If a bridge pin is loose but the wood is not cracked, simply substitute an oversized pin. If wood defects are present or suspected, swab the hole with a good commercial grade of hard-setting

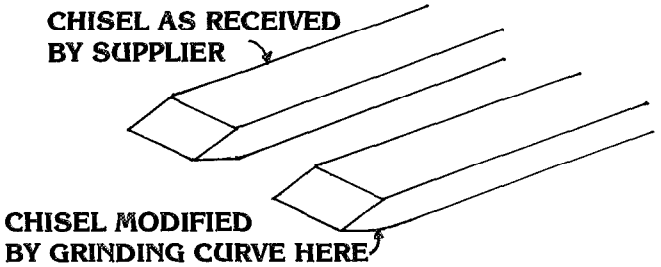


FIGURE #5

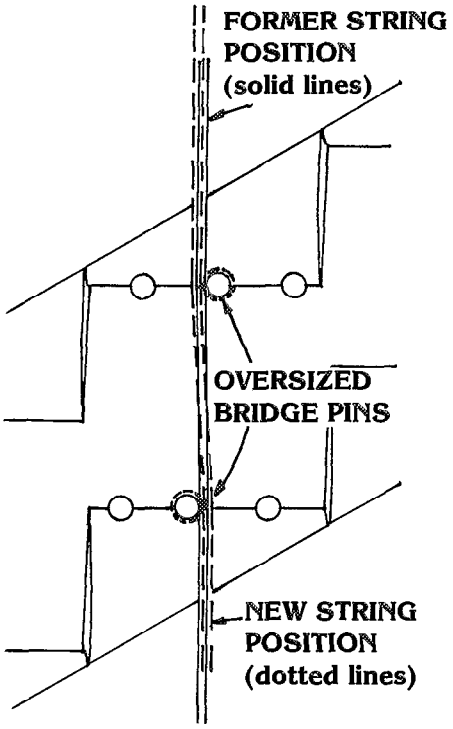


FIGURE #6

epoxy. Reinstall the pin, being careful to wipe away any globs of epoxy that squeeze out around the base of the pin. By the way, makers of commercial epoxy tell us that the stuff has a definite shelf life, which can be significantly prolonged if it is stored in a refrigerator. They also caution us not to apply the epoxy with the same implement used to mix it, on the theory that some of the ingredients clinging to the mixing tool will not be well mixed. So if you mix it with a toothpick, apply it with a clean toothpick for best results.

Good glue joints are essential for transmission of sound. When a piano has a dead or dull-sounding group of notes, we might suspect the cause to be bad hammers, bad strings if in the bass, a loss of crown on the soundboard, or a bad glue joint in the bridge. More often than not, the last will be the culprit. To diagnose the problem, pluck the strings of the affected unisons and compare the tone quality and decay rate with that of nearby unisons. If there is no discernible difference, I would immediately suspect the hammers. But if these notes sound deader than their neighbors when plucked with a fingernail, the hammers would not likely be at fault. Eliminate that from consideration and take a good look at the bridge.

Loose ribs will buzz, a loose soundboard or bass bridge will likely rattle, and a loose treble bridge will usually have a dead sound, a noticeable loss of resonance. If the deadness is in the area of either end of the treble bridge, or especially near a spot where that bridge was notched out for plate strut clearance, look for glue failure between the bridge cap and the body of the bridge. This can be repaired by driving screws into the bridge from the front. If the body of the bridge is separated from the soundboard, use soundboard buttons and drive screws from the back of the board into the bridge. In either case, if at all possible, the technician should try to work some glue into the joint before driving screws.

To sum up, let's take one more look at our troubleshooting technique. If the problem is false beats, look first for bridge pins that are off the edge of the notch and must be moved down. Check also for sidebearing and loose bridge pins, and check the angle of counterbearing at the top. It is possible that the strings themselves are faulty, but I would check these other things first because false beats usually are caused by faulty termination points rather than string defects.

If the problem is buzzing, first check the bridge pins for location and tightness, and check the strings to be sure no foreign matter is present. Then check bearing on both ends of the speaking length, and wrappings in the case of wound strings. Next, check the V-bar for burrs, spacing strings to see whether a new upper termination point eliminates the buzz. From there I would check the ribs, hardware and everything else I could think of. Beware of buzzing sounds that mysteriously fix themselves; if you didn't diagnose it, you didn't fix it, and as sure as the sun will rise tomorrow, the customer will call back to say that the sound has returned. Can you in good conscience charge another fee for the next visit to cure the same problem you charged for before? If you can and do, the customer will be angry,

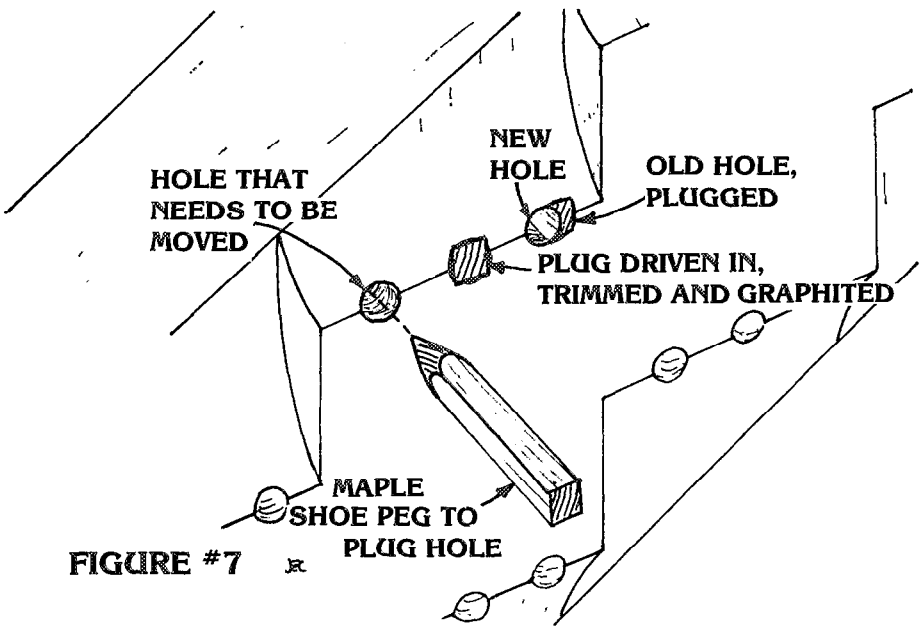


FIGURE #7

and if you don't you will lose money; either way you lose if you don't find it and fix it the first time. This is why efficiency and accuracy in diagnosing a problem is at least as important to the technician as his ability to fix it.

TECHNICAL TIPS

Our first tip comes from Herman Boone of Lubbock, Texas, and addresses the minor problem of determining what size cork tips to use when replacing bridle straps. Boone suggests removing the strap from a medium sized cork tip and fastening the cork to the end of a spare vertical hammershank with a pin and a drop of glue. This will become a permanent tool to be used in estimating the proper size needed for each piano. Simply place the cork tip into the hole in the catcher and it will become immediately apparent if a larger or smaller cork is needed.

Next, Herman Koford of Los Angeles came up with an idea to solve the problem of the lack of threads on the new wire-handled mutes. They were much easier to assemble when they were threaded, says Herman, and he suggests using a discarded elbow wire instead of the wire furnished. The elbow wire is threaded for easy insertion into the mute, and the other end can quickly be cut and bent to shape with a needlenose plier.

Our third tip concerns removing the leg plate from the top of the leg of a grand piano. Even after removing the mounting screws, these plates are often difficult to remove because they are pressed into a tight mortise. The easy way is to remove the screws and then place the leg in position as though installing it on the piano. Tap it from the inside with a rubber hammer, as you would when installing the leg, and the wedging action of the leg plates will pop the plate out of the leg.

TIP OF THE MONTH

This month Tom Pettit of the Detroit-Windsor Chapter tells us how to place the damper upstop rail in a Steinway grand. Not that this is ordinarily a difficult task, but when the rebuilder has inadvertently installed and regulated the dampers without installing the upstop rail, he may feel like jumping off the nearest bridge. All of that painstaking work was for naught; all dampers must come out again to install the rail, right? Wrong, says Tom. Here is his time-saving method:

1. Loosen the treble guide rail screws. This allows the damper action to swing forward without bending the damper wires out of adjustment.

2. Remove the screw from the treble mounting block and gently pry the block off the pivot pin and out of the way. Ease the lever board spring off the lever board.

3. Pull the treble end of the damper action forward. Lift the

lever board slightly so the upstop rail can be inserted under the lever board and over the trapwork dowel.

4. Work the upstop rail behind the damper action, over the flanges and into position. This is easier to do with the rail well over to the right, avoiding the tight clearances in the bass (the bass pivot pin is still in its block). When the rail is maneuvered to a vertical position behind the top flanges, slide it toward the bass until the mounting holes line up, and insert the screws to mount the rail to the bellyrail.

5. Replace the treble mounting block and screw, ease the return spring back into place, tighten the guide rail screws and adjust the height of the upstop rail.

HIGH RISK TUNING PINS

In our November issue we published two interesting questions by Marvin Snell of Scottsbluff, Nebraska. Two of our readers wish to share some thoughts of their own on these topics, the first of which is W. Dean Howell of Clinton, Connecticut:

"On page ten in the November 1979 Tuner-Technicians Forum, you describe what I call 'high risk tuning pins' usually found in the bass section of spinets and consoles. Figure **#1** *on page 11 is an excellent drawing of the problem. lem.*

"On new customer tunings of this type piano, I examine the tuning pins with a sharp eye and chalk the tops of any 'high risk tuning pins' where the string is likely to break. After discussion with the customer on the extra charge, the following repair is made on each marked pin:

"Unwind the tuning pin with the left hand on the tuning hammer. With the right hand, keep a constant tension on the wire at the tuning pin. Keep unwinding until the last coil has begun to uncoil. Pull the wire towards you enough so that rewinding causes the coil to form on your side of the becket.

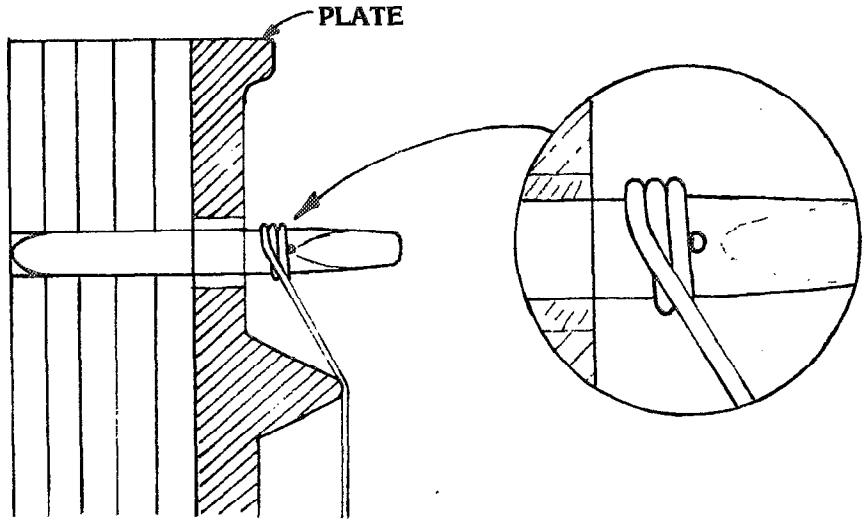


FIGURE #8

Once the slack is fed back onto the pin, use the handle of the tuning hammer and tap the handle end of a heavy screw driver whose blade is set against the front edge of the new coil. Then pull the pin up to and slightly above pitch. Recheck the coil. Then 'set' the pin on pitch.

"For the last 15 years, I have employed this solution. The tuning hammer may fit a little loosely, the pitch sometimes will drop more than standard coiled pins, but by the third tuning following the repair, these reverse coil pins are just as stable as their neighbors.

"Occasionally the wire is already damaged too much from climbing itself and then breaks. This calls for a splice with new wire of the same size, and another new reverse coil on the tuning pin. The high breakage prospect is now corrected permanently. Usually the pin can be driven a little deeper into the block to improve string alignment. One of my customers has a 10-year-old console with reverse coils on **every** *tuning pin. It tunes quite normally . . ."*

This is one fascinating idea! I'm not sure I would agree with it, but let's take a closer look at the possibilities. **Figure #8** is a reprint of the problem as shown in

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.

April 10-12, 1980
PACFIIC NORTHWEST
CONFERENCE CONVENTION
Vancouver, British Columbia

Contact: Al Seitz
1517 Medfra
Anchorage, AK 99501

April 11-12, 1980
NEW ENGLAND SEMINAR
West Lebanon, New Hampshire

Contact: George Wheeler
11 Cherry Hill
Springfield, VT 05156

April 18-20, 1980
PENNSYLVANIA STATE
Altoona, Pennsylvania

Contact: Fred Fornwalt
1333 Logan Blvd.
Altoona, PA 16602

April 26, 1980
LOS ANGELES ANNUAL
TECHNICAL SEMINAR
Los Angeles, California

Contact: Daniel A. Evans
4100 Beck Avenue
Studio City, CA 91604

April 29, 1980
MID-SOUTH SEMINAR
Nashville, Tennessee

Contact: Ronald Croy
3214 Jonesboro Drive
Nashville, TN 37214

May 2-4, 1980
MICHIGAN STATE CONVENTION
Southfield, Michigan

Contact: Calvin Champine
2145 Dalesford
Troy, MI 48098

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

the November 1979 Journal, and **figure #9** represents our interpretation of Howell's solution.

The obvious advantage of this technique is that it eliminates the problem of the string bearing against itself once and for all, while at the same time improves the string angle at the V-bar. There is no way I can argue with that, especially in view of Howell's vast experience and high standing in the technical community. He has done it many times, apparently with good success, and that testimonial counts for a lot.

Having said that, we must also point out the obvious disadvantages of this technique. In the first place, the wire pulls on the pin primarily at its point of departure, not at the becket hole; so pin springing would be increased dramatically. A skilled tuner could probably handle this situation without bending the pins, especially if the technician tunes left-handed, but others might get into trouble with it. Secondly, the fit of the tuning hammer would be sloppy, and the edge of the tuning tip would probably be bearing against the string while tuning. Finally, there is always the possibility that the coil could creep outward on the pin. Remember that the tuning pin begins to taper down almost immediately above the becket hole, and the angle of the pin to the block could be critical in preventing or encouraging this tendency. Tapping the pins further into the block would help the pins resist bending and springing, but would at the same time increase the likelihood of the coil creeping outward because the string angle would then be increased.

I cannot really endorse or condemn this practice, mainly because I haven't tried it. This seems to fall into a gray area, caused by questionable design of the piano or driving the bass pins too deep into the block, and the field technician has few options available in such a circumstance. We find in many cases that the really skilled and ingenious technicians are able to come up with solutions which, though admittedly not ideal, are also admittedly workable and useful if expertly performed. Howell has proven that it works for him, but I'm not sure it would work for everyone. Be that as it may, we thank Dean for this fascinating contribution.

UNIVERSAL STRINGS

Our next correspondent is John

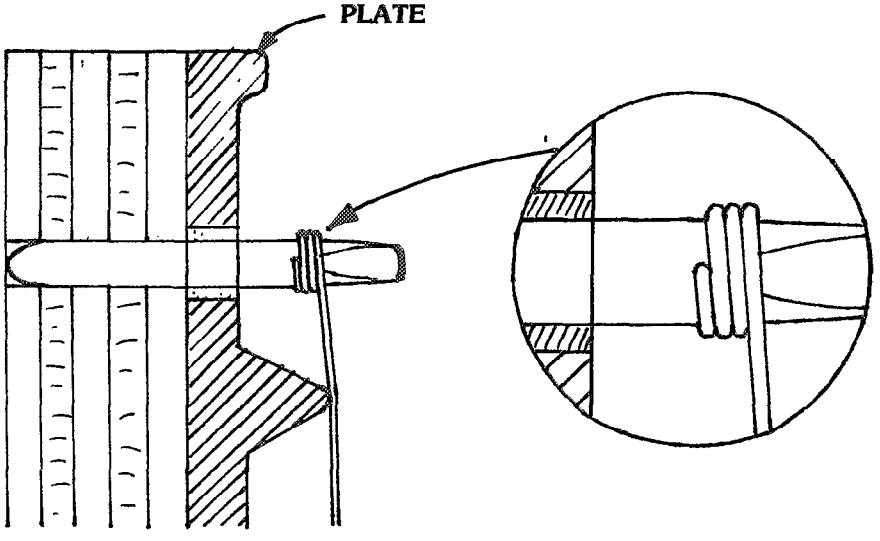


FIGURE #9

Wiley of Courtenay, B.C., Canada, who writes:

"Some further suggestions for Marvin Snell regarding universal bass strings (November '79 Journal, p. 10): On heavy wraps, while holding the end with vise grips, I roll the string in my hand with the end of the wrap between two fingers as I pull. This is easier to demonstrate than explain. I hope it makes sense. On fine wraps, I tie an appropriate-sized weight to the end and twirl it off. This trick I learned from Jacki Beck. I like to twirl it over my head, Roy Rogers style. It not only gets the job done fast, but the hurtling weight, coupled with a few 'eeeehaas', will thoroughly terrorize most customers. I generally do it meekly, outside, with the wire held horizontally at waist level and the velocity just above 'stall speed'. In installing the new string, I also add a twist with the wrap as insurance, and I've never had a rattler."

SNARLING BASS STRINGS

The following is from Jack Ware, a piano technician at Central Michigan University:

"I have read your Forum for November 1979, page 10, and November 1978, also page 10, on replacing both strings of a copper-wound bichord when one of the strings breaks.

"My problem and question. What can be done with strings out of phase with each other that cause "snarling sounds"? I have a Steinway B grand which I am about to restring because of this problem, especially the first note past the break.

"Is the problem trying to obtain matched strings? Or is it just inherent in copper-wound strings?"

If I am reading your question correctly, you are saying that the first note past the break, which would be F21, is snarling because the copper-wound strings of that bichord are out of phase with one another. That isn't possible unless someone has altered the scaling, because as far as I can remember, F21 on a Steinway B is a trichord plain-string unison strung with #20 wire. Check the bridge and the hitchpin area for evidence of tampering, because the solution in this case would be to restore the original scaling. If someone has put bichords in the tenor, those three-hole agraffes will have been exchanged for two-hole agraffes, and there might be evidence of that in the brightness of the brass or scratches on the plate. There would also be some dummy tuning pins in that area, or at least some empty tuning pin holes.

In the event that I have misread the question or forgotten the Steinway scale, let me generalize about wound strings in a unison. If their speaking lengths are identical, length of wrappings equal, and if all strings of the unison are level at the strike point and struck by a properly hung and filed hammer, then they will be in phase with one another when struck. The snarling sounds described will not be there unless something has been altered, especially in a scale of this quality. After checking to be sure the hammer is hitting the unison squarely, I would suggest ordering new strings from Steinway. It could well be a hammer problem, especially if the hammer has been filed crookedly so one string is struck before the other.

BRASS HARDWARE FINISHING

We talked about hardware finishing in this column a few months ago, and discussed procedures for putting a satin finish on brass. Now we have some information from Douglas Ray Neal of Limerick, Maine, on the related topic of achieving a glossy, polished brass finish. Here is the information Doug sent in:

If you would like to have a rich luster to your finished brassware, you might like to try the following method.

1. Submerge the brassware in a liquid stripping material and let it soak for a few minutes.

2. After the stripper has done its work, put on some strong rubber gloves, take the brassware out of the stripper and brush off what's left of the old lacquer. Use a stiff bristled brush under running water for this. (Don't forget your safety goggles. Stripper in the eye is no fun.)

3. Put a cloth buffing wheel on your bench motor and buff the brass. The first buffing is done with Tripoli (a cutting compound to remove surface blemishes). The second buffing is done with Red Rouge. Be sure to wear cotton gloves while you are buffing. You don't want to touch the brass with your bare hands now until after the brass has been lacquered.

4. Put on clean cotton gloves and wipe down the brass with alcohol. The purpose of this is to remove any residue that may be left from the buffing.

5. Now, hang the brass and cover it with at least two coats of clear, spray lacquer.

That's all there is to it.

All of the materials you need for this job can be purchased from any band instrument repair supply house:

FERREE'S, P.O. Box 259, Battle Creek, Michigan, 49016.

ED MYERS CO., 3022 Pacific St., Omaha, Nebraska, 68105 or

ERICK BRAND, 1117 West Beardsley Ave., Elkhart, Indiana, 46514

NEWSLETTER TECH REPRINT

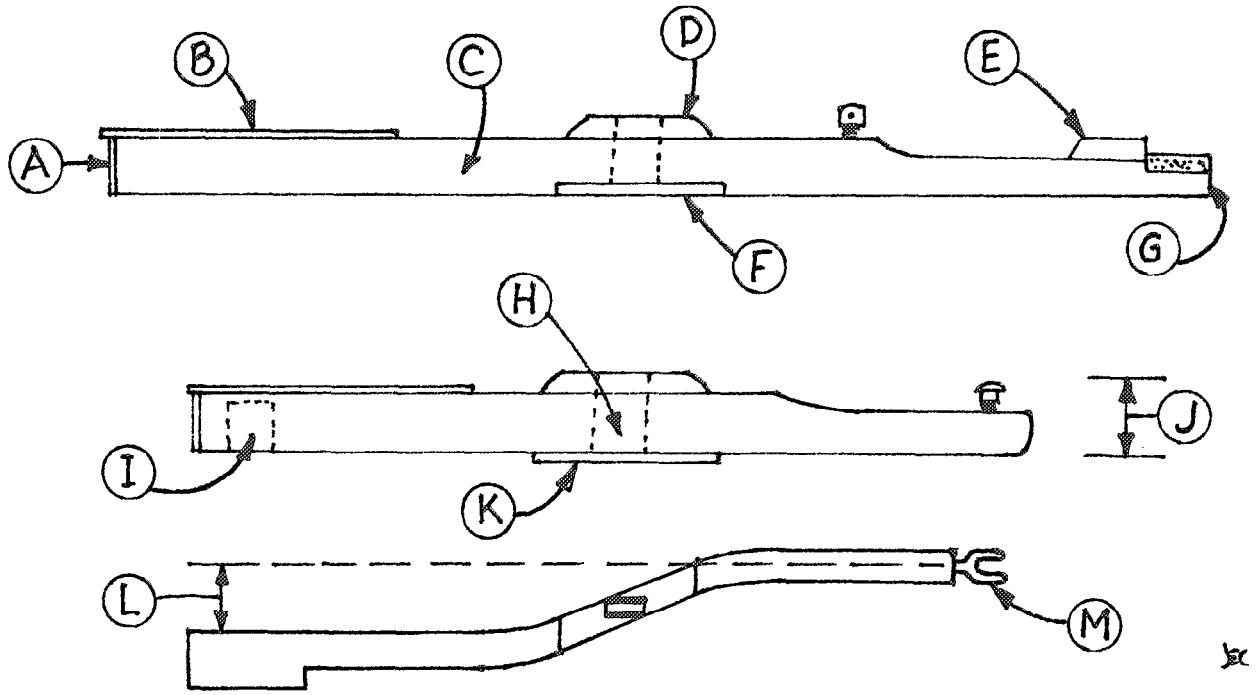
Once again we have found an excellent technical article in the Connecticut Chapter's *Keybed*, edited by Clayton Shufelt. The subject is "Tips on Ivory Laying" and the author is Frank Stopa.

Dry out the ivory until the weight doesn't change, using a gram

KEY QUIZ

Test your knowledge of key nomenclature by trying to name all 13 items, listed in *figure #10* as items A through M. Score yourself as follows: 12 or 13, excellent; 10 or 11, good; 7-9, average; 4-6, apprentice, fewer than 4, student. Answers will be found near the end of the Forum in this issue.

FIGURE #10



scale. It takes roughly about one day at around 100° temperature in the oven.

Joint two ends of ivory that go together, using a file. After taking the old tops off, smooth out the tops of keys, then apply hot hide glue with whiting on top of the wood keys with a brush. Next, put a piece of linen on top of the glue, smooth it out with a knife and let it dry. After it has dried, take a file and cut the excess linen around the keys. Use scissors to trim the front of the linen flush with the front covering.

Place the key in a caul to hold it firm, and place the ivory head in position with the thinner end, flush with the shoulder of the key, and lock the key in position. Apply glue on the ivory head and place it on top of the key. Then apply glue on the tail of the ivory and position the ivory on the key. Keep joints of ivory free of glue 1/16" away from the joints. Pin the back of the ivory tail to hold the ivory firm at the joints. Apply a hot, smooth metal plate on top of the ivory and clamp. Let it dry over night in the clamps. Trim the lip of ivory heads to your specification or 3/32", using a file or sander. Dampen a cloth with white vinegar and wipe it on top of the ivory to dampen. Let set for 10 seconds, put the key in a vise to hold firm; then, using a cabinet scraper, work it from the tip of the head towards the tail at a 45° angle with even pressure. If the ivory scrapes off in a powder form, use more vinegar on the tops. When the ivory is soft enough, it should peel in front of the scraper. You can also use a 10" mill bastard file with no vinegar to file the tops of the ivory smooth.

Using the file, you can round the sides and front corners of the ivory. By using a narrow file, you can angle the shoulders of the key in front of the sharps to remove the sharp edges. Then buff the tops and sides of the key with a felt buffing wheel. The buffing wheel should not run over 350 RPM.

If you do not have a glue pot, use a double pot and heat the glue and whiting until it is workable; i.e., just a little runny.

Linen can be used, or Johnson & Johnson bandage gauze.

If the ivory is laid without linen or if the ivory is not dry, it will crack at the lips. It will also crack if epoxy is used. If contact cement is used, the ivory will curl up when polishing.

LOOSE TUNING PINS

QUESTION: *"One of my clients owns a 3-year-old grand with one very loose tuning pin and several other pins that are marginally loose. All of the loose pins are the ones closest to the agraffes, and all other pins are fine. This is a quartersawn block with no visible cracks at all. My question is, will oversized pins solve the problem? One technician told the owner that the block is shot, but I don't think so. What is your opinion?"* — Ray Siegl, Hamilton, Ohio

ANSWER: In a quartersawn block, or for that matter, any block with relatively few laminations, it is always possible that one ply is cracked. Looking at the bottom of the block tells the technician nothing except the visible condition of the bottom lamination; other plies could be defective.

Sometimes we are called upon to play detective and must try to make logical deductions about a problem which cannot be seen. In this case, the first thing I would do would be to mark the pins that are loose and look to see whether the marked pins are in line with one another. If they are, it's solid evidence of the possibility of a crack in one of the laminations. If they are scattered randomly, then I would tend to discount it.

Random loose pins could be caused by defects in the wood or by errors in the drilling or stringing process at the factory, such as an oversized hole due to a dull or overheated drill bit. It is equally possible that the tuning pin is undersized, or that the stringer tried to drive the pin at an angle and ovaled the hole.

Since Ray has told us that all loose pins were the ones closest to the agraffes, we might assume that a crack is present. Not necessarily, but it will do for a working hypothesis. Replacing a block is an expensive proposition, regardless of who has to pay the bill, and our personal and Guild ethics

Amplifications and Clarifications

The Little Egypt Chapter was incorrectly identified as being in New York State in the February Update. The correct state is Illinois.

Obituary

Bob Traver
Ellensburg, Washington
Member-at-Large

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would seem to require that we be morally certain that such expense is justified before declaring it necessary.

In a case like this I would recommend that torque readings be taken on all loose pins, and also on adjacent pins that are lin line with the offenders. Then I would install oversized pins as needed and take a second torque reading. If the adjacent pins show a significant drop, that would be good evidence that there is indeed a crack, because the wedging effect of the oversized pins lengthened the crack to include those pins. In that event, I would probably say that a new pinblock is needed. But if the oversized pins hold and no new problems develop over the course of several months, then I would be optimistic about the future of that block.

When replacing tuning pins, always remember that the hole will be enlarged whenever a pin is removed and replaced, no matter how carefully done. *If a pin with good torque is removed, reinstall a pin one size larger; if a loose pin is removed, the replacement should be two sizes larger.* Unfortunately, tuning pin diameters vary quite a bit, so it is very important to measure the diameter with a micrometer. There have been instances of replacement of loose pins where the oversized ones were looser than the originals, because a large 2/0 was replaced with a small 3/0 and both pins were within a thousandth of an inch of being identical in diameter. The enlargement of the hole during replacement was more than that, so all that work was for nothing.

A grouping of loose pins in an area rather than in a straight line is more likely the result of delamination than cracking. Delamination is more frequently seen in grands than in verticals because the block is unsupported underneath, and portions of it can move away from the plate if there is glue failure between laminations. This condition is sometimes caused by technicians tapping pins further into the block without supporting it from underneath.

Another possible cause of loose pins in one area of a pinblock is contamination. Evidence of this condition can often be found in the form of stains on the plate web between tuning pins. Some liquids cause rust on the pins, others lubricate the walls of the holes, and still others cause deterioration of the wood. All are bad for the wood, with the single exception of varnish which is sometimes used as a driving fluid or as a treatment for jumping pins.

Ah, you say, but what about pinblock restorers? I'm glad you asked, because I have something to say about these products. First of all, as Walt Thatcher has pointed out in a recent letter to this office, the use of the term "restorer" is misleading in that it implies that the wood is changed back to its original condition when the liquid is applied. Not so, according to leading technicians who have inspected pinblocks that have been so treated. The principal ingredient is glycerine, which attracts moisture into the wood cells, causing them to swell. Apparently what happens is that they continue to swell until many of them are crushed against the steel tuning pin, and the wood in the treated area becomes pulpy and lifeless. Driving oversized pins into a treated block forces crushed cells outward from the pin, resulting in a spongy feel at the tuning hammer and short pinblock life. For this reason, the technician cannot use one of his options at a later date, that of repinning. When the pin dope breaks down, the block must be replaced, period.

Doping has its place in piano work, don't misunderstand me about that. I have used it many times myself, with a pretty fair success rate, on junk pianos that were not worth fixing right. It has saved the day for poor families with old uprights, and there have been times in my career that I have been glad to be able to offer a cheap alternative that is reasonably effective in the short term. But in my opinion it is inexcusable to contaminate the pinblock of a good instrument with such products. We hope to be able to publish some close-up photographs of sections of treated pinblocks in the near future to illustrate just what happens to the wood.

ANSWERS TO KEY QUIZ

A. Key front
B. Keytop or key covering
C. Keystick
D. Key button
E. Key cap
F. Key plate
G. Key tail
H. Routing
I. Mortise
J. Key gage height
K. Key shoe
L. Key flare
M. Key fork

IN CONCLUSION

Jeff Hudson, chairman of the Visually Handicapped Affairs Committee, has asked me to remind our readers that The Journal is also available on cassette tapes, capably and interestingly read each month by George Defebaugh. Write to our home office in Seattle for details.

I also want to take this opportunity to publicly thank James Campbell for his excellent technical illustrations each month. Jim is a piano man with a background in art, drafting and modelmaking; he also builds harpsichords and other early instruments from scratch, with the same level of craftsmanship and attention to detail that is found in his technical illustrations. Many readers have written to compliment me on the drawings, and I want everyone to know that Jim Campbell deserves the credit. Thanks, Jim. □

* * * * * * *

Readers may contribute material to the Technical Forum by writing Jack Krefting, Technical Editor 6034 Hamilton Avenue, Cincinnati, Ohio 45224.

VON DER WERKSTATT

Priscilla and Joel Rappaport

SHOP SAFETY

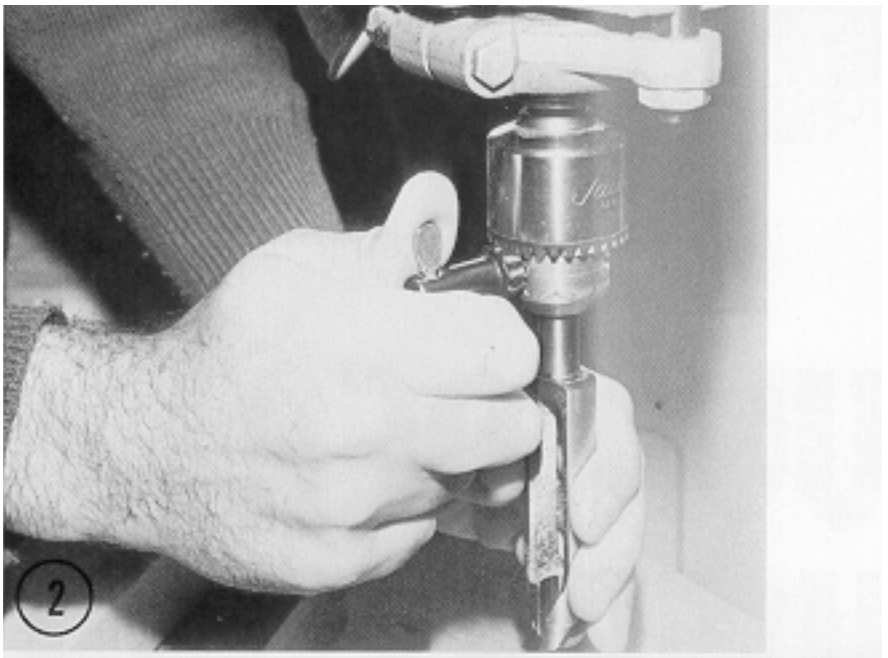
Shop safety is as important as any other part of our work. We constantly must look over the shop and our work from a safety point of view. Many accidents can be prevented by thinking about what has to be done and how it can be done safely. This involves three aspects: physical set-up, a review of operations using potentially dangerous tools, and safety precautions.

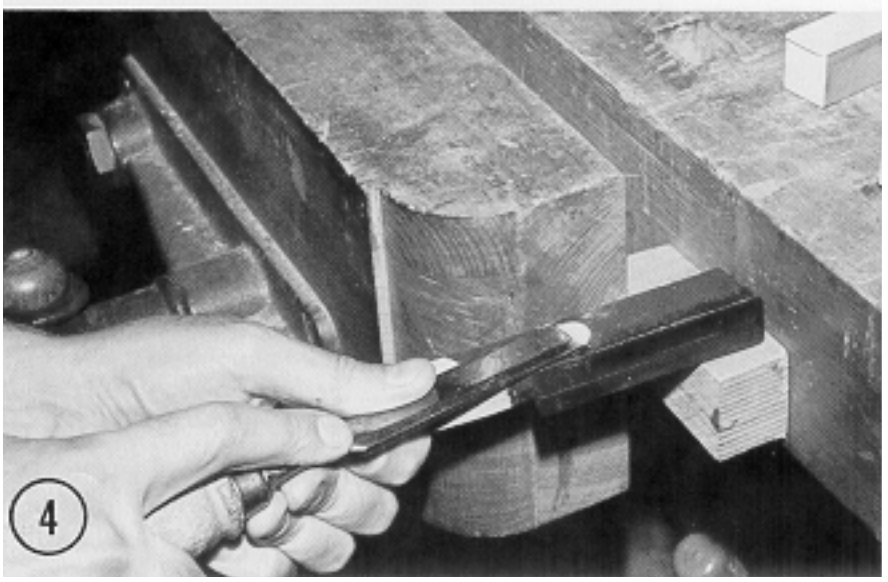
Usually, the shop is crowded with more work than you know what to do with. Paths should be left open to make it possible to get around. Factories often paint lines on the floor and designate the space as a thoroughfare only. When the phone rings and you run for it, knocking over a newly-refinished fallboard and getting jabbed in the side by a key frame dampens that day's enthusiasm for your work. Attics, dry basements and wall space can be used to get case parts and supplies out of the work area.

Power tools should be set up out of the way so that others working in the shop do not bother the operator. Distraction from the task at hand causes many power tool accidents. Each time a saw is used, a conscious effort must be made to keep hands away from the moving blade. Wait until the blade stops completely before sweeping the platform clean or making adjustments. Don't get your fingers anywhere near a moving blade. Use another stick or a specially designed "pusher" to push the workpiece all the way through a cut. Keep your blades sharp. A dull blade causes you to have to push hard on the workpiece and this leads to accidents.

Eye protection should be worn when operating a buffing or grinding wheel and a drill press (**picture #1**). Be careful that using these tools doesn't become too automatic. Double check that a drill bit or plug cutter is really tightened into the drill chuck as shown in **picture #2.**

During a restringing job, eye protection is recommended when bringing the strings up to tension for the first time. If a string with a





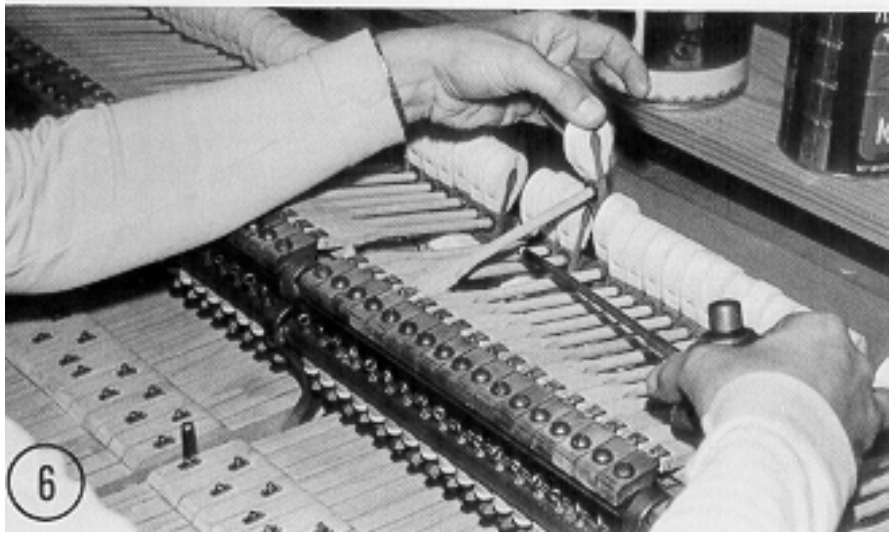
material flaw is going to snap, now is the most likely time for it to go. When a lot of tension is put on it suddenly, there is no guarantee that a hitch pin will not break and come flying right toward you. **Picture #3** shows the last chipping on a grand. A board is placed over the bass strings for all chippings in case any of the eyes are weak and prone to snap when the string is brought up to pitch.

When working with sharp tools — chisels or knives, for example — make an effort to work in a direction with the sharp edge away from you. **Picture #4** shows chiseling wood plugs even with the side of a key. Any arrangement can be set up so that the cutting is made away from you. All tools with sharp edges should be respected. Whether sharpening the tool (**picture #5**), using it or packing it into your tool case, keep that sharp cutting edge in mind.

Always be careful with an alcohol burner (**picture #6**) or heat gun or lamps used to dry out sound boards. A fire extinguisher should be in an easily accessible place in the shop, should it be needed. Also, the relatively new smoke and heat detectors keep watch when you are not actually in the shop. These devices are particularly attractive if your shop is in your house, as ours is. Other precautions include keeping dirty rags from accumulating where they can start a smoldering fire and having electrical work in your shop done in a professional manner. This does not preclude doing the work yourself if you have the knowledge and skill, but don't shortcut safety.

Have a first aid kit handy. We are always using Band-Aids, merthiolate and tweezers for splinter removal. It is good to have an industrial-type first aid kit with sterilized pads and tape for larger cuts. Displayed prominently by the phone should be the telephone numbers for your doctor, ambulance service and fire department.

Safety, as you can see, is something to consider all the time. We have given just a few examples here, but practically everything you do should be preceded by the question, "Is this the safest way?"□



Calculating Technician Part VII

Dave Roberts

So far, we've devoted several of these articles to the step-by-step solution of a typical algebraic formula which might occasionally confront the piano technician. Our example was the calculation of tension in a plain or wound piano string (October and December, 1979; February 1980). Hopefully, anyone who can add, subtract, multiply and divide was able to follow these articles ... at least, that was the objective.

To make calculating even easier, three articles (December 1979; January and February 1980) explained how electronic calculators can be of help, particularly those with a y^x button and an ability to "remember" formulas (programmable scientific calculators).

At this point, let's restate the purpose of this series of articles. It is not only to show the piano technician *how* to use algebraic formulas, but also to introduce formulas which may be useful in his or her work. We started with string tension because most technicians are comfortable with the idea of tension, even if they don't know how to calculate it. Three of the most frequent occasions where a piano technician can utilize his mathematical tools involves replacement of missing strings, scale evaluation and scale modification. In these cases, tension is certainly one factor to consider, but there are several important acoustical factors which should also be considered. Therefore, we will concentrate on formulas pertinent to piano scale evaluation and modification for the next few months. We'll describe the step-by-step solution for each of these formulas and explain how to use them in practice. First let's discuss some aspects of piano scales without resorting to formulas.

As many of you are aware, one of the most common problem areas in piano scales is the transition region from treble to bass, particularly in pianos smaller than about seven feet. For instance, you have probably encountered one or more of the following symptoms which are characteristic of inadequate scale design in this transition region:

- You can't set a good temperament, particularly if wound strings are present.
- You can't tune smoothly in the various tuning test intervals simultaneously.
- You can't tune notes in the upper treble to be in tune with the transition region.
- Some hammers need frequent or excessive voicing.
- No amount of voicing gives a good aural transition from plain to wound strings or from treble to bass.
- Lower (plain wire) treble notes have unstable tuning relative to nearby notes on the scale.

Although the stringing scale isn't always to blame for some of these problems, there is a good chance the scaling is at fault if several of these symptoms are

present together. In this case, the scale can be improved considerably by examining three important acoustical quantities for each unison in and adjacent to the suspect portion of the scale. These acoustic quantities, which we'll eventually learn to calculate, are as follows:

- String inharmonicity.
- Unison loudness/sustaining factor.
- Hammer/string contact time.

The general idea in good piano scale design is that all three of the above acoustic quantities should change in a *smooth* and proper fashion from one end of the keyboard to the other, including the tricky transition region from plain to wound strings. At the same time, each individual string tension should preferably be maintained below a conservative upper limit which, for pianos of basically modern design, is about 60% of the breaking tension. A formula for this limiting tension is:

$$Q = 0.557d^{1.667}$$

In this formula, **Q** represents the maximum safe tension in pounds and **d** represents the (steel) wire diameter in mils. As an example, the core wire diameter for the Bechstein F1 monochord (December 1979 and February 1980 articles) is **d = 63 mils**, so **63** raised to the power **1.667** is approximately **999** (use the y^x button on your calculator as described in the February 1980 issue). Therefore, the so-called safe upper limit for this string is **Q = 0.557 times 999**, which is **556 pounds**. Recall that the actual string tension is **474 pounds**, which easily falls within the guideline mentioned above.

I want to emphasize that mere conformance to the "safe tension" guideline is not a proper way to design wound or plain strings in a piano scale. It is a desirable condition, but one should principally consider the three acoustic quantities mentioned above in order to replace a group of missing strings or arrive at a proper scale modification. In addition to the aural clues for detecting problem scales, you can often spot a problem scale just by looking at the piano. For instance, smoothness in the unison-to-unison variation of the three acoustical quantities implies that half-sizes of piano wire should not be skipped in the treble stringing scale. Although you may approach a point of diminishing return when you get to the larger wire gages, inclusion of all half-sizes during restringing or scale modification can only improve the scale, never degrade it.

Another example of a potential scaling problem is a treble bridge that doesn't make sufficient "doglegs" under the treble plate struts in order to maintain a smoothly accelerating increase in speaking lengths from C88 on down. If this happens, there is not much you, the technician, can do about it. No matter how much you jockey wire sizes in such regions of the scale, you'll never be able to get all three of the acoustical quantities to vary in a smooth fashion. You can achieve a compromise, but you may have to voice some hammers severely in the process.

Perhaps the most troublesome scaling problems are at the bass end of the treble bridge, particularly in pianos in which this portion of the bridge reverses its curvature and exhibits a significant hook back toward the hammer line. This causes the speaking lengths to fall far short of their proper scaling values, resulting in tuning instability, stridency or tinniness and/or loss of power. As this series of articles proceeds, we'll show how this situation can be improved considerably by the addition of properly designed wound strings to the treble bridge. This approach can be quite successful if the hook is relatively strong, but does not begin until fairly close to the bass end. If the hook starts in the middle of the treble bridge and has a slow sweeping backward "S" shape, then hopes for improving the scale are diminished.

Next month, we'll discuss hammer/string contact time — an important parameter affecting the relative strengths of the different partials in a piano tone. So stay tuned to this column ... □

YOUR BOARD in ACTION

A SPECIAL REPORT
BY NORTHEAST REGIONAL
VICE PRESIDENT DICK BITTINGER

The Executive Board of the Piano Technicians Guild in the home office in Seattle. Seated, left to right, Immediate Past President Don Morton; Secretary/Treasurer Charles Huether; President Bob Russell; and Vice President Sid Stone. Standing, left to right, are Regional Vice Presidents Walter Kerber (Southeast); Tom R. Blanton (South Central); Dick Bittinger (Northeast); Daniel Evans (Western); and Ernie Preuitt (Central West). Central East Regional Vice President George Peters was absent due to illness.

WHAT IS THE PIANO TECHNICIANS GUILD?

Many times I have been asked this question when working a Guild membership booth and since I have been a Regional Vice President.

When I came home from the 1979 convention, I had to get a few things in order and papers filed away, and I came across an article that was written many years ago before I even belonged to the Guild. Some things that are written will stand true for many years. I don't know who wrote this article, but maybe whoever did might recognize it. Anyhow, this is a good answer to the question, "What is the Piano Technicians Guild?"

"Piano tuner-techicians are not 'regulated' in the sense that there is a government licensing program or accreditation procedure. The Guild is the only organization out of some 12,000 trade associations that represents the interests of piano tuner-technicians. It is active in establishing standards of professional competence and conduct in its field. The Guild:

"Sponsors seminars, workshops, conventions, publications and meetings.

"Accredits registered craftsmen who prove by standard examination that they are competent to tune, regulate and repair pianos.

"Requires adherence to a Code of Ethics by its members.

"Provides a wealth of services and benefits for its members.

"Is international in its membership and scope.

"The Piano Technicians Guild, Inc. is an international nonprofit organization of REGISTERED professional craftsmen."

Here it is, gentlemen; a good answer to an important question — what is the Piano Technicians Guild? □

1980 Technical Institute Update

This time I thought I would write a little more about our special rebuilding class and private tutoring.

Private tutoring sessions have proved to be very successful during past conventions. Since "you don't tamper with success," we have decided to continue the tradition. This time we will be able to accommodate everyone who wishes to register. We are fortunate to have secured enough excellent tuning instructors to satisfy the demand.

One important fact should be mentioned at this time. Private tutoring is available to all tuner-technicians. The only restrictions are for beginners who would like to become tuners and expect our tutoring sessions to be their first lesson. So please register only if you are a tuner and want to improve on your tuning techniques.

There will be tutors available for aural tuners as well as visual. Make sure to mention the subject you would like to concentrate on, and we will try to pick the best tutor possible for you to work with. **The fee for the 1½-hour session is $25.**

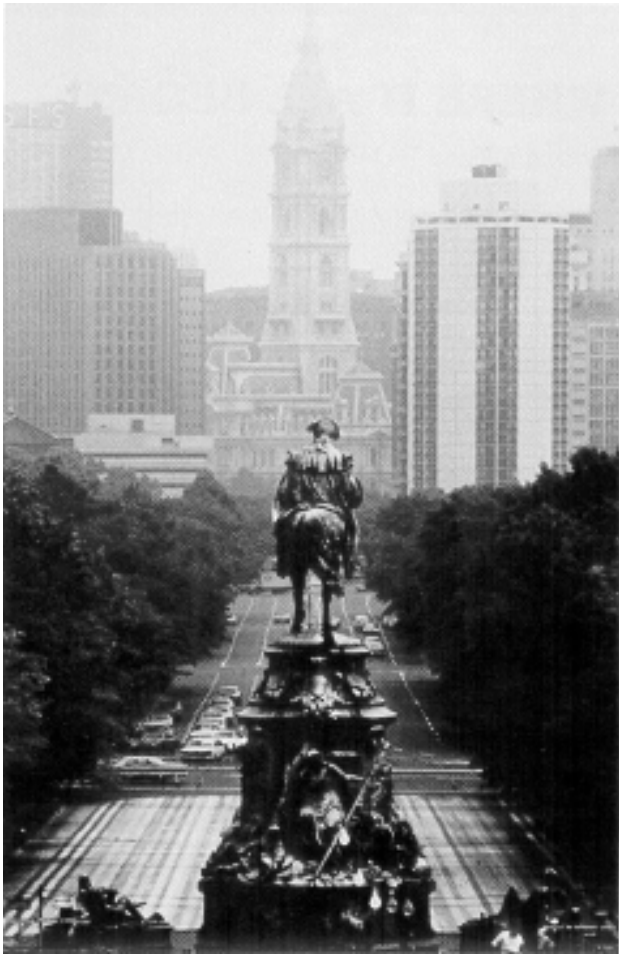
Now for some more information on the special rebuilding class. No doubt rebuilding is a specialized field of piano technology which certainly only a small percentage of technicians are involved in. For those who have this special interest, the class is tailor-made. Not only will it cover all phases of rebuilding from A to Z, but it will also conform with our 1980 Institute motto, to use as much "hands-on" instruction as possible.

Registrants will have a chance to actually participate in every important phase of piano rebuilding. The end results will be a completely rebuilt piano. Our goal is to have the instrument ready for the closing luncheon at the convention on Friday, July 18th.

Since this special class will last through the entire institute, participants will not be able to see much of the regular institute classes. However, in order to facilitate some exceptions, we will have a detailed schedule of the rebuilding class available to those who register for it. This will make it possible (on a limited basis) for those who would like to see a particular session of the regular institute to plan ahead. Regular institute classes will be scheduled in such a way that most sessions will be repeated at different times each day so that even instructors may have a chance to see some of their favorite subjects. **Registration for the rebuilding class is $25.**

One word of importance. This special event is certainly an advanced project. It precludes basic knowledge technology. The class will be handled exclusively by Connecticut Chapter members Wally W. Brooks Jr., Christopher S. Robinson, P. Scott Welton and Frank J. Stopa.

Until next month — Ernie Juhn, Institute Director



From the steps of the Art Museum, visitors can biew the entire length of the Benjamin Franklin Parkway, beginning with the majestic George Washington statue and extending all the way to Philadelphia's City Hall.

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 Home Office, the Convention Registration Form on the adjoining page.

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.

Nonmember technicians may use $30 of the registration fee for membership application fee during the convention. It may not be used as dues. Nonmember spouses may use $6 of the registration fee as Auxiliary dues at the convention.

FILL OUT AND MAIL TO:
PIANO TECHNICIANS GUILD
113 Dexter Avenue North
Seattle, Washington 98109

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 _____

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City _____

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(if not the same as above)

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Spouse's Name _____
(if attending)

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

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_____

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OPTIONAL FUNCTIONS

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

TOTAL ENCLOSED $_____

DO NOT WRITE HERE

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

Chapter No. _____ Member No. _____

Classification _____

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PIANO TECHNICIANS GUILD
113 Dexter Avenue North
Seattle, Washington 98109

IN THE FIELD...

Ben McKlveen

Of all the services we perform as piano technicians, working with center pins seems to be one with lots of headaches. The average technician can recognize the wobbly loose pin and replace it with a larger one, but most tuners do not get heavily involved in center pin repair. Many are not aware of some of the subtleties of center pin problems and successful remedies.

Problems can range from the very loose pin through the very tight, including the pin that slides out to one side, chewing up a bushing as it goes. Inept repair can result in split tenons, be they in hammer butts, whippens or whatever. Or a larger pin can be inserted in a flange with bushings of unequal diameter, resulting in a joint with one side loose and the other tight. The list goes on and on.

Good center pin work is an exacting art. It takes time and practice to learn but, once mastered, the skill is very useful in doing high quality piano work.

Tight center pins are an especially difficult problem. In whippen flanges they are insidious because they are often ignored or misdiagnosed as "sticky keys". This can result in continued repetition problems and whole keyboards that have been overeased.

Repairs for tight centers have included shrinking solutions and lubricating solutions — some work, some don't. Reaming and repinning take skill and time but are effective if done well.

About eight or nine years ago, Francis Mehaffey introduced an electrical instrument to quickly ease center pins in bushings that are too tight. Nicknamed the "zapper", it heats the center pin which scorches the bushing, thus freeing the joint. The zapper can be put together at home inexpensively. Simply wire in parallel a 115-volt primary/12-volt secondary transformer, a small 12-volt alarm buzzer and a pair of tweezers or tongs with the blades insulated from each other (**see figure #1**). An on-off switch is wired in series between the wall plug and the primary side of the transformer. When current flows through the center pin, the buzzer stops sounding so that the heating effect can be timed. I have seen some zappers built with a pilot light that goes out when the tweezers make electrical contact with the center pin so the timing can be done visually rather than aurally.

So much for the basic tool. A few words of caution and remarks on variations are in order. A 12-volt transformer should be wired to draw about 1.5 amps, or that same transformer can be wired to use only half the winding and produce 6.3 volts at 3 amps. Either wiring plan gives a slow enough heating time to give control in the easing process. Generally speaking, the higher the voltage and amperage the faster the heating effect and the easier it is to overdo, burn or ruin a bushing or tenon hole. Remember that the trans-

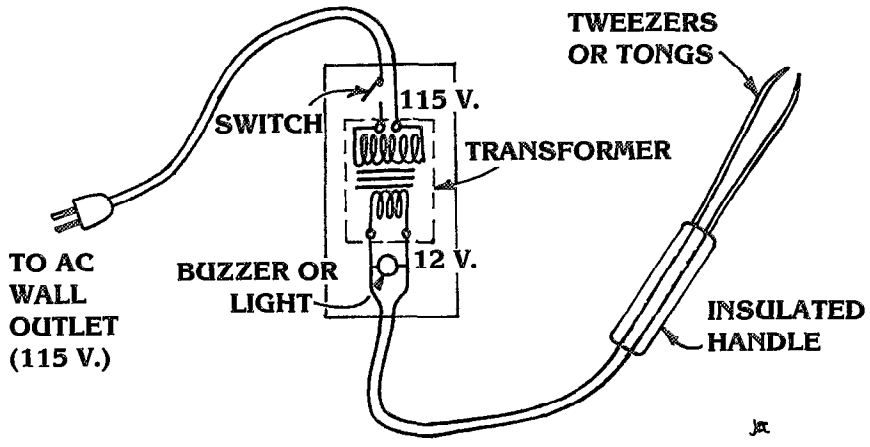
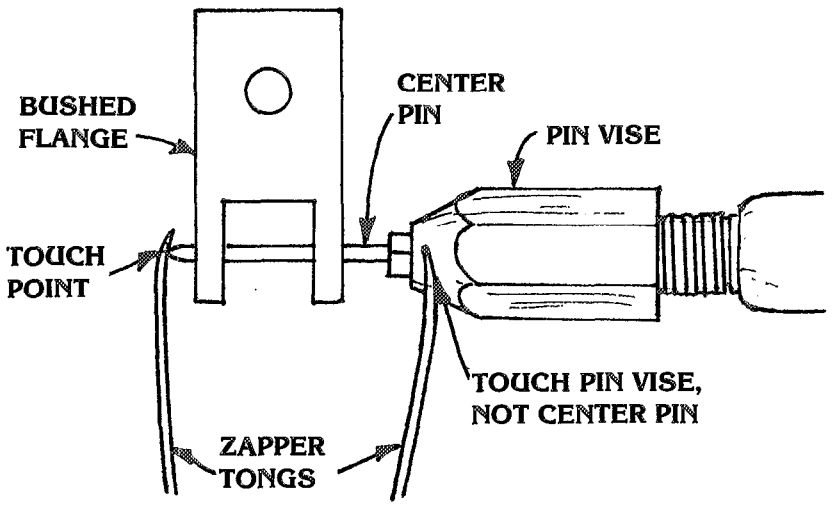


FIGURE #1



SKETCH SHOWING USE OF ZAPPER TO "HOT BURNISH" CENTER BUSHINGS TO CORRECT SIZE.

FIGURE #2

former builds up heat within itself when turned on. The transformer life can be prolonged by turning it off between "zaps", but if you have many tight centers set up you can go from one to another without delay. I have used two transformers in my zapper over the last four years. Standard lamp cord can be used in the wiring, since no special strain is put on the wire in this device. You must use a heavy-duty 6.3-volt pilot light and the 6-volt wiring scheme if you build the light into your zapper instead of the alarm buzzer. The tweezers or tongs should be made of high carbon steel or they will burn and pit. This causes poor contact with center pins and the need for constant reworking of the tips.

For those of you who are not "Heathkit types" who like to build things electrical, you can buy a completed zapper by simply ordering it from Francis Mehaffey. The cost is about $35.

Once you have acquired this device, spend some practice time learning how to use it. Find out what it will do. Lucius Day of Lakewood, Colorado, had suggested a number of exercises to learn how to use the zapper. He suggests that you select a flange and a pin that is tighter than a good running fit. Put the pin in a pin vise and insert it through the flange so that the pin point is all the way through, and there is still a little pin showing between the vise collet and the side of the flange (**see figure #2**). Holding the pin vise and flange in a horizontal position, put a flange screw through the screw hole. Now touch the prongs of the zapper to the pin outside the flange. Hold it until the weight of the screw causes the flange to drop. This will tell you something about the speed of your zapper. Allow the test pin to cool, raise the flange and let it drop again. Sometimes the cooling process will allow the flange to tighten up again and another shot may be necessary. Experiment with various other flanges until you have a good idea of what the zapper will do.

One interesting thing that Lou Day discovered is a cure for uneven-sized bushings. Put a center pin that fits the larger bushing hole in the pin vise. Put the flange on the pin with the smaller hole toward the tip of the center pin. Now touch one prong of the zapper to the tip of the pin and the other to the pin vise collet (**see figure #2**). This method of zapping will generally equalize the bushings since the tip of the pin will get a little hotter than the other end of the pin because of the heat sink effect of the pin vise.

It is possible to enlarge the tenon hole with the zapper and do it evenly. Practice with a pin in the pin vise that is a tight fit in the hole. Heat, rotate and burnish with that pin until it is fairly loose in the wood. Then force a pin one-half size larger through the hole and repeat the process. This exercise should be timed. It will show you how much you can zap before affecting the wood. Also, it allows you to take the slop out of mushy bushings by increasing pin size and avoid messing up the wood hole by faulty reaming technique.

One caution I must stress here. The zapper is not very successful in dealing with tight center pins caused by verdigris or corrosion. (Also, it is not to be used on teflon bushings.) A zap will free the center for a while, but the experience of a number of different technicians has shown that the effect is not permanent (see related letter in Technical Forum). I do not know why this is; perhaps the pin continues to deteriorate and cause sluggishness. There seems to be no substitute for a clean pin and clean bushing in this case. Liquid cleaning of the bushing and new pin will assure permanent free operation if the repinning is properly done.

If you acquire a zapper, by all means practice to learn to use it properly. Time is money, and this device can be a great time saver.□

BEATS: What they are and where they come from

RON BERRY

Perhaps the most important thing to the proper tuning of a piano is the phenomenon of beats. Without them piano tuning would not be possible at all to the accuracy which we can achieve with their aid. However, it seems that beats are really little understood by most tuners and that it is worthwhile to discuss what beats are and where they come from. We are often fooled by beats when we think we hear the proper beat rate and find out later that what we heard was actually a different beat than we are used to listening to.

First we need a definition of a beat. I might venture the following: *the physical interference between two tones or harmonics of tones which have nearly the same frequency*. This interference is heard as a variation in loudness at a frequency which is equal to the difference between the frequencies of the two tones. For example, a tone of 440 Hz. and a tone of 441 Hz. would produce a sound whose loudness increases and decreases at a rate of 1 Hz. or 1 bps.

To begin our examination of beats, let's begin with the simplest interval used in tuning, the unison. (At least it appears to be the simplest at first glance, but we will see later that it is more complex than first appears.) The beat that occurs when tuning a unison is basically what we showed above in the definition. That is, a beat occurring between two fundamental tones which are slightly different in frequency. Naturally, the goal in unison tuning is to eliminate the beat entirely. This is one of the few times that a tuner actually uses the fundamental tone of the string in tuning. The fundamental is used sometimes in octave tuning and the most notable time is in the use of an electronic tuning device. When using such a device with the method of setting the device for the appropriate key and then tuning to stop the pattern, the tuner sets the fundamental tones of the strings to the theoretically correct values which are set up in the device.

On the other hand, an aural tuner almost never tunes the fundamental, but rather the higher partials produced by the strings. Coupled with the effect of inharmonicity, this accounts for the difference in the two types of tuning. Newer methods of using electronic tuners are being developed which use them to tune the same partials used in aural tuning. These methods will lessen the difference between the two types of tuning, but they require a complete knowledge of aural tuning and of where beats heard in aural tuning occur. I hope the following discussion can help to clarify these matters.

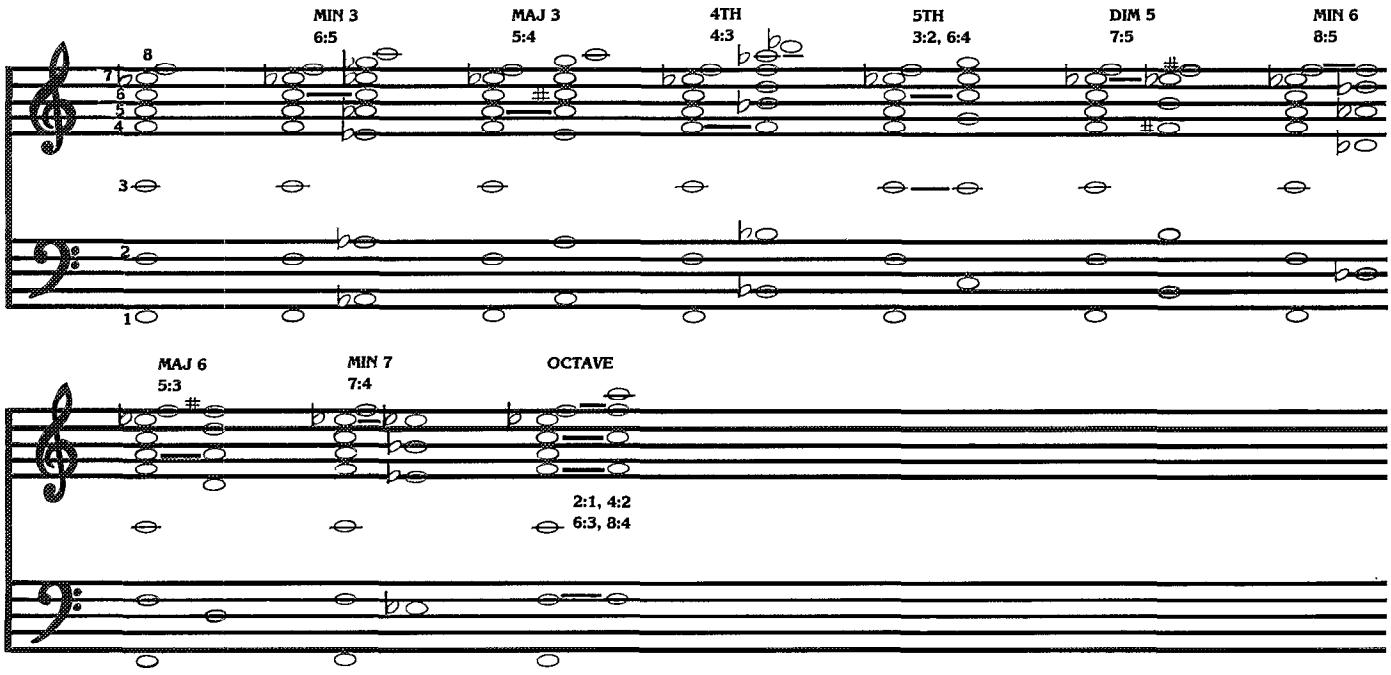
Before proceeding to other intervals, we need to clarify exactly what partials are and where they are. A vibrating string produces not only its fundamental tone, but also many higher tones called partials. These partials should occur at whole number multiples of the fundamental frequency. However, we have all seen many discussions of inharmonicity and the fact that they occur at slightly higher frequencies than where they should. However, for this discussion we will ignore inharmonicity and locate these partials only in an approximate way. Please refer to the first entry in the chart below where I have shown in musical notation the approximate locations of the first eight partials of the tone F2. Keep in mind that these tones shown are only guides to help us find the partials and are not exactly the same as the partials themselves. The human ear has a way of taking a series of partials and hearing them as one tone whose tone is governed by the relative intensities of the partials. The ear also has the capability of separating out the individual partials if it knows where to listen first. Play F2 on a piano, hearing it as a single tone. Then play F3 an octave above and, remembering that sound, play F2 and listen for the second partial of F2. Similarly, play C4 or middle C and remember its sound, then play F2 and hear the third partial of F2. Continuing this way, you should be able to locate the first eight partials shown here.

Let us now go on to the next larger

In general, we can say that the partials of a tone are the following:

1st partial	The fundamental
2nd partial	One octave above the fundamental
3rd partial	One octave and a fifth above the fundamental
4th partial	Two octaves above the fundamental
5th partial	Two octaves and a major third above the fundamental
6th partial	Two octaves and a fifth above the fundamental
7th partial	Two octaves and a minor seventh above the fundamental
8th partial	Three octaves above the fundamental

There are many more partials above these but the first eight will be enough for this discussion.



interval used in tuning, which is the minor third. If we use the minor third composed of F3 and Ab3, we can find in tables of frequencies that the frequency of F3 is 174.61 Hz. and the frequency of Ab3 is 207.65 Hz. These two tones have a difference of 33.04 Hz. This is much too fast for us to hear as a beat so we must look elsewhere to explain the very distinct beat we hear when the tones are played together. Now please refer to the second entry in the chart below, which is labeled min 3. For ease in fitting the music notation within the staff I have chosen intervals in the lower part of the piano's range, but the principle applies throughout the entire range. Notice that above each tone the partials produced by that tone are shown. Of particular importance is the fact that both tones have the C above middle C in their series of partials. Play a minor third and listen to the beat, then play the tone which is two octaves and a fifth above the lower tone; then, remembering that sound, listen again to the beat in the minor third and you can verify that this is where the beat occurs. This beat is happening between the sixth partial of the F and the fifth partial of the Ab. We could therefore say that a minor third has a ratio of 6:5. Again using calculations, the sixth partial of F3 would be 174.61 × 6 = 1047.66. And the fifth partial of Ab3 would be 207.65 × 5 = 1038.25. These two tones would then have a difference of 9.41 Hz. and would therefore produce a beat of that frequency.

Continuing on to the next larger interval, we find the major third, which is in the chart below, labeled maj 3. Notice that the tones F and A have a common partial at the A above middle C. This is the fifth partial of F and the fourth partial of A, so a major third has a ratio of 5:4. Here also we can calculate and find that the fifth partial of F has a frequency of 174.61 × 5 = 873.05, and the fourth partial of A has a frequency of 220 × 4 = 880, which produces a beat of 6.95 bps.

Proceeding, we come to the interval of a fourth and find by aligning the series partials that F and Bb have a coincident partial at the F above middle C. This is a match of the fourth partial of F and the third partial of Bb, so a fourth has a ratio of 4:3.

Next we come to the interval of a fifth and find an interesting situation. By aligning the partials we find that F and C have a coincident partial at middle C and another concident partial at the C above middle C. So we have one beat where the third partial of F and the second partial of C coincide, thus a 3:2 fifth; and we have another beat where the sixth partial of F and the fourth partial of C coincide, thus a 6:4 fifth. The big problem here is that the 6:4 beat beats twice as fast as the 3:2 beat so we must be certain which beat we are hearing when we set it at 3 beats in 5 seconds. Using our previous type of calculations, we find the third partial of F to be 174.61 × 3 = 523.83, and the second partial of C is 261.63 × 2 = 523.26. This makes a difference of .57 bps. Now the sixth partial of F is 174.61 × 6 = 1047.66 Hz., and the fourth partial of C is 261.63 × 4 = 1046.52, making a difference of 1.14 bps. If we add the fact that inharmonicity affects the higher partials more than the lower, we can see where we might run into problems unless we are very aware of which beat we are hearing. The beat rates which we find in books for the fifths in equal temperament are all based on the lower match of partials, or the 3:2 ratio, so this is the beat we need to listen to in setting fifths.

Between the fifth and the fourth is the tritone, augmented fourth or diminished fifth. Although this is not normally used in setting a temperament, it does have a distinct beat which is fast enough to make it usable in the bass portion of the piano, where the beats of other intervals are very slow. Referring to

the chart and the interval labeled dim 5, we find a match between the seventh partial of the F and the fifth partial of the B.

Likewise, with the major and minor sixths and the minor seventh, we find ratios of 5:3, 8:5 and 7:4, respectively. the chart shows the relative position of the beat for each of these intervals. The minor seventh has an extremely fast beat and is undiscernable in the middle and upper ranges of the piano, but it, like the tritone, can be helpful as a check test in the bass by making sure that the minor sevenths or octave minor sevenths have a decreasing beat rate when descending the scale.

One other interval which does not even occur in equal temperament can be found by referring to the minor third again in the chart. We discussed earlier that a beat can occur at the C above middle C, or a ratio of 6:5. Notice also that the two sets of partials also both include Eb above that C. This is where the fact that these notes are only approximations of the real partials comes into play. This beat, occurring between the seventh partial of the F and the sixth partial of the Ab is not audible until the minor third is narrower yet and the 6:5 beat becomes so fast that it becomes more of a buzz. Only then do we hear the next set of partials begin to beat, and we have an interval called a small minor third. This interval is used in many of the historical temperaments, but not in equal temperament.

One very important interval which we have neglected up to this point is the octave. This seems to be one of the simplest, and yet is one of the most complex intervals we will examine. Referring to the octave in the chart below, we find that there are four different places where beats occur. These are where the second partial of the lower tone meets the fundamental of the higher, or a ratio of 2:1; also where the fourth partial of the lower tone meets the second partial of the higher, or a 4:2 octave; likewise we have beats at the 6:3 and the 8:4 partial levels. The difficulty lies in the fact that inharmonicity affects the higher partials to a greater degree than the lower partials, which means that it is impossible to make an octave beatless at all these different partial levels simultaneously. How we go about solving this dilemma has been covered before in The Journal and is beyond the scope of this article. When we match the octave at the higher partial levels it is actually more stretched than it would be at a lower partial match. But, by being aware of just where these beats are occurring, we can control exactly how much we stretch an octave. Also, by knowing the location of these partials, we can use an electronic instrument to measure the partials of the tones instead of the fundamentals, and insure a beatless octave at any one of these levels.

Finally, we return to the first interval we looked at, which is the unison. We first discussed the beat between the fundamentals of the two tones, but on further inspection, we see that beats occur between all the partials of the tones. Even inharmonicity will affect both tones the same if they are well scaled and matched, insuring a beatless unison. However, we have all run into a note, particularly in the bass of cheap, poorly-designed pianos, where we found it impossible to achieve a beatless unison. This happens when, for some reason, the partials of the two tones are not alike, whether the strings be of different length or for some other reason. We then get a beat at some partial level and when we attempt to stop it we find that we have created a beat at another partial level. Again, how to solve this problem is a matter for another article. We should notice, however, that an error of 1 bps at the fundamental level will cause a beat of 2 bps at the second partial level, and 3 bps at the third partial level, and so on. This means that the upper partials are more sensitive, and if we use them in tuing unisons, we can achieve a greater level of accuracy.

Although all this discussion may seem to confuse the matter, the effort has been to point out and clarify a fairly complex situation with which we must live. As new methods are developing for the use of electronic tuning instruments, and we see more articles discussing 2:1 octaves as opposed to 4:2 octaves, these fundamentals of musical acoustics are absoutely necessary.□

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THE AUXILIARY EXCHANGE

Luellyn Preuitt

This month we are including for your information a listing of the officers of the auxiliary with their addresses. We are also including the parliamentarian and Auxiliary Exchange editor, in order for you to have easy access to us when you wish to ask questions, make suggestions, and send news!

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Bert Sierota suggested that we do this. You can see she is keeping an eagle eye on all those records. Wants everything to be in its place and in apple pie order!

CORRECTION

We inadvertently listed **Pat Johnson** as a member-at-large in the December 1979 Journal. Pat is a new member of the Philadelphia chapter. Our apologies, Pat.

*****

This month, President Jewell writes to us about springtime and all sorts of happy things!

"Hello, everyone. Mother Nature's New Year is just around the corner. In this area, the piano technicians are winding up their cold weather, six-month tunings. In the country, the little calves and lambs are being born and it's time to plan for another growing season.

"We are also planning for the great convention in Philadelphia come July. As a prelude in the very near future, Treasurer Dessie will be sending the annual dues billing for you to reply no later than May first. Some may say, 'Why should I renew my membership, I don't get anything for it.' Others say, 'It is the best value bargain I can spend my money for.' I say, 'It is the best $5 you can invest, only if you make it work as a ticket to getting involved, thus reaping many rewards.' If you do not know what I mean, just ask the many Giants of the Auxiliary.

"It is time to present any proposals for council consideration. Some of our newer members may not realize that each year during the first part of the convention, the Auxiliary, as does the Guild, holds a council meeting to air any changes. The council is made up of the board, a delegate chosen to represent your chapter, and one alternate delegate to assist the delegate when necessary. The members-at-large hold a meeting to elect a delegate and alternate from each region to speak for them. The council is not a closed meeting! It is open to all members who wish to observe. One of the many rewards of your $5 dues is to learn and become aware of how our organization works.

"You can learn in advance of any new proposals by watching this column during the next three months. If any are submitted, they will be printed here. Following is the procedure to follow, copied from Bylaws and Standing Rules of the Piano Technicians Guild Auxiliary. *ARTICLE XIV - Amendments; The bylaws may be amended at any annual Council meeting by a two-thirds vote of voting Council members registered and present. Copies of all proposed amendments shall be in the hands of the President, the Parliamentarian and bylaw revisions committee by April first, giving sufficient time to permit publication of such proposed amendment(s) in the Auxiliary column of The Piano Technicians Journal.*

"May I suggest you also send a copy to Lu Preuitt, so she can incorporate the proposal into the column?

"Happy Springtime! — Jewell"

THANK YOU FROM AN AUXILIARY GIANT

Following Jewell's mention of Auxiliary Giants, this writer guiltily remembered that she had a copy of the card (the entire card, mind you!) of thanks sent to the Auxiliary

HAVE YOU SEEN THE AUXILIARY BANNER?

from **Esther Stegeman** concerning the honorary life membership conferred upon her at the Minneapolis convention. Perhaps a good copout would be to say that not including it last month saved it for inclusion at this time, when it is such an appropriate companion to Jewell's remarks. We'll let Esther's words speak for her.

"... My thanks to my chapter members and to all Guild Auxiliary members for the honorary life membership given to me in a most sentimental, touching, lovely and beautiful presentation. It was a totally unexpected surprise, and I shall always cherish it because of the love that comes with it from so many. May I be worthy of your trust. This reward, to me, seconds my quote made at the Hollywood, Florida, convention: 'I will always be a member of this organization'. With great appreciation and a special 'Thank You', Esther Stegeman".

A listing of Esther's contributions to the Auxiliary include serving as recording secretary, president, chairman of the bylaws committee, and any and all duties which she has been asked to perform. **That's** what makes a Giant, Auxiliary members — involvement, willingness and hard work!

While you are attending the convention, you will be able to see the original of Esther's thank-you card in the Historian's book. I shall forever cherish my "handmade" copy. It is one of my treasures, given to me by a friend whom I should never know were it not for the Piano Technicians Guild Auxiliary.

Recording Secretary Bert Sierota is sharing some thoughts with us this month, as she prepares forms for annual reports and chapter officer changes. She started several months ago, as you can see.

"Surrounded by Christmas decorations with the smells of pine and bayberry and the sounds of carolers, I am trying to project myself into springtime. Not easy! Spring is here, the grass is riz, I wonder where the flowers is?? Well, that's a start of sorts.

"As recording secretary, spring is that time of year to once again ask our Auxiliary members to share your activities of the past year with us. How interesting it is to be privy to what's happening in other parts of the country and then realize how much we all have in common. It is also important to know if you have elected new officers and who you have decided will represent you as delegate and alternate at the 1980 national convention in Philadelphia in July. 1980 is the beginning of a new decade, so let's work together to make it a memorable one.

"I look forward to receiving your reports, recording them for posterity, and then passing them on to Lu for publication in the Auxiliary Exchange (with the cooperation of the post office, of course). The forms are sent to chapter presidents, but if by chance I have missed someone, please send your name and address to me. Also, let me know if someone other than the president should receive the forms.

"Pennsylvania will be a beehive of activity in 1980: the Pennsylvania State Convention in Altoona in April; the Philadelphia Chapter Annual Banquet in May; and the 23rd Annual Convention in July. Hope to see all my old friends and make many, many new ones in 1980."

******

I hope you will read on, as we have a most interesting article to present this month. Last summer in Minneapolis, I asked **Martha Riley**, a registered technician of the Piano Technicians Guild and a member of the Los Angeles Chapter, to write an article for the Auxiliary Exchange. Martha had presented a very interesting class for the Auxiliary on the role of spouses who help in shop activities. Her following comments are not in a technical vein, but rather as she sees the role of the Auxiliary from a technician's viewpoint. (Isn't it strange that several years ago I tried to get several men to write articles on this subject for the column and none responded?) I hope we read her words carefully, for there is much to ponder upon in them.

"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. I count roughly four categories of women within the Auxiliary, all having different needs:

1. Auxiliary members — wives of technicians who are not involved in piano technology;
2. Auxiliary members — wives of technicians who do billing, phone work, record-keeping, etc., for their husbands;
3. Auxiliary members — wives who do technical work but not tuning;
4. Dual members — wives who do tuning and technical work and are members of both organizations.

"There is even a potential category of male spouses of technicians, to which my husband belongs.

"The problem of different needs surfaced at the Auxiliary General Meeting in Minneapolis. Some women commented that they saw the Auxiliary as purely social and supportive of the chapters, and not technical in any way. Other women looked to the Auxiliary to assist them in their business building and technical roles. For the Auxiliary to grow and attract new members, it will probably need to place more emphasis on technical and business building activities in the future to reflect increasing involvement of its members in these activities. At the same time, it cannot neglect its social and supportive functions. This is a tall order for one organization. However, I believe that it is important for the Auxiliary to respond to changes in the roles of women.

"Even though we may not feel directly involved, these changes affect us all, men and women, and our ways of relating to each other. In the past, the simple fact that few women did technical work or tuning led to a natural division between the chapter and the Auxiliary along sexual lines. The wives who did tuning and/or technical work usually opted to belong to the Auxiliary because they felt more comfortable with the other women. The increasing influx of women technicians re-

quires a revision of attitudes. Now not all spouses are wives. The question arises, 'Is the Auxiliary an organization of women who are wives of technicians, or of spouses of technicians?' Is the emphasis to be placed on femininity or on relation to a technician?"

(The Auxiliary editor wishes to inject a comment here. Martha is to be pardoned for not knowing the bylaws of the Auxiliary. Her comment is quoted to emphasize what this writer believes to be a common misconception in most people's minds as to how far the Auxiliary actually has come in the last several years in regard to membership requirements. True, our attitudes may lag somewhat behind our words, but those words are as follows: "ARTICLE III — Members, Chapters – Section 1. To be eligible for membership an applicant must be an interested person, 16 years or older, sponsored by a member in good standing of the Piano Technicians Guild, Inc.")

"Most members of the Guild and the Auxiliary would agree that the meetings should be conducted without reference to one's sex. That is, a female technician should feel comfortable in the chapter meetings and a male spouse at the Auxiliary meetings. As we know, the reality is not always the ideal.

"I have first-hand experience with the dilemma of the female tuner-technician. We are in an anomalous position — not accepted completely in either the chapter or the Auxiliary. In addition, we have our own attitude changes to make. After all, we were brought up to be women and we think of ourselves that way, but we very much want to think of ourselves as technicians. Do we forget about our identities as women and give our technician identities priority? We do not want to give up femininity to become technicians. Ultimately, every woman technician must find her own combination of the two roles.

"Perhaps the Auxiliary can assist in the acceptance of these changing roles. Women technicians in the Auxiliary could prepare programs in their particular areas of expertise for presentation to the chapter meetings. After all, many members are well qualified to share their experiences. Also, women technicians from the chapter could be invited to discuss matters of interest to the Auxiliary members who are involved in business building and technical work.

"In this way, acceptance of women in new roles could be promoted, and male spouses could be approached about membership in the Auxiliary — although probably not many would respond, at least the possibility could be opened."

******

An exciting new possibility for the Auxiliary is opened here. We hope you will respond with your comments, suggestions, disagreements, and above all we hope you will read us with an open mind and a willingness to continue the conversation. ☐

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Eloise Ross

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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.

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STEINWAY GRAND—Serial #652, 7-ft. carved cabinet. Overstrung. Rare model signed authentically by "Steinway." All original. Surprisingly good condition. **Mr. Jacobi, Home Piano Center (216) 291-3838**

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BECKSTEIN—7-ft. Grand. Fancy cabinet. Rosewood. Initialed "K.E.B. Serial #2134." Fine tone, perfect plate. Lid-rack-lyre-legs-case perfect. **Mr. Jacobi, Home Piano Center (216) 291-3838**

FOR SALE—Steinway Grand, built in 1897, Model B, art case of light mahogany. In beautiful playing condition, has been properly maintained. Interesting history. $9,200. **(603) 524-7970, 119 Gilford Avenue, Laconia, NH 03246, c/o Weeks**

WANTED

WANTED TO BUY — Mason & Hamlin Grand Piano. Want one that was a player. I have a player mechanism to install. Will pay handsome reward. **Brady, 4609 Crankbrook, Indianapolis, IN 46250 — (317) 259-4305 after 5 p.m. (317) 849-1469**

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MISCELLANEOUS

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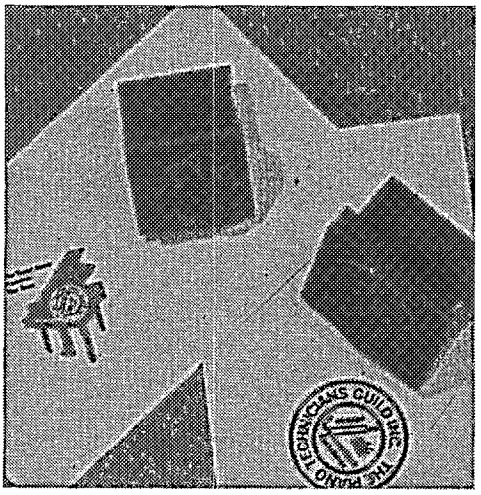
HELP WANTED

PIANO TECHNICIAN — Full-time staff position. School of Music, University of Louisville, Louisville, Kentucky. Should be experienced in concert-level tuning, regulating, voicing, rebuilding of grand and upright pianos. Duties also include maintaining inventory of repair parts and servicing of 78 grands and 78 studio uprights. Salary dependent upon experience and training. The University of Louisville is an equal employment opportunity/affirmative action employer. Send a summary of training and experience, transcripts and three letters of recommendation no later than April 15, 1980, to: **Piano Technician Search Committee, University of Louisville School of Music, 9001 Shelbyville Road, Louisville, KY 40222.**

MANAGER, MUSICAL INSTRUMENT REPAIR — Eastman School of Music seeks manager to supervise repair, maintenance and tuning of keyboard and orchestral instruments, and issuing of instruments to registered students. B.S. and experience in maintenance and repair and management preferred. Send resume to: **Personnel Department, University of Rochester, 260 Crittenden Boulevard, Box 636V, Rochester, NY 14642.** Equal Opportunity Employer (M/F)

QUALIFIED TECHNICIAN wanted to purchase established business in sunny California. Write for details, state qualifications. **Walt Eckstein, 1020 West Las Flores Way, Santa Maria, CA 93454**



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Two styles are available in several sizes. Both die cuts and rubber stamps are mounted on wooden handles for comfort.

LOGO RUBBER STAMPS

All sizes are priced the same and available in two styles.

Price: 1/$3.75–2/$6.50–3/$9.50
Indicate size: 1¼/ round
⅝" round
½" round
1¼" piano
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All sizes are priced the same and available in two styles.

Price: $7.50 each
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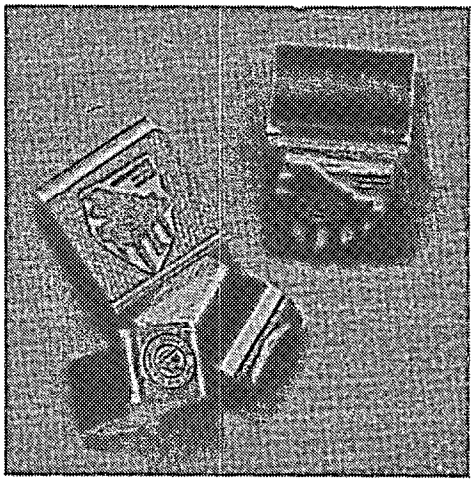
1¼" piano
⅞" piano



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PLEASE SEND:	Quantity	Price	Total
		SUBTOTAL	

ADD SHIPPING AND HANDLING

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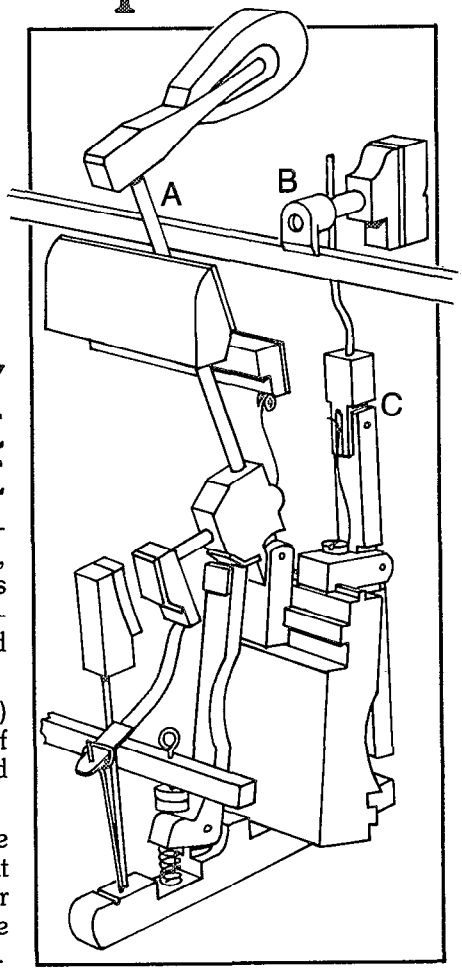
MAIL TO: PIANO TECHNICIANS GUILD
113 DEXTER AVENUE NORTH
SEATTLE, WASHINGTON 98109

PLEASE FEEL FREE TO PHOTOCOPY THIS ORDER FORM

The Wurlitzer sostenuto system —so simple to service



INSTANTLY ACCESSIBLE FOR SERVICE

The sostenuto feature, a popular option on all current Wurlitzer studio, school and chapel pianos (Models 2962 and 2960), follows the principles proved in fine grand pianos and is even easier to service.

Operated from a sostenuto bar (A) actuated by the center pedal, any of 68 dampers may be picked up and held for sustained tones.

A Neoprene sleeve (B) on the damper block shaft has a lip that catches behind the sostenuto bar blade to hold the damper. Neoprene is a virtually indestructible material.

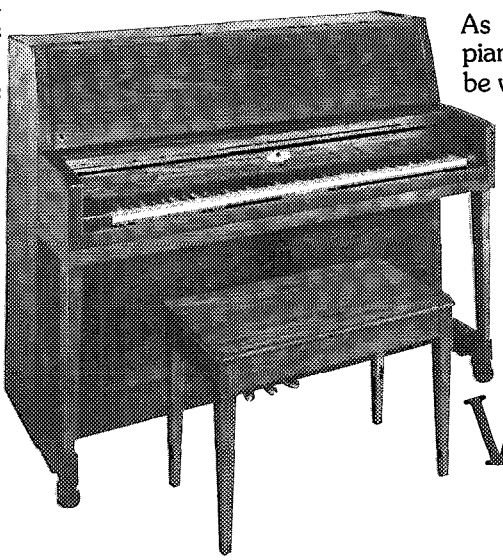
NO NEED TO REMOVE THE ACTION

Technicians will be pleased to know that all adjustments may be made from the *top* of the piano. It is not necessary to pull out the action.

Another fine point is our unique damper lever (C) which is made in two pieces, hinged and sprung to provide flexibility and make adjustments easier.

A new all-spruce Duraphonic Multiradial™ Soundboard improves tuning stability. In tests with up to 90% relative humidity, solid spruce expanded 5 times more than the new Wurlitzer design, causing more serious changes in string tension.

Wurlitzer Conservatoire Model 2960 with optional sostenuto meets all known school specifications. Maximum string length is 48½ inches.



As you continue to service our pianos, your comments will always be welcomed.

WURLITZER®
The Music People
DeKalb, Illinois 60115

PIANO TECHNICIANS GUILD

MARCH 1980 UPDATE

comments from the EXECUTIVE DIRECTOR

As your Executive Editor, I have been exercising my editorial prerogatives for over two years now, and during all of that time I have had few comments on the contents of my editorials. With the August 1979 issue of The Journal, however, I had several reactions. These were mostly good, but one very upset member objected strongly to my rough treatment of organized labor, along with some objections to my objections to the antitrust laws.

These are sensitive subjects, of course. I can well understand that feelings run high with such deep issues since they drastically affect our daily lives, and, indeed, our very existence.

Editorials are supposed to be thought provoking and stimulating. They are supposed to bring common interest subjects into focus and express the view of the writer. Editorials be definition are "to set forth one's position or opinion on some subject." If editorials merely extoll the virtues of God, motherhood and the American flag, I am afraid they would get a bit tiresome.

As your Executive Editor, I am also your Executive Director. I attempt to play a low profile in the organization. I happen to think that the paid staff of an association should never achieve a position of prominence with the group or in the industry. We were hired to take care of the business of the Guild. Your officers and Board of Directors were elected as your official leaders; they are the real heroes. They deserve full credit for the proper running of your organization.

(Continued on page two.)

CHAPTER MAILING INFORMATION

The February chapter mailing included a listing of the chapter officers on record with the home office. Chapters were asked to verify the listings and send any changes or corrections.

A blue MEMBERSHIP INQUIRY paper was also included. The paper shows the procedure for handling new member applications.

Nominating Committee Report

The Piano Technicians Guild Nominating Committee reports that the following names have been received by the committee for the 1980/81 Board of Directors:

President.....Bob Russell
Vice President.....Sidney Stone
Treasurer-Secretary...Charles Huether
Northeast RVP.....Dick Rittinger
Southeast RVP.....
South Central RVP.....Tom Blanton
Central East RVP.....Ron Orr
Central West RVP.....William Brandom
Western RVP.....

All candidates have been sent a consent-to-serve form and information on the duties and responsibilities of the office so that they may be more fully aware of the requirements and obligations of service as a Guild officer.

-- Chuck Burbach, Chairman, Jimmy Gold, Scotty Welton, George Morgan and Joe Saah

(EXECUTIVE DIRECTOR'S COMMENTS
continued from page one.)

Organizations which make "kings" out of their paid staff usually live to regret it.

In regard to my opinions on the antitrust laws and organized labor, may I remind our readers of the days of OSHA? Some years ago when it first developed, the government sent thousands of its official inspectors swarming over the land like a horde of locust to inspect and harrass business and industry. They crawled all over factories and warehouses, repair shops and even offices, and demanded expensive changes and the adherence of numerous rules and regulations, many of which were ridiculous to the extreme. Some good came out of the movement, but at the same time a great many people were put out of business. Thousands of jobs were lost, heavy fines were levied and relentless abuse of authority was heaped upon the private business sector.

When everybody had enough, a great hue and cry arose from the masses. Eventually the politicians heard these calls and called off their bureaucratic hounds. A great deal of harm had already been done.

Gradually, these regulations began to come under control since the Feds felt the heat and turned their duties over to local agencies. If everybody had kept their mouths shut and no words had been committed to written form, we would still have this fearsome monster breathing down our necks.

Along this vein, it is not the unions and organized labor that I object to, per se. One of my concerns with unions is the makeup of that membership. Between 1976 and 1978, union membership increased by 605,000 members throughout this country. This brings total membership up to 21.7 million. This segment of growth was largely due to the organization of people who belong to public employees associations. Members representing private industry actually declined during this period of time.

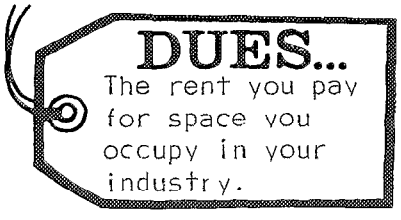
These workers are being paid from the tax base. Taking nothing from these fine people, one must still keep in mind that they do not contribute to the gross national product. It must also be kept in mind that supporting this tax base takes the first five months of our annual pay. This is a sizeable chunk of a wage earner's salary. As the percentage of population working for the government increases, what happens when and if we arrive at the time when one-half of the population is taking in the laundry for the other half? In addition, what happens when public employees gain enough strength in numbers and clout to swing elections and place politicians in office? What happens when politicians begin to depend upon public employees, along with organized labor, to achieve and hold their positions of power?

We are fast getting to the point where the "producers" could become the minority and their capacity to produce would be insufficient to keep up with the demands of the "nonproducers." Where will this place the small independent businessman who has little or no protection or representation working within the system!

Should we not at least be aware of what is happening on the labor scene? I believe that every member and every chapter should energetically pursue all legal means to bring the antitrust guidelines and governmental controls down to a more reasonable and costly level. Keeping quiet about them and meekly going about our appointed tasks will do nothing to solve this dilemma.

We all know that numbers is the name of the game when it comes to influencing legislation. One of the avenues available to a guild such as ours is the Political Action Committee (PAC). We know that it takes vigorous rhetoric, high visability and plenty of letters and telegrams to get the attention of our political leaders and a PAC is even more visible. That is how OSHA was finally brought under control. This is how the antitrust laws can also be revised to take into consideration the interests of all segments of our society.

I hope that you will continue to read and respond to my editorials in The Journal. I know that when I provoke a response that I have approached my subject successfully, whether you agree with me or not.



GUILD LIBRARY

The Guild library of films, tapes and books has been assembled for the use of Guild members, with special emphasis on chapter program use. The Board of Directors and the Chapter Program Committee has discussed the library, and the following procedures have gone into effect.

Backlog: There is a huge backlog of requests for library items which can be filled because the requested film, tape or book is already out on loan. All requests are placed on file, but due to the heavy demand the Membership Department is not able to guarantee an early delivery.

Late Returns: Some of our members are keeping the library items too long. We urgently ask that each borrower return the item just as soon as possible.

FILMS must be returned the day following the scheduled showing.

BOOKS AND TAPES may be kept for only 30 days, and an earlier return is very much appreciated.

Not Returned: Some items are held for months and some are still not returned. It has become necessary to set an overtime fee of $1 per week (or part of a week). Any item not returned will be charged at the replacement cost. It is hoped that we will never have to make a late return billing, but if it should occur all receipts will be used towards adding to the library.

Requests: All requests for library films, tapes or books must now be made through the chapters. This will ensure that the local chapter is aware of the interests and needs of its members and will also give the chapter some responsibility regarding the library items taken out on loan by its members.

Films: In order to help chapters plan programs using Guild films, it will be necessary to include the chapter meeting dates when making a reqest for a film. The film will be sent in time for the chapter program committee to review the Meeting Guide and the film before it is presented to the members.

Film Meeting Guides: The purpose of the Guild films program is to make technical films available to the chapters for their education programs. As an adi to the program format, a new feature is being instituted. Meeting Program Guides are being prepared which show the Chapter Program Committee how to plan for, set up and present the films.. In addition, the guides give considerable information on film contents, bring attention to special areas of interest, and open up areas for discussion by the members.

Two guides are already available and guides are being prepared for all films as quickly as possible. The two available guides/films are: "Prescription for Complaints" and "Upright Action Restoration."

Members-At-Large: Members-at-large may borrow books and tapes and the appropriate RVP will be notified of the request. Until the heavy demand for Guild films for chapter programs has been met, we regret that films cannot be sent to anyone not a member of a chapter.

APPRECIATION: it means so much

Dear Don,

First time it happened to me, very unusual.

Tuned a concert piano for Byron Janis at the Performing Arts Center in Milwaukee on January 10,11, 12 and 13.

After the first rehearsal, he called me at home and thanked me for the tuning.

After the second tuning, he called me and said, "Mr. Kingsbury, you tuned the piano too well, your unisons were too clean, and I am playing Prokofieff (very percussive). I want the tone of the piano to go out into the audience further. I hope you understand me, I don't want you to untune the piano, but just leave it a tiny out so the tones will go further."

I tuned it again, the way I thought he liked it, and the next afternoon he had the courtesy to call me back and say, "Thank you, that's the way I like it."

-- Ralph Kingsbury

NEWSLETTER TIPS

The following information has been prepared by your Newsletter Committ as suggestions for creating new publications and/or improving existing chapter newsletters.

Under no conditions are these suggestions to be construed as dictatorial in individual publications. Just as in a forum, the information assembled here is intended as a guide only. -- Newsletter Committee

* *

Communication is the most powerful of all sociological forces. The printed word is indispensable in building a strong Guild chapter. Some of the basic benefits of communication via the chapter newsletter:

1. Dissemination of chapter news, meeting dates and places, special programs and speakers, chapter technical projects, etc.
2. Membership promotion can be aided through publication of both chapter and Guild happenings.
3. Increased cooperation is possible, by including the dealer and teacher on newsletter mailing lists.
4. Improved piano craftsmanship, by including a technical tip or two, and/or articles by chapter members.
5. Exchange of newsletters increases personal, regional and national recognition of existing group and personal problems. The chapter newsletter can be an effective forum for the discussion of issues which affect members on any level.

Good readability is essential to all newsletters.

1. Remember the time element of your intended readers. Pressures are greater today for reader time than ever before.
2. There is no room for long, complicated sentences in news stories. News items should be clear, concise and pyramided, but not everything printed in every newsletter is news. Many newsletters have printed feature-length articles to excellent advantage which differs from news stories in both content and structure.
3. Each paragraph must be clear, interesting and to the point.

Style is how we say it. Planning is required to achieve accurate information in a smooth, appealing and crisp manner.

1. Factual order -- saying first things first. What happened or is about to happen comes first. Example: "Ailing in recent years, Smith's tuning dropped to almost nothing by 1980." Although his tuning may have been sick, too, it is doubtful the writer so intended. It should have read, "Smith's tuning almost ceased by 1980 due to ill health."
2. Choice of words -- requires extra time and thought. A single poor choice of words or sentences can even reverse the meaning. In general, avoid the use of slang and colloquialisms.
3. Separation of ideas -- avoid crowding too much into one sentence. The obvious correction would be two sentences. Separate subjects into paragraphs.
4. Authoritative information source -- of all information, technical and newsy, is a must.
5. Proofread all articles -- then make corrections. Have someone else proofread the corrected copy for more possible errors in order, content and grammatical composition. If the assisting proofreader is not certain of content, rewriting is the obvious solution.

Newsletter form varies greatly across the country, juding from samples received. Chapter communications range from the sample postal card which merely states factual meeting information, to commercially printed newsletters of several pages. Many chapters solicit small yearly subscriptions for these more complete newsletters to help detray publication costs.

1. Justified margins -- Lining up the right-hand margin looks good, but requires extra work. By using the half-spacer, contractions, abbreviations and word substitution, one can end each line at the same place -- a justified margin similar to those used by most commercial printers.
2. Two column newsletters have an advantage of increased reader comprehension at an increase in speed of reading. The

eyes do less moving and though concept recognition -- not individual words -- is much easier and faster. A justified margin is almost a necessity in two or more column writing.

* * * * * * * * * * * * * * * * * * * *

Next month we will discuss duplication processes which you might consider for printing your newsletters.

NOTE

A green REQUEST FOR SEMINAR APPROVAL FORM was mailed to every chapter in the November 1979 chapter mailing. If you need additional forms, please write to the home office.

LETTERS

Dear Home Office and in particular, The Journal staff:

My compliments on a series of very good issues of The Journal. The staff and writers are doing a job that is much appreciated out here. Jack Krefting's Forum is always a great help as are the excellent drawings by Jim Campbell. I like the effort Don Santy puts into the editorials, and the Rappaports are also high on my list of appreciated people.

Thanks Home Office for sending me the forwarding address of one of our members. Your diligence is making possible a nice visit during the time I'll be attending Yamaha's Little Red School House later this month.

You haven't been on our chapter newsletter mailing list for a while, so I'm enclosing the last three issues.

Yours truly,

-- John Baird
Decatur, Illinois

FLEA MARKET

Are you ready for the 1980 convention and the fabulous BLOCK PARTY and FLEA MARKET? In an effort to determine response and avoid duplications, we are asking that our chapters notify us of the projects which are being planned for the FLEA MARKET.

Please fill out the coupon below and return it to the home office by April 1st. We will reserve a table for your group. This is a terrific way to exchange ideas and help your chapter treasury grow. Let us know if we can expect you to participate.

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

_____

_____

Please register us for the FLEA MARKET and reserve a table for our chapter/Auxiliary project.

Mail to home office
by April 1st.

_____
(Chapter president/person resonsible)

_____
(Name of chapter)

CHAPTER NOTES...

Please remember to include the home office on your chapter newsletter mailing list. All newsletters are reviewed by several departments, then forwarded to Technical Editor Jack Krafting who adapts available technical information for his Journal column, the Technical Forum.

.....The San Francisco Chapter advised its members that there is help learning about wood products. The U.S. Department of Agriculture puts out a Wood Handbook. It costs $8.50 and comes from the Wood Products Research Lab in Racine, Wisconsin. Write to: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Include the stock number on your order, which is #0100-03200.

.....From the St. Louis Chapter newsletter comes this bit of wisdom --

I have suddenly found out why I am so tired.

There are 200 million people in this country, but 84 million are over 65 years of age, which leaves 116 million to do the work. But there are 75 million people under the age of 20, which leaves only 41 million people to do the work.

Of these 41 million, 22 million are employed by the government, which really leaves 19 million people to work. There are 4 million in the Armed Forces, which leaves 15 million, but of those, 14,800,000 are employed by the state and city governments, which leaves only 200,000.

However, since 188,000 of those are in hospitals and insane asylums, etc., there are really only 12,000 people to do all the work. Since 11,998 of these people are in jail, there are only 2 people in the country to do the work.

That's you and me, and I'm tired of doing everything myself.

.....Julie Berry and Arlene Ackerman of the Indianapolis Chapter presented a special program to their chapter on taxes. They had an informal discussion on specific problems and situations pertinent to most chapter members and passed out business kits containing some of the more specialized tax forms and government publications which would be helpful.

.....Editor Carl D. Root of the Northern Virginia Chapter approached recent technical sessions in an unusual manner --

"Your editor will change hats and become an instructor for this month's technical session entitled: TUNING TEMPERMENT SEQUENCES 201. *The analogy here is to college courses, some of which have prerequisites.*

"In this case you are expected to be familiar with the concept of equal temperment, the tuning intervals that are expanded or contracted to accomplish this, and the concept of beats and coincident partials. This information can be found in any of a dozen books that should be bought or borrowed from a fellow technician or the library. (We'll call this refresher course EQUAL TEMPERMENT 101.

"The 201 course is being offered because the instructor feels there may be younger tuners struggling to work with the one temperment they have been taught where familiarity with several might give them more information as they work through the temperment octave.

"Some of the advancing tuners may have given themselves the equivalent of a course that might be entitled: CREATIVE TEMPERMENT SEQUENCES 301. *The results might be able to be improved upon with exposure to more of the time-tested traditional temperments. If you know a temperment sequence which you have learned or devised and you think it might be useful to other tuners, write it down (just the notes; intervals and checks are not necessary) and we will throw it open to discussion."*

Cartoon courtesy of the Santa Clara Valley Chapter monthly bulletin.

.....Brian Grist, editor of the Montana Chapter "Keynote Address," looked forward to the 1980s in this way --

"In a few years, we'll all be chatting about those new polyster-fiberglass-resin soundboards that are probably in the developing states now. Metric will be a way of life in much of our technical literature. Last but not least, piano strings will continue to drift out of (and hopefully back into) tune as usual.

"I think it would be rather farfetched to think that the '80s will be the decade for the extinction of the piano technician. It is difficult to imagine an acoustic piano that wouldn't go out of tune or ever need repair. (If they do think they have invented this, just give it ten years in the average school for definitive testing.) Also, there has been a fantastic upsurge in popularity of acoustic instruments as a whole, certainly not excluding pianos.

"My personal opinion is that we may just be doing more reconditioning work than we thought possible. Notice the rapidly increasing cost of a good quality upright piano, the readjustment of that fine line between "take it to the dump" and "worthy of reconditioning." The future will bring an increase in the amount of people doing piano work, and a relative increase in our chapter and the Piano Technicians Guild as a whole.

"This is great. It is great, that is, if we all take a positive step in strengthening our ties, perfecting our service, and moving ever forward in an effort to hold PTG in the highest esteem."

.....Ed Fesler, editor the Twin Cities Chapter "Soundboard Buttons," tells a story about Nebraska Chapter member Clancy Stout. Seems it happened over a year ago but the word is just getting out --

"It seems that Clancy was speeding along the highways of Colorado when the highway patrol arrested him for doing just that: speeding.

"But Clancy was aware of a little-known fact: the radar used by the patrol is calibrated by a tuning fork. Since it was rather cold weather at the time of the arrest, tuner Clancy surmised that the radar was probably giving spurious readings, inasmuch as tuning forks vibrate at different speeds depending on temperature.

"The patrol turned a deaf ear to Clancy's loud protests that their equipment was in error -- after all, they arrest a lot of nuts.

"So Clancy appealed to the Denver Post. The newspaper dispatched two reporters to Clancy's hometown where the arrest occured, way up in the northeast corner of the state.

"Grumbling, the highway patrol allowed the use of their cars and equipment for the test, which involved calibrating the radar with the tuning fork at one temperature, then recalibrating with the fork at another temperature.

"Sorry to say that no significant variances in the accuracy of the patrol radar was found. Clancy was a guilty with a warm fork as with a cold fork."

.....The Denver Chapter has some great things planned for 1980, and one thoroughly fascinating and education program under way. Owen Jorgensen is going to work with the chapter on historical temperaments, including a public concert demonstrating the music as well as the instruments. Plans are to include the music teachers in the area, with the main focal point, aside from the educational value, to promote the Guild to the public.

.....The Pianoforte Tuners Association of Great Britain is sponsoring a "Tuning Competition for Students" to be held in July. If you are unable to attend the Guild's convention in Philadelphia this year and perchance plan to visit England during July, now's your chance to show your stuff!

.....Fred Odenheimer of the Los Angeles Chapter gave an unusual demonstration at a recent meeting -- he gave a quick setting of the temperatent and then the group was asked to describe all the things he did WRONG. Ten things were mentioned, then the members explained, charted and demonstrated the best technique for setting a temperament.

.....The Redwood Chapter (California) has been contacted by the College of the Redwoods Music Department to ask if the chapter would be interested in doing a seminar in May. This will entail lectures, films and demonstrations on various aspects of the piano world as the technician sees it.

.....When Syracuse Chapter member Kenneth Williams and his wife Marge traveled to Cherry Hill, New Jersey to help set up pianos for testing new piano tuning examiners, they were shocked to find that the whole N.J. Piano & organ Co. had been gutted by fire at 3 a.m. the morning of the test. Kenneth says, "It was shocking to see approximately 60 pianos messed up by ravage of fire, smoke, water and intense heat damage." The test will be rescheduled, hopefully before the 1980 national convention in Philadelphia.

.....Connecticut Chapter member Bobbie Morehouse is married to an account executive for Bach, Halsey, Steward & Shield investment company of Hartford, so her chapter recently benefited from the marriage, too. Husband Douglas gave chapter members insight into the world of finance as it affected the members as individuals. He talked on money management, fixed income, money market funds, equities and, of special interest to the members, piano company stocks. At the close of the meeting he fielded individual questions.

.....The Northern Virginia Chapter has been concentrating on the peculiarities of the various brands of pianos. They feel it is better "to be aware of potential problems of a piano than to have your customer call you the next day to tell you what you missed."

.....As a follow-up to their first piano competition last December, Indianapolis Chapter Treasurer Guy McKay wrote about the event in their newsletter, the "Indy 440" --

"As you all know by know, last December 8, the first and only effort by our chapter to sponsor a piano competition became history. This was possible because of considerable effort and quite a bit of time by some of us. As this was a totally new area for all of us, it took a lot of work just finding out how these contests are run. Also, it was expensive. The prize money was $500, and there was also the cost of printing and mailing the notices, and printing the necessary forms. So it is fair to ask ourselves: was it worth it?

"To anyone who was there at Indiana Central that morning, the answer would have been apparent in the faces of those eager youngsters. They had been preparing for weeks, or months in some cases, for this big event. It would have to be an overwhelming yes. They were very appreciative of our efforts and want to see it continued.

"But the main reason I believe it was worth it has to do with the very purpose of having it. As an organization, the Guild is responsible for promoting music and the use of the piano and all other musical instruments. This means encouraging excellence among our customers. We should be training them to be very picky about the way their pianos sound. We would all prefer to be tuning well-kept pianos several times a year than raising the pitch on a neglected piano every five years or so.

"I, for one, would like to see the contest be an annual event. It deserves to become a local tradition."

.....To demonstrate the new proposed Guild tuning exam, Orange County Chapter member Brian De Tar (described as poet/computer programmer/piano tuner), Paul Monroe and Ken Churchill "supertuned" the temperament section of a Kurtzman grand. The Brian measured each note with the Sight-O-Tuner and entered the reading into his Texas Instruments TI-59 hand computer. Then member Bob Lake volunteered to be the "guinea pig" and set a temperament to be scored by the Sight-O-Tuner/TI-59 "team." A lively discussion resulted.