Piano Technicians ourna January 1985

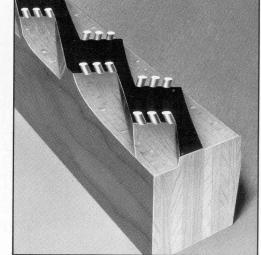
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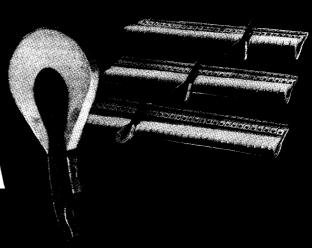


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Piano Technicians Journal

January 1985

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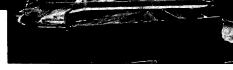
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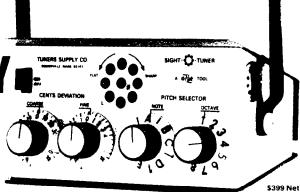


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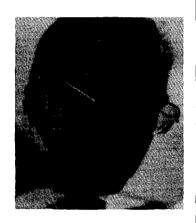
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The President's Perspective



Charles P. Huether President

The Nature Of Change

This month our Board of Directors will be meeting. By the time most of you receive this *Journal*, the meeting will be under way. The results will be sent in the *Update* as soon as possible.

Operating an association such as the Piano Technicians Guild is very interesting. One aspect of our organization is the fact that we try to retain a high degree of control at the membership level. We know that this is not an easy way to go and that we are not always able to do this, but the thrust and commitment of elected officers is to achieve just that in as practical and efficient a way as possible.

This creates some problems. One is that most similar organizations do not function this way. They are. by and large, willing or through the force of circumstances compelled to let most of the details of direction and orientation be handled by the administrative staff. Staff, in turn, accepts the responsibility and models its administration on a generalized organizational format the same or very similar to that of other organizations, somewhat like the piano technician who "knows" how to handle every piano because he knows one brand well. It works fine in general but lacks specific refinement.

We have been fortunate in finding adminstrative staffs who accept the responsibility of seeing the uniqueness of the Piano Technicians Guild and of working with the Board of Directors to maintain its differences and identity. Part of this good fortune, I believe, grows out of the mystique of the piano, a mystique which has made this instrument so fascinating to listeners, composers, manufacturers, for us the technicians and through us, our administrative staff. I am sure we will all admit our attraction for the instrument is a principle reason for our occupational interest and why we work so hard to develop our skills.

The problems of maintaining our organization in the form we recognize and which we have worked to develop and maintain become a continuing dialogue between members, elected officers and

administrative staff. As in all relationships, there is an ebb and flow. a give and take, a series of discussions and adjustments. Personnel changes, new officers are elected, membership changes. Turnover is always in progress. New members come with pre-conceived ideas of what they are looking for and what they hope to find. Through it all, adjustment and compensation is always the order of the day. New ideas and directions take place as new people see things in new ways. Often the obvious is not visible because we are too close to the problem.

The January Board meeting will be a period to exchange ideas and discussion. The July Council meeting will be another, greater one for it will include voices from the grass roots.

Through all the changes in members, officers, administrative personnel, the economy, industry, public acceptance and even governmental concern, the Piano Technicians Guild has strived to maintain a continuity of purpose. structure and identity which can be followed throughout its history. I feel certain that those who are charter members can still recognize the organization they worked to found and develop in the 1950s when great struggles and hard work produced this unified technicians organization. I feel certain that technicians. long gone, who were working hard at the organizations which proceeded ours, would recognize us, too, and be proud.

Change is inevitable, certainly change in elected officers and administration personnel. But in spite of change, continuity of purpose and direction must be maintained. I feel sure that we have done so.

Let us start this new year with pride and dedication to the past, with our eye focused on the future.

Let us face the future with an open mind, ready to adapt and adjust to the present, all the while preserving those ideas and ideals which transcend time and change.

And, by the way, please don't forget to pay your dues.

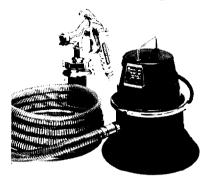


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All this comes in a package small enough for your briefcase, 71/2" wide, 4" high and 5" deep. And it weighs less than 2 pounds.

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From The Executive Director



Barbara Parks Executive Director

Looking Backward; Looking Forward

No doubt about it, the last 12 months have been interesting. For me and everyone else here at the office in Kansas City, it's been a year of discovery, of "learning the ropes."

The challenge for an outsider, as I was, is to learn as much as possible as fast as possible. It's not just a matter of learning names and faces, or even rules and bylaws. Those are the easy things, although they are certainly important. The tough part is understanding the spirit of the organization, the underlying principles that make it go.

From time to time in this space I've talked about associations and generalized about goals and purposes common to every such group. The American Heritage Dictionary says an association is "an organized body of people who have some interest, activity or purpose in common." The Guild certainly fits that very general description, and it has some of the same basic needs as any other association: a sound financial base, an active and growing membership, a range of services to enhance its members' careers.

But just for the sake of argument, I turned back in the dictionary to the definition of a guild. It's a bit more specific: "an association or corporation of persons of the same trade, pursuits or interests formed for their mutual aid and protection, the maintenance of standards, or the furtherance of some purpose;

especially, in medieval times, a society of merchants or artisans."

The key words seem to be "mutual aid and protection" and "maintenance of standards." It's also interesting to note that the concept of a guild is a much older one, dating back to a time when there were few laws or government regulations to protect the individual's rights.

The number of associations in this country is growing at an amazing rate. It only takes a couple of people with one specific thing in common, and presto! you have an association. If you're a left-handed paperhanger or a red-haired funeral director, you, too, can have an association. Unfortunately, many of these groups are short-lived. They come and go without having done anyone any good.

The Guild is different. It has its traditions, a very real purpose and a collective personality all its own. The past year's learning process has been aided by some very helpful people, both on the Board and off. I've been fortunate enough to meet some very good people who care a great deal about the Guild and their fellow members. Every individual brings something to the group.

So we learn from others' successes and failures, as well as our own. Working together, we set our own course and follow it.

May the course you follow in the coming year be a happy and prosperous one.

Focus On The Future!

The Piano Technicians Guild 1985 Convention & Technical Institute will be July 15-19 at the Hyatt Regency Kansas City.

Plan Now To Attend!

Economic Affairs

Bob Russell Economic Affairs Committee

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Prepare for success...the best way to win any customer's confidence, and keep it, is to deserve it! The most successful technicians are careful:

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- to back up, in writing and performance, what they promise.
- to show sincere interest in every customer's problems.

We must constantly remember these points in order to maintain our success. A large sign in my shop for the benefit of myself and my customer reads, "The bitterness of poor quality lingers long after the sweetness of the cheap price is forgotten."

The International Scene

Fred Odenheimer Chairman, International Relations Committee

The Health Of The Industry

While production figures in a number of countries are not available, we know that in many countries sales of pianos are depressed and with them the manufacture of instruments

There are a number of factories, and I am not just speaking of those in the U.S., which are struggling or have gone out of business. One of them is Danemann, a well-known manufacturer in England, also producing Challen and Barrett & Robinson pianos, which had to close its doors. While the demise of these old names may not be of any consequence in the U.S. directly, it points to a weakness of the industry which is not confined to England.

For the technician a healthy piano industry is of great importance. Even if some of us have all the work we can handle at this time, unless new production stays at a reasonable level, future generations of piano tuners will feel the decline of the industry. While one may derive pride in making a piano out of a previously worthless instrument at a great cost and effort, it is equally true that perhaps a client

could have been served better with a new piano. In this way one could have contributed in a small way to the health of the industry.

The genius of Leonardo da Vinci is well-known, and so it is perhaps not surprising to learn that he designed or tried to improve a number of musical instruments. According to an article in Das Musikinstrument, the Museum Milano had various instruments built using the sketches and plans of Da Vinci. These instruments were exhibited in Frankfurt in the spring of 1984. It would be nice if one could see these instruments sometime in the United States or better vet, perhaps Dan Evans in his plans for a future trip could schedule a trip to Milan.

In 1985, the house of Schimmel is celebrating its 100th anniversary. On behalf of the Piano Technicians Guild and especially those of us who were privileged to enjoy the wonderful hospitality at the factory and at the dinner in Braunschwieg in 1981, we want to wish them success and prosperity in their next century.

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Museum Concentrates On Piano Industry

In most museums, pianos are displayed because of their historical value as furniture, or because their owner was famous. Kalman Detrich's museum takes another approach.

After five years of planning, collecting and laying the legal groundwork, Detrich's Museum of the American Piano opened its doors Sept. 7. The Museum, at 211 West 58th Street in New York City, is dedicated to the preservation of a craft which holds an important place in the cultural, social and economic history of the United States, Detrich said. It also focuses on the evolution of piano design and technology, especially in the American piano industry.

In the latter 19th century, one of every six workers in the eastern U.S. was associated with some aspect of the piano business importing ivory, felt, special woods and other materials; manufacturing; designing; sales; teaching; repairing; or music publishing. As European immigrant craftsmen found employment in America, small shops developed into large factories, some of which then merged into multi-million dollar businesses. Experimentation and revision produced a magnificent piano that was respected abroad by artists and artisans alike.

The piano also became a badge of the growing middle class in America. A symbol of success and refinement, it was the entertainment center of the home and the mainstay of public entertainment.

Preserving this way of life is the goal of the Museum of the American Piano. It is vital that records, tools and artifacts be preserved now before they are lost or destroyed, Detrich said.

"I've been in the business of rebuilding and refinishing pianos for more than 20 years," Detrich, a Guild member, said. "So I started the Museum out of love—that and the fact that there isn't any museum

INDUSTRY

or exhibition dedicated to the American piano. You may see a piano here or there, but it's usually because they're very pretty or President Truman played on it. We're interested in the piano in the technical sense, in its evolution as an instrument.

"We now have approximately 12 nice older pianos, plus a collection of tools, catalogs and old pictures," Detrich said, noting that the collection is growing all the time. The Museum is now open to the public from noon to 5 p.m. Tuesday through Saturday.

Detrich wants the Museum to play an active role in the piano industry. The Guild's New York City Chapter meets there and has a telephone number that rings in the Museum office. The museum sponsors a concert series featuring premier performances of piano compositions by today's aspiring composers. Also planned are a series of videotaped interviews with long-time piano craftsmen to preserve the records of factory operations and their individual experiences.

Illustrated lectures for the public will cover the industrial and social importance of the piano and differences in tone and touch between antique and modern pianos. For piano craftsmen, lectures will include the evolution of piano manufacture, innovative patents and techniques of restoration and repair.

"There will be sessions to show technicians how to restore antique instruments," Detrich said. "Restoration is different from refinishing, and it's the same with the inside of the piano. People want to put in new parts, new actions, but no—you have to restore them. The approach is different."

A library of reference materials will serve as a resource for the modern piano industry. Detrich also hopes to establish a network of technicians around the country who will be on the lookout for unusual pianos.

Pinblocks Repaired By Epoxy

EPO-TEK 301 and 301-2 epoxies have low viscosity and excellent drilling characteristics needed to repair loose pinblocks, according to the manufacturer, Epoxy Technology, Inc., of Billerica, Mass.

Both are two-part epoxy systems and cure at room temperature. When cured, they become extremely strong, hard, clear plastics. A pinblock hole filled with the epoxy and re-drilled now has extra strength needed to prevent cracking as the pin is torqued, Epoxy Technology, Inc., claims.

Other potential applications

include filling in cracks on soundboards, strengthening of deteriorating wood surrounding bridge pins, bolting ribs back to the soundboard and filling in bridge pin holes that need to be changed or repaired.

Chickering Upgrades 'Performance Series'

Aeolian Pianos Chairman Peter M. Perez has announced a series of improvements in the Chickering "Performance Series" of 42-inch consoles. The specification changes are the result of "fine tuning we've done in cooperation with such leading keyboard dealers as Schmitt Music in Minneapolis and Jordan-

Kitt in Washington, DC," said Perez.

New features include: solid spruce sounding board; six full-length back posts; all hardwood case (no flakeboard); 14-ply pinblock; blued steel nickel cap tuning pins; and solid copper wound bass strings. The pianos in the "Performance Series" also carry the seal of the National Hardwood Association and the customary Chickering lifetime limited warranty.

The 42-inch "Performance Series" Chickering consoles are available in seven wood finishes and stylings: Traditional Mahogany, Traditional Golden Prima Vera, Italian Provincial Walnut, French Provincial pecan and cherry, Queen Anne Cherry and Spanish Pecan.



Grand Key Height, Damper Lift, Bridge Pin Sizes, Player Tuning Problem, Tech Tips, Reader Comments

Jack Krefting Technical Editor

Grand Key Height

Although this topic has been discussed in these pages before—as has virtually every other topic of interest to technicians—we have received enough requests that another discussion of key height might not be misplaced here.

The biggest problem with a key height measurement or specification is that it is often not adhered to by the maker of the instrument, for reasons which become clear to the technician only when he tries to change the height to conform to factory specs. In the manufacturing process, key height is often compromised for a variety of reasons, usually involving a stack-up of tolerances, but basically to make the piano work when it otherwise wouldn't. We will look at some of those reasons momentarily, but in the meantime we might consider whether the specification is of any value at all.

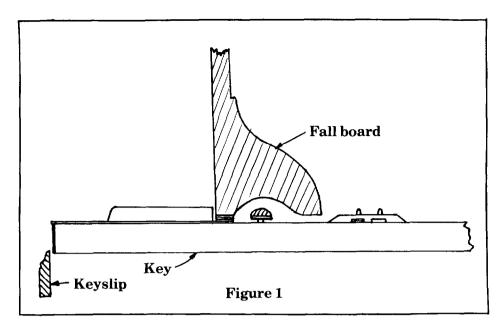
We have distributed an action handbook which listed various

specifications for virtually every piano made, but what good are these specs when a given piano must be regulated the way it will work anyway, regardless of whether the result conforms to the published specs? How many good technicians really rely on such information, and if it really is useless, why was it ever published?

The numbers are doubtless of far greater value to the maker than the technician, whether or not they are rigidly followed, in that they provide some sort of quality check for production control. Wide variations in key height are indicative of failure to hold dimension somewhere. If that dimension is one that the quality personnel know cannot be held, then the variation represents an allowable safety-valve. If it points up a dimension that can be held, on the other hand, it then becomes an indication of a quality problem. One of the most important jobs of a quality control person is the ability to distinguish between the two.

Unlike vertical keyboards, whose keyframe rails can be readily shimmed to any desired height, with grands we must rely entirely on paper punchings to set the key height. We would not want a thick stack of paper punchings on the balance rail. This tends to be unstable, although not nearly so much so as a thicker cloth punching. With this in mind, if we decide to raise the kev level but do not wish to add paper or thicker cloth, the only other possibility short of redesigning the keyset would involve the use of thinner backrail cloth. Conversely, if the keys are too high and the balance rail punchings are already minimal in number and thickness, thicker backrail cloth would lower the keys without eliminating our fine-leveling adjustment possibilities.

There are two aspects to consider here; appearance and performance. Figure 1 illustrates the relationship between the keys and their related case parts, the fallboard and keyslip. When in doubt about key height



for a particular piano, check it for appearance with those two case parts in position. If the keys touch the fallboard when released suddenly, or if the front rail pins or punchings are visible over the top of the keyslip, the keys are too high, at least in relation to those case parts. On the other hand, if the wood of the key behind the key covering is visible under the fallboard, or if the overhangs of the natural keys strike the keyslip at full dip, they are obviously too low.

Most of the above, with the exception of the keys hitting the case parts, would be considered a cosmetic problem only; Figure 2, though, shows one or more aspects of performance as affected by key height. The balance rail pin must not only be high enough to bear against its own bushings, for example, but must also project above the key button. Otherwise, it would be next to impossible to

square the keys. Note also that the key bushing in front must not clear the top of its pin, because if that happened the keys would clatter together instead of moving downward on a glissando. At the same time there has to be enough clearance between the bottom of the key front and the top of the punching, to allow for full dip and some further adjustment beyond that.

Suppose we get the height exactly right with the case parts and balance rail, but the front bushings are above the tops of the front rail pins. Couldn't we solve the problem by simply lifting the front rail punchings and with a diagonal cutter gripping the pin as low as possible, prying the pins upward somewhat? Possibly, but it also possible that the pins would then hit the tops of the mortises as shown in *Figure 3*. Usually if this is happening, it is because the key height has been raised considerably without a cor-

responding change in the key dip, so it is wise to consider all the possibilities before making unusual changes like this.

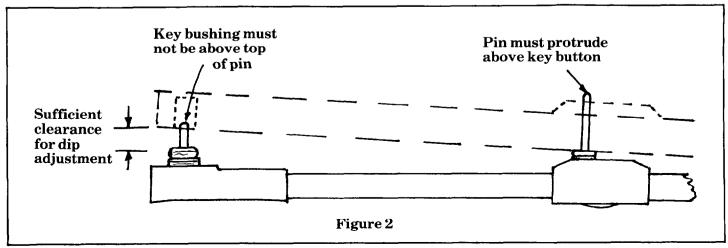
Finally, let's consider the effects of key height changes on the action. Since the capstan is usually about halfway between the balance and back rails, a change in the thickness of punchings at the balance rail of 0.050 inch would mean an increased capstan height of 0.025 inch. If we also increased the backrail cloth thickness by the same amount, we would then have to turn th capstan down into the key by 0.050 inch to maintain the same hammerline, and of course the backchecks should really be lowered by a similar amount as well, assuming they were in the right position before the change, which may be a lot of assuming.

We must also be aware of the fact that raising the backs of the keys by increasing backrail cloth thickness will cause the dampers to lift earlier than before, which will increase the apparent touch weight and allow too high an overall damper lift. And on some pianos the clearance between the keys and the wippen rail is pretty tight anyway, so raising the keys could cause them to strike the underside of the rail on a hard blow.

What it all comes down to is that if the keys look all right at a given height, and if they perform well at that height, then that is probably the best place to leave them even if the service manual specifies some other key height.

Damper Lift

Lim sure this has come up before, probably many times, but



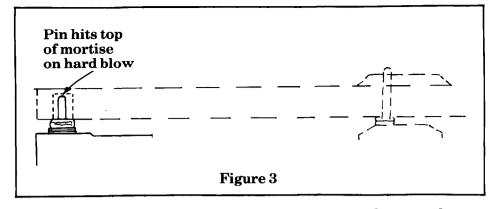
for those of us who are relatively new to this business, could you tell us when the grand damper should lift, as compared to the amount of key travel or hammer movement?

At It's easier to measure hammer movement than key travel because the hammer moves about five times as far, so let's use the hammer movement in comparison to the damper lift. Most experts would like to see the damper just start to lift when the hammer has traveled halfway to the string, or maybe just a bit more than that.

The principal argument against anything sooner than that is that the touch feels heavier, partly because of the added friction but mostly because the key has to lift it before it has as much momentum as it will have later in the cycle, and of course those damper levers that have springs will show more resistance the further they are moved. Add to that the fact that the higher the damper lifts, the more it flops around on the ends of its wire, so to prevent chattering and zinging we have to make the guide rail bushing tighter, which only adds more friction. One could easily conclude, without really exploring the question in any depth, that it would be better to lift later rather than sooner. That, of course, begs the question of just how late it can occur.

If the hammershank is relatively stiff and the key relatively flexible, the damper would lift even later on a hard blow, and the compression of the key end felt would delay the damper lift even more. If this is combined with a situation where damper wedges are elongated, the hammer can conceivably hit the tip of the wedge before it hits the string; even if that doesn't happen, the initial excursion of the string can be partially damped by a late-lifting wedge, resulting in a very tubby sound.

We should also mention the fact that compression changes lift in mostly predictable ways. When the damper felt settles into the strings after some time and use, the damper lever is lower and therefore the lift should be earlier. But what of that key end felt? Did it compress by the same relative amount, to negate the effect of the former? This can vary from section to section in the same



piano, because of the difference in compression between wedges and flats, but it can also vary according to the grain of the wedges—vertical grain felt compresses more than horizontal grain in a wedge damper. Also, much as I hate to mention such a nitpicking detail, the key end felt will compress more when lifting a spoon than a wooden lever because of the greater surface area of the latter.

A good compromise for most grands is to set the damper wires so the dampers just start to lift when the hammer is 7/8-inch from the string.

Bridge Pin Sizes

This current notion of renotching bridges has merit. But doesn't this necessarily mean redrilling to accept larger pins? I can't imagine expecting the same size pins to fit. Epoxy seems an equally poor idea. Too bad bridge pins don't come in 0.001-inch increments as do center pins. Could you please comment?

Douglas A. Kirk, RTT LaCrosse, Wisconsin

helpful if bridge pins were available even in 0.005-inch increments. Not only would this eliminate the necessity for redrilling in most cases, but it also would allow for a tight pin fit without such a radical increase in sidebearing. Even more important, in the high treble where pins really get crowded, it is sometimes impossible to use an appropriate oversize because then the string wouldn't fit between the pins!

Here are the standard sizes that are generally available, usually of mild steel with copper plating and 3/4 inch or 1 inch in length:

No.	Dia.	Suggested Drill Size		
6	0.076''	1.9mm = $0.0748''$		
7	0.086''	45	= 0.082''	
8	0.096''	42	= 0.0935"	
9	0.109''	36	= 0.1065''	
10	0.135''	30	=0.1285"	

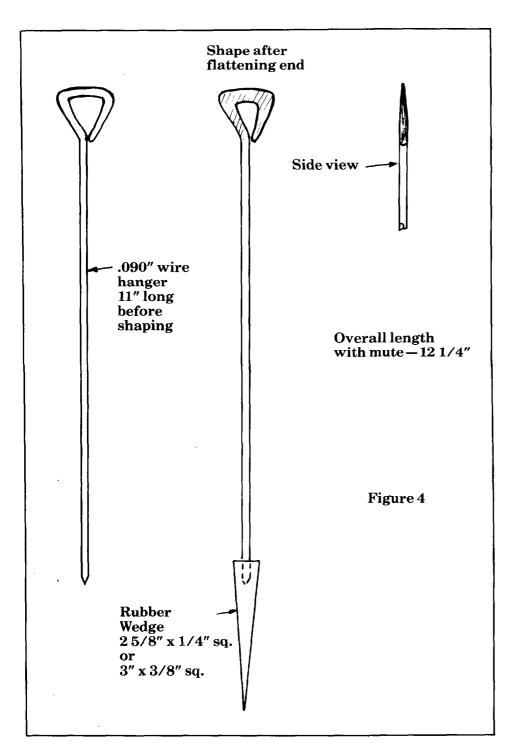
Sometimes in the course of rebuilding, all the bridge pins will be pulled out and the top of the bridge planed, re-blackened and renotched. Jim McVay of Vancouver, B.C., is one of many technicians who have recently reported excellent tonal results with this treatment, especially in a recording studio situation where an absolutely clean sound is a requirement. We must remember that planing reduces downbearing, of course, and that oversize bridge pins increase sidebearing. They will also have a tendency to split a bridge cap if the hole is not reamed out, especially if that cap is flatsawn.

Before making the flat assumption that half sizes or quarter sizes do not exist, perhaps we should pose this as an open question to our readers. If anyone has a source of bridge pins other than those listed above, please send us the information and we will publish it for the benefit of all. They should be made of, or plated with, a metal that is naturally lubricous with steel music wire, otherwise tuning would be affected because of excessive friction at the bridge.

Player Tuning Problem

Hugh Manhart, 324 S. 51st Ave., Omaha, Nebraska 68132, requests assistance from a player expert as follows:

... I have an Aeolian Duo-Art grand, circa 1929, with all the small tubing missing. From a 1925 tubing chart purchased from Vestal Press I was able to get most of it tubed, but there are three parts that I am not sure of. The spool box slide valve



connections are labeled "Duo-Art-On/Off;" "Repeat - On/Off;" and a third that has three positions: "Normal/Soft/Dance."

The keyslip connections include a "Loud" button, a "Soft" button, and a lever labeled "Loud/Soft," having four tube connections on the underside of the keybed. I would appreciate someone's assistance.

Hugh J. Manhart, RTT

When the above letter was received, we referred Hugh to our usual player specialists who were unable to supply this information. Any reader who can do so is encouraged to respond to Manhart's request.

Tech Tips

Our first two tips are from Dick Beaton, RTT of Helena, Montana:

1. Old uprights almost always need hammer reshaping which leads to too much hammer travel. Taking up the lost motion resulting from shimming up the hammer rail tips the wippen forward which moves the damper spoon closer to the damper lever which results in fast dampers and heavy action.

Most technicians just hate to work on damper adjustments. To correct the fast damper problem quickly and easily, just tip the action forward: then with one finger lifting up on the bottom of the wippen front, push the bottom of the damper lever against the spoon until you feel it bend. Test this note and if the damper moves about the time the hammer is half way to the string, continue with another half dozen or so, test again and proceed until you are finished. If you go too far, use the spoon bender from behind the action to bend it back out where it belongs. You can acquire a feel for this system and tell about how far to bend the spoon by lining all the damper heads up. It is assumed the heads have been adjusted so they all rise at the same time when the sustain pedal is pushed down.

2. For you fellows who are stumped when it comes to removing and replacing a very tight action, you have my sympathy. Assuming you have skinned your knuckles prying the thing out one way or another, your real problem begins when you find the bolt is a good quarter of an inch below the bottom of the "U" in the top of the action bracket. You have the best tool right with you if you have an extension tuning lever. Just pull it apart and shove the handle over the bolt and lift on it until you feel it bend. Be careful not to overdo it as the action must seat firmly. Presto! Your extension lever is a dual use tool!

R. A. Beaton Montana Chapter

Our third tip is from John Dragone of North Muskegon, Michigan, whose contribution is illustrated in *Figure 4*:

My tool was born out of the frustration of continually dropping mutes to the bottom of the piano at the treble end. I had tried all the suggestions such as tving two mutes together with a ribbon or a temperament strip or singly with the ribbon or the strip but I have never been happy with this method as the added parts always got in my way and to me were more bother than retrieving mutes from the piano bottom. About a year and a half ago I decided to remove the wire handles from my supplier for my mutes and, using thin wire clothes hangers, I made myself new

handles. With wire cutters I cut 11 inches from the straight section, ground a point on one end to insert into the mute, and rounded the other end and shaped it as sketched. I then flattened this end using a hammer and a vise as an anvil to form a wedge as thin as the tip of a screwdriver I usually used to insert my temperament strip into the piano. I carefully rounded the edge so as not to cut the strip when inserting it. With this new long length it is very easy to use in place of a screwdriver.

After using this handle all this time I have not dropped any mutes into the piano anymore as the extra length prevents the mute from falling into the piano. I never use a screwdriver anymore and, more important, I find tuning with this long handled mute far more convenient and my tuning much faster as the handles are much closer to my tuning lever. I know anyone who tries it will not go back to the standard handle again. Even without the advantage of not losing mutes, this is the best tool I've ever made as it is used every day. It's simple but effective.

> John Dragone West Michigan Chapter

Reader Comment

Grand regulation involves a lot of of paying attention and this is written to bring your attention to the sound of things, mechanical that is.

Much can be found when a grand action is on the bench by listening, but, the work space must be quiet. What are we listening for, anyway?

In checking keys with the top action off, listen for the scratching of wood rubbing at key weights. Damper lifter felt often rubs against its neighbor. Scratching noise will appear if front rail pins are burred. You can hear if paper punchings are not under front rail felt.

With extraneous noise eliminated from the keys, assemble the action and proceed with noise in the top action. By depressing each key, many noises may become apparent, such as knuckles rubbing adjacent shanks, wippens rubbing brackets or adjacent wippens or adjacent knuckles, spring squeaks or clicks, and noisy checking.

I am sure you can come up with your own set of noises to listen for, but if you are not listening or are paying attention to something else or your surroundings are not quiet, these things can be missed. New pianos are just as prone to these things as well-worn pianos. Why not be a hero and make that action just as quiet as you can?

Calvin S. Partridge Portland, Oregon Chapter

Over the past months you have asked for input about various aspects of our craft. I have intended to write, but the Central Illinois chapter has been in the process of planning a seminar which we hosted last weekend. We felt that it was successful, with 127 attendees. At any rate, now I have a bit of time to catch up on things which I have been letting slide.

Regarding measurements: I favor going to the metric system. I am not really comfortable with it, but I feel that it really is the coming thing and the Journal should represent the state-of-the-art in technology. We can expect some surprises though—for example, did you realize that Peter Piper picked 8.81 liters of pickled peppers?

When Yat Lam was writing the Tech column he kicked off an idea I feel we should hold on to, namely we are usually trying to tune Equal Temperament. Thus the question what temperament do you use really means what temperament pattern do you favor? I feel that we should retain this thought.

Could we standardize the method by which we refer to individual notes on the keyboard, i.e. C-40, E-44, etc. rather than C-1, C-2, etc? There are many non-musicians who get confused.

Bob Morris Central Illinois Chapter

Please send all technical articles, tips, comments and questions for publication directly to me at this address:

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Susan Graham San Francisco Chapter

ot that I have anything against the piano, you understand, but I must admit to getting great pleasure from going after one with a hammer and coil cutter. In the last article, I outlined a procedure for evaluating a piano to determine worthiness and cost of restoration. Most of the same procedure is repeated in the shop. This is to check for problems which may have been missed, to refresh your mind about the particular character of the piano, and to measure and record information. Once this is done, it's time to take the thing apart, and that's what this article is about: how to tear down a piano without destroying either it or yourself.

The most useful form in which to record information for restringing is to map the piano as shown in the accompanying example. The drawing should be large enough to show details such as the number of plate bolt holes (for orientation) and there should be space on the sheet for two columns of bearing figures, and the stringing scale if possible. The map eventually becomes a permanent record of the job.

So, right away, get the clipboard; also collect a box for hardware, small case and stringing parts, several smaller containers for sets of screws, and a rack or box in which holes are punched for the plate screws. Having these ready at the outset will help ensure that nothing gets lost.

Remove the case parts, including the lid and the lid hinge parts which are on the case. These protrude just enough to snag you, so take them off, mark them front or back, and tape the screws in place. Music desk slides must also come off so plate location wedges can be marked, and so the plate can be removed. If the slides are screwed on, removal is easy. If they are glued into the case, work them free with a broad-bladed chisel and a lot of patience. The same is true for molding strips at the stretcher.

If you are rebuilding the action, you may wish to check the striking point before unstringing so that if stumbling blocks arise in restringing, you can do action work. However, if a new pinblock is being installed and there is concern over possible changes in plate position, speaking length or striking point, it is better to wait.

Remove the action. Take out the dampers, the entire underlever system and the lyre. Get them out of the way before dirt and wire start flying.

The stringing scale of the piano is vital. If it is a common brand, the scale may be in A Guide to Restringing by John Travis, it may be in the manufacturer's service manual, or it may be stamped on the plate or the bridge. It goes without saying that you should locate the scale before removing any wire. If it is not available, you must measure one

The most useful form in which to record information for restringing is to map the piano...the map eventually becomes a permanent record of the job.

"

string of each unison with a micrometer. It's fastest just to write down the measurements first and translate them into music wire sizes afterwards.

Measure after letting the tension down half a turn on the pin (this is in preparation for breaking the coils as well) so the wire has more give to let you insert the micrometer. Measure where the damper contacted and the wire is relatively clean. Record on the map any tied strings, shared or skipped hitch pins, and other features of the stringing. (When you figure the number of each size of wire, there should be even numbers of unisons or else a tied string in the section).

The other pertinent measurements are crown, bearing, and plate location. Stretch a string alongside the longest rib and measure the gap between the string and the board to record the crown. Using either a dial gauge or a rocker and thickness gauges (from automotive supply: size .0015 - .015 inch), measure the bearing. Take readings at the end of each section, and in the middle of long sections. When making midsection measurements pencil the note number on the bridge so you can be sure to return to the same unison for readings. These figures go on the map with space beside them for another column of bearing readings to be made when the piano is unstrung. This later reading uses fishing line tied onto a tuning pin and pulled to the hitch pin. It isn't extremely accurate, but will show differences in the board between its loaded and unloaded state. This is not only educational but is very useful when bearing must be changed. If the board reacts dramatically to the load of strings (some do, some

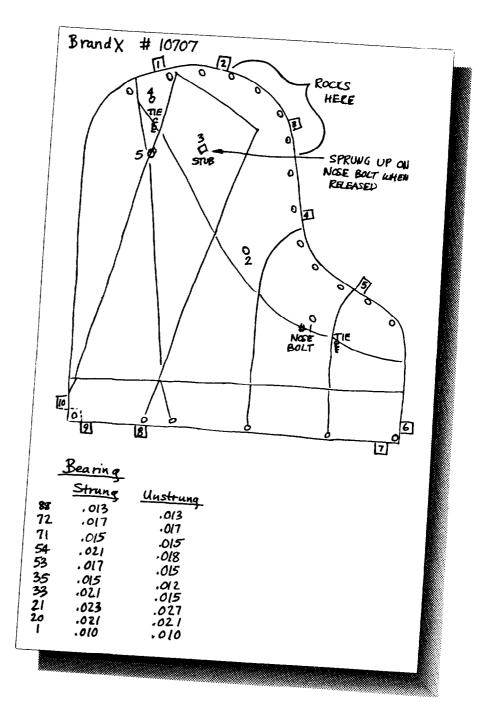
don't), you should be cognizant of it, since the new bearing is set on the unstrung piano but must be correct for the strung instrument. Using this fishing line arrangement and lowering it slowly to touch the bridge is also the best way to check for bridge roll.

There are almost as many methods of registering plate location as there are technicians. Any method must be able to be accurately recorded—don't rely on memory. Consider also the catastrophic-expectations reports; some misfortune befalls you and someone else has to finish the piano. With any method, you must also remember to make the right readings at the right time. Use a map from a previous job as a checklist.

Don't rely on plate screws to pull the plate back in position. There is too much leeway in the webbing holes. You may also find that some screws are bent and do not turn uniformly, which will incline them to pull the plate awry as they are reinserted. Wedges and other markings must be made and saved.

It's jumping ahead in sequence since I take plate location readings after the piano is unstrung, but I'll describe the procedure while we're on measurements. Mark wedges when the piano is unstrung since, again, the plate will be relocated in that condition. Plates shift and compress slightly under tension. Wedges marked between a loaded plate and the case will not be accurate when the unloaded plate is reinstalled.

The wedges should be cured hardwood (scraps of pinblock are good) cut with smooth, uniform faces. A variety of sizes and angles should be prepared. I use four at the front, one at each side of the corner by the stretcher. I place them in some distinct relation to the nearest plate screw hole so I can put them back in exactly the same place. The locations can be marked with masking tape on the case, but tape tends to get rubbed and curled during later work, while the screw holes are permanent. Each wedge is numbered and marked with the piano name, its location noted on the map, and it goes in a box of hardware. Draw the line across the face of the wedge as close to where it intersects the plate as possible—usually a



small pencil or a razor-point style pen works best. Don't hammer the wedges in, especially at the stretcher; that will distort and give an inaccurate reading. Thumbtight should be sufficient to keep the wedge firmly in place—if not, it may be bottoming out on the pinblock or may just be the wrong angle of a wedge. Use at least two at the hitchpin side of the plate, referencing them by a bolt hole. One should be at the farthest point from the pinblock, and another somewhere along the curved side. The longer the piano, the more wedges you should mark.

I drill small holes through the plate webbing into the block, at both the bass and treble end, somewhere near the corner of the case. A nail which corresponds in size to the drill bit can be inserted in these holes as an aid in fitting a new block, as well as for returning the plate to its location on the old. If the block is to be replaced, you'll want to measure from the side and the stretcher to these holes after the plate is out, so keep that in mind when you locate them.

Sometimes it is possible to measure the speaking length of #88 and use that as a plate location guide.

It's an excellent idea, since this length is critical. It can be difficult to do accurately, since it requires measuring the underside of the plate while it's in the piano, not to mention trying to determine at which point on the curved surface of the capo the measurement should begin, and trying to relocate that same point after the plate has been resurfaced and refinished. If you can find a way, though, it's a good step to add.

The next stage is the actual removal of wire. Coil "cutters" are available in two sizes from suppliers. They are the best thing I've found for getting the wire free quickly and safely. The working face does get nicked and dented and must be ground flush from time to time. Grind slowly and cool frequently to avoid losing the temper. Eventually, the hollow in the center becomes too shallow and the tool contacts the top of the pin. At that point, buy another - don't use a cutter that is driving the old pins further into the block. Clamp a large vise-grips onto the cutter for a handle, making it faster and safer to use. This also yields more control of the angle of the tool—tilt the top end away from the bend at the becket so the tool will move toward the pin and wire when it is struck.

Before breaking coils, I give each pin a half-turn down, working gradually by following the rows of pins. This is just so the tension is reduced and the coil stands away from the pin very slightly, but not so much that it is loose or the cutter won't work. I work treble to bass by row and back again. In the bass where there are fewer rows, alternate pins. This lets the tension off the plate gradually. Although I'm told it isn't necessary and that the plate can withstand having the

coils broken at full tension. I'd rather not take the chance. The wire also flies around too much.

When the pins are let down, check in the keybed of the piano to see if there was a wedge between the plate and the belly rail (as in many sizes of Steinway). Retrieve and save this wedge, and remind yourself on the map that it needs to be reinserted. Put the pinblock jack under the block for insurance, and put a length of two by four across the bass strings. Since these strings are twisted, they tend to jump off the hitch pin when released.

It goes without saying that this is a hazardous operation, with razorsharp ends of newly cut but old and rusty music wire being produced, as well as the noise of using the cutter and drill. Do this job in full armor goggles, ear protection, and dust mask.

Use as heavy a hammer as is comfortable to grip and swing. One good bang is usually enough, although some need another whack and there are a few which bend and have to be pulled out. Following the rows will keep your place. It goes very fast once you're in the rhythm. especially with a vise-grips on the cutter.

The freed coils must be cleared of the pins, using a stringing hook and brute force to hook and yank them up over the top of the pin. Keep your hands out of this mess—the wire is now tangled and sharp, so discipline yourself to use the stringing hook or a pliers only, not fingers. Avoid bending over the pins to see what you are doing or to throw your back into the yanking-up motion. Bending over something you are pulling up is a good way to break a tooth or install a stringing hook in your chin. Stand upright and use your arms.

Round or Square Legs

Mahogany or Walnut Finish

In the capo section, the wire is now free to remove. I clip off and leave the loop ends from single strings as a reminder for the stringer. Save all the braid and understring felt and any cardboard or wood under it. Scribe the plate with an awl, outlining the counterbearing bars in front and duplexes or aliquots in back. This scribing must be deep enough to show after the plate is refinished, and should outline the front and back of a piece if there is any chance it could be reinstalled backwards. Number the underside of metal pieces by slashing lightly with a file, and mark their sequence on the map. Stick individual aliquots on a piece of tape in order, just in case there is variation in the size which would affect bearing. Put another piece of tape across the top. so the units are firmly held, and number the upper and lower ends of the tape. If anything is unusual about these pieces—such as one missing—record that.

Removing wire in the agraffe sections requires cutting it free from the coil so it can pulled through. This, too, is a job for the string hook, to hold a bundle of coils up so the wire cutter can get in. Just hook a tangle of coils and snip until it comes free and throw it away - the tuning pin area should be cleared of all wire.

If the bass strings are to be sent for duplication, be sure to keep them in order. You can save postage by taking a paper pattern (before lowering tension) and sending that; if the piano is a well-known brand, the stringmaker may have the scale and can supply a set knowing the model and serial number.

Avoid scratching the plate or the board, and try to keep the wire in its usual plane—don't pull upward against the inside of the agraffes. Pay attention to how rusty the wire is, and how readily it pulls free. This is part of deciding whether or not to change agraffes.

Keep everything that comes out except the wire and pins. It saves time to have patterns, and they serve as a reminder of how many sections were braided, etc. (It's not necessary to save all the hitch pin punchings if there are such, though).

Breaking coils results in lots of little short ends of music wire floating around the webbing; former

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beckets, looking for an adventurous new life by wedging themselves in the pinblock holes and other inconvenient places. To prevent this, vacuum before continuing.

The piano is now bare except for the pins. If the block is to be replaced, the method of removing pins is of no consequence. If you are reusing the block, though, some thought should be given to possible effects on the pin hole. There are two schools of thought. One states that the pins should be turned out slowly to avoid building up heat and scorching the hole. The other maintains that the pins should be moved as quickly as possible, since heat is inevitable no matter how the pin is turned and it should be gotten out of the block. I subscribe to the latter, and use an electric drill with the bit available from some suppliers. It requires a heavy-duty, reversible drill (mine is a 1/2-inch Craftsman Commercial). Pulling the pins is done exactly as one would expect — with the drill in reverse, the bit grabs the pin and turns it. Sideways pressure with the bit as the drill is lifted will grip the pin and bring it out. Get it all the way out as quickly as possible, to minimize scorching. You develop a feel for iust how much to squeeze the trigger to bring the pin up but allow the bit to slow down to grab the next pin. One thing I like about the Craftsman drill is that it has three handles, so I can grip it with two hands and stop the backward kick of the drill by bracing my arm against my side. Even the heavy-duty drill heats up, so pull a section and let it cool while the pins are picked up and thrown away. Check a pin in

each section for length and diameter.

This is the time to make a second bearing check with the fishing line, and mark the plate registration wedges. Then, all that remains is to remove the screws and bolts.

As you might have suspected. there's a method for this as well. Use a brace and a screwdriver bit which is large enough and hollowground so it fits firmly into the screw slot. If screws are frozen, use an impact screwdriver. This is placed on the screw and turns when struck with a hammer. In my experience, it will persuade the most recalcitrant of screws to move. Large hardware stores carry them. Third choice of removal tools is a large square-shanked screwdriver with a vise-grips attached to the shank as a right-angle handle for leverage. You will also need sockets and a driver with an extension for most plate bolts. Put a front rail punching or two inside the socket so it rests on the top of the bolt and doesn't mark the plate.

Remove the screws very gradually at first. Loosen them slightly and more or less at random—one in each section at a time, every other plate bolt, ease up the nose bolt nuts, and go around again. Watch the plate, especially at the nose bolts, to see if it has been sprung. If so, you'll need to adjust the bolts, and may have bearing problems. Continue to ease off the screws and bolts until they are all free, then back them out completely and put them in order in a rack made of a cardboard box with holes punched in a piano outline. These screws may not be uniform, some may be

bent, etc., and it is just good practice to put a screw back in the same hole.

When the plate is free, go around and push and thump it to see if you can force it down or get it to rock, or if it has details on the map. Ideally, the plate should sit evenly enough on its supports to "float"—you should be able to lift it slightly at any point.

But now I'm really ahead of myself, because a complete tear-down is a day's work already!



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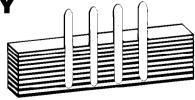
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ON PITCH

Tenth In A Series of Articles Dealing With The Integration And Equation of Aural And Electronic Tuning Techniques

Rick Baldassin Utah Valley Chapter

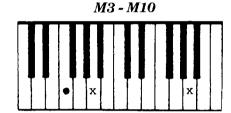
ast month we discussed compromises between various types of octaves. It was noted that since equal beating interval tests gave pure octaves at a given level, having the same tests beat unequally would give an expanded or contracted octave at that same given level. The tests for the 2:1 and 4:2 octaves were given along with the tests for the 4:1 double octave. Instructions for executing compromises between the 4:2 and 2:1 octaves were given, along with systems for trying

to satisfy the demands of the double octave as well as the single octaves.

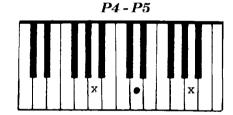
This month we will discuss compromises between the 4:2, 6:3, and other octaves used in tuning the bass.

Since 6:3 octaves are used most in tuning the wound bass strings, a transition between the 4:2 temperament area and the bass is necessary. As mentioned previously, the tests for the 4:2 octave are the M3-M10, and the P4-P5.

4:2 Octave (Midrange)



Test the octave by playing a M3 below the lower note and a M10 below the upper note. To tune a pure 4:2 octave, the M3 = M10. To tune this octave expanded (4:2+), the M3 < M10.

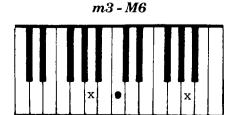


Test the octave by playing a P4 above the lower note and a P5 below the upper note. To tune a pure 4:2 octave, the P4 = P5. To tune this octave expanded (4:2+), the P4 > P5.

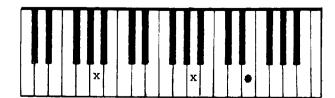
To execute the transition between a 4:2 and 6:3 into the bass, tune the octave such that the M3 beats slower than the M10 and the P4 beats faster than the

P5 (4:2+). To ensure that the octave has not been stretched past the 6:3 level, test with the 6:3 octave tests.

6:3 Octave (Bass)



Test the octave by playing a m3 above the lower note and a M6 below the upper note. To tune a pure 6:3 octave, the m3 = M6. To tune this octave contracted (6:3-), the m3 > M6. To tune this octave expanded (6:3+), the m3 < M6.



P12 - P5

Test the octave by playing a P12 above the lower note and a P5 above the upper note. To tune a pure 6:3 octave, the P12 = P5. To tune this octave contracted (6:3-), the P12 > P5. To tune this octave expanded (6:3+), the P12 < P5.

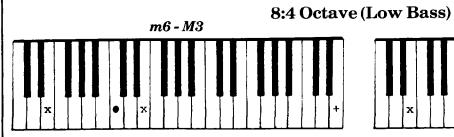
To ensure the octaves in the transition area are on the narrow side of 6:3, test to be sure that the m3 beats faster than the M6 and the P12 beats faster than the P5 (6:3-). After a few octaves tuned between 4:2 and 6:3, the 6:3 matching will work best.

To execute this transition electronically, set the tuner an octave above the upper octave note to measure as 4:2. When the upper note is played and the display stopped, the display rotates "flat" when the lower note is played. Next set the tuner a twelfth above the upper octave note to measure as 6:3. When the upper note is played and the display stopped, the display rotates "sharp" when the lower note is played. The

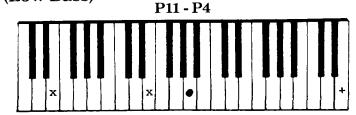
transition has been completed when the display stops as the lower note is played while measuring as 6:3. The 6:3 matching may then be used until a change is required.

In nearly all uprights and small grands, the 6:3 octave is the best choice to the bottom of the piano. In large grands and uprights, however, the long strings and low inharmonicity allow for higher partial matching, thus eliminating some of the high frequency beating heard on smaller pianos while tuning the bass.

The 8:4 octave is a good choice for the lower notes on some medium-sized grands and large uprights. The tests for the 8:4 octave are the m6 - M3 and P11 - P4.



Test the octave by holding down the m6 between the lower octave note and the test note, and playing the strike note two octaves above the upper octave note with a short blow. Then hold down the M3 between the upper octave note and the test note and play the strike note. To tune a pure 8:4 octave, the m6 = M3. To tune this octave contracted (8:4-), the m6 > M3. To tune this octave expanded (8:4+), the m6 < M3.



Test the octave by holding down the P11 between the lower octave note and the test note, and playing the strike note two octaves above the upper octave note with a short blow. Then hold down the P4 between the upper octave note and the test note and play the strike note. To tune a pure 8:4 octave, the P11 = P4. To tune this octave contracted (8:4-), the P11 > P4. To tune this octave expanded (8:4+), the P11 > P4.

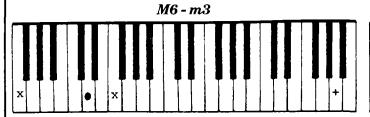
If a transition is necessary between the 6:3 and 8:4 sections, tune such that the m3 beats *slower* than the M6, and the P12 beats *slower* than the P5 (6:3+). At the same time, be sure to test that the m6 beats *faster* than the M3 and P11 beats *slower* than the P4 (8:4-), to ensure that the octave has not been stretched past 8:4.

To execute this transition electronically, set the tuner a twelfth above the upper octave note to measure as 6:3. When the upper note is played and the display stopped, the display rotates "flat" when the lower note

is played. Next set the tuner two octaves above the upper octave note to measure 8:4. When the upper note is played and the display stopped, the display rotates "sharp" when the lower note is played. The transition has been completed when the display stops as the lower note is played while measuring as 8:4. The 8:4 matching may then be used until a change is required.

In pianos of seven feet or more, the 10:5 octave sounds best for the lowest notes (see June 1984). The test for the 10:5 octave are the M6 - m3 and the A4 - d5.

10:5 Octave (Lower Bass)



Test the octave by holding down the M6 between the lower octave note and the test note, and playing the strike note a seventeenth above the upper octave note with a short blow. Then hold down the M3 between the upper octave note and the test note and play the strike note. To tune a pure 10:5 octave, the M6 = m3. To tune this octave contracted (10:5-), the M6 < m3. To tune this octave expanded (10:5+), the M6 > m3.



Test the octave by holding down the A4 between the lower octave note and the test note, and playing the strike note a seventeenth above the upper octave note with a short blow. Then hold down the d5 between the upper octave note and the test note and play the strike note. To tune a pure 10:5 octave, the A4 = d5. To tune this octave contracted (10:5-), the A4 > d5. To tune this octave expanded (10:5+), the A4 < d5.

To execute a transition between the 8:4 and 10:5 sections, tune the octave such that the m6 beats *slower* than the M3 and the P11 beats *faster* than the P4 (8:4+). To be sure the octave has not been stretched past 10:5, test to see that the M6 beats *slower* than the m3 and the A4 beats *faster* than the d5 (10:5-). In most large grands, 10:5 can be tuned to the bottom of the piano.

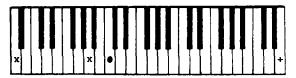
To execute this transition electronically, set the tuner two octaves above the upper octave note to measure as 8:4. When the upper note is played and the display stopped, the display rotates "flat" when the lower note is played. Next set the tuner a seventeenth above

the upper octave note to measure 10:5. When the upper note is played and the display stopped, the display rotates "sharp" when the lower note is played. The transition has been completed when the display stops as the lower note is played while measuring at 10:5. The 10:5 may be tuned for the remainder, unless 12:6 is required.

In some concert grands, some technicians like to tune the 12:6 octave as it eliminates the loud, high-pitched beat in the octave. This also creates a bit of a roll to the octave, which these technicians also find desirable. The tests for the 12:6 octave are the m10 - m3 and the P19 - P12.

12:6 Octave (Lowest Bass)

m10 - m3



Test the octave by holding down the m10 between the lower octave note and the test note, and playing the strike note a nineteenth above the upper octave note with a short blow. Then hold down the m3 between the upper octave note and the test note and play the strike note. To tune a pure 12:6 octave, the m10 = m3. To tune this octave contracted (12:6-), the m10 > m3.

P19 - P12



Test the octave by holding down the P19 between the lower octave note and the test note, and playing the strike note a nineteenth above the upper octave note with a short blow. Then hold down the P12 between the upper octave note and the test note and play the strike note. To tune a pure 12:6 octave, the P19 = P12. To tune this octave contracted (12:6-), the P19 > P12.

To execute a transition between the 10:5 and 12:6 octaves, tune such that the M6 beats *faster* than the m3 and the A4 beats *slower* than the d5 (10:5+). To be sure the octave has not been stretched past 12:6, test to be sure that the m10 bests *faster* than the m3 and the P19 beats *faster* than the P12 (12:6-). In concert grands, 12:6 can then be tuned to the bottom of the piano.

To execute this transition electronically, set the tuner a seventeenth above the upper octave note to measure 10:5. When the upper note is played and the display stopped, the display rotates "flat" when the lower note is played. Next set the tuner a nineteenth above the upper octave note to measure 12:6. When the upper note is played and the display stopped, the display rotates "sharp" when the lower note is played. The transition has been completed when the display stops as the lower note is played while measuring as 12:6. The 12:6 may be tuned for the remainder of the piano.

Here is a chart summarizing the interval tests for the various types of octaves and double octaves covered in the past couple of months: 2:1M10 = M17, P5 = P122:1+M10 < M17, P5 > P124:2-M3 > M10. P4 < P54:2 M3 = M10, P4 = P54:2+M3 < M10, P4 > P5m3 > M6, P12 > P56:3-6:3 m3 = M6, P12 = P56:3+ m3 < M6, P12 < P58:4m6 > M3, P11 < P48:4 m6 = M3, P11 = P48:4+ m6 < M3, P11 > P410:5-M6 < m3, A4 > d510:5 M6 = m3, A4 = d510:5+ M6 > m3, A4 < d512:6m10 > m3, P19 > P1212:6 m10 = m3, P19 = P124:1-M3 > M17, P4 < P124:1 M3 = M17, P4 = P12M3 < M17, P4 > P124:1+

Next month we will look at other types of aural tests which shed much light on the tuning of octaves.

Robert Conrad

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C O N T I N U I N G

EDUCATION

The Case Of The Squeaky Pedals, Revisited

Stephen H. Brady Seattle Chapter

few months ago, I wrote about recalcitrant shift pedals (squeaking, sticking, etc.) and promised to talk about problems with damper pedals in a future article. This is that future article, and it begins where the other one left off.

It seems that a very good customer of mine had a squeaking shift pedal and needed it fixed right away because she was having a chamber music party. I dropped everything and went off to the rescue. By this time, I knew very well how to fix a squeaky *una corda* mechanism, using the principles described in my previous article. In a matter of minutes, I had the problem fixed and the piano reassembled. After collecting my fee, I drove home, telling myself what a fine technician I was.

No sooner had I arrived home than the phone rang. It was the same customer.

"You'll never believe it," she said.

"Believe what?"

"Now the right pedal is squeaking!"

"I don't believe it!" I gasped.
"I told you you wouldn't."

I piled back into the car and returned to the scene. Sure enough, the sustaining pedal, which previously had been fine, was now squeaking outrageously. To this day, I still don't understand why it started squeaking right after I had fixed the shift pedal, since I didn't touch the sustaining pedal mechanism. I've chalked it up to coinci-

dence, but, whatever the reason, it was definitely squeaking and I had to fix it.

I started the troubleshooting process in the usual way -eliminate one part of the pedal action at a time until the noise stops. Starting at the bottom, I worked the mechanism first with the pedal, then with the brass pedal rod, then with the traplever, then dropped the traplever and worked the mechanism with the pitman dowel. At this point, the squeak disappeared, meaning the squeak was coming from either the traplever or the bottom of the pitman. The piano was an older Steinway, and apparently still had the original leathers in place in the traplever.

Since I knew the problem was not

No sooner had I arrived home than the phone rang. It was the same customer. 'You'll never believe it,' she said. 'Believe what?' 'Now the right pedal is squeaking!' 'I don't believe it!' I gasped. 'I told you you wouldn't.'

"

the hard leather pad on the underside of the traplever, that left me with three possibilities: first, the pitman-leather interface; second, the traplever-return spring contact point; and third, the pivot center at the rear of the lever. Removing the pitman and working the traplever alone, I found the squeak was gone, thus eliminating the spring and the pivot as possible culprits.

Following my basic rules for fixing squeaks, i.e., clean first, then lubricate sparingly, I removed the traplever and began cleaning the pitman leather. This leather pad was deeply dimpled and had a hard coat of some graphite-grease kind of mixture all over the contact surface. To clean it, I brushed vigorously with a suede brush, but found that the greasy coating resisted this.

"Õkay," I said to myself, "let's get serious." I opened my container of dry-cleaning fluid and soaked the offending buckskin pad thoroughly. Waiting a few minutes, I resumed my attack with the suede brush. This time, the leather came fairly clean, so while the cleaning fluid was evaporating, I polished and regraphited the wooden pitman. After replacing the pitman and the traplever, I sat down to try the pedal. The squeak was louder than ever.

At this point I pulled the traplever off to examine the buckskin again. Well, I thought, it is dimpled pretty badly, and yes, there does seem to be a slight residue from the cleaning fluid. Maybe a new piece of buckskin is the answer. Luckily, I had a piece of buckskin with me, and it was a simple matter to cut out a piece of the right size and glue it on the traplever in place of the old piece. This time, the squeak was gone when I tried the pedal.

The lesson I learned from that experience has helped me many times since. It remains a rule with me that if the pitman leather squeaks, don't bother trying to clean and lubricate it. Replace it. In a pinch, I have pulled the pitman leather off and replaced it either end-for-end or upside down and had good results. The important thing is to get fresh leather under the pitman.

Suppose the problem had been the spring squeaking against the traplever. Here, the technique of cleaning and then lubricating will usually work, but often the cleaning must include planing the traplever to remove the dimple in the wood where the leaf spring contacts it. A little graphite (in stick form) will usually handle the lubrication.

If, after thoroughly cleaning both the spring and the traplever, and applying light lubrication, a squeak persists, there are still two good solutions. First, consider replacing the old leaf spring with a new one. After decades of use, the contact point of the spring can become flattened so that a larger portion of the spring is bearing against the traplever than was intended. In a sliding-friction situation like this. the increased surface area can increase the likelihood of noise. The other solution is more radical but works well. It is to change from the flat leaf spring to the helical spring Steinway now uses. To make the change requires boring a 3/4-inch diameter hole about 1/4 inch deep, at a point about 3-1/2 inches from the pivot. A corresponding hole must be bored in the underside of the keybed, and both holes lined with very thin leather. Incidentally, even the helical spring can make some noise, but this can usually be stopped with a light coating of V.J. lube on the spring ends.

The last of the usual trouble areas on a Steinway-type traplever is the pivot center. When this joint squeaks, the problem is more likely than not, a build-up of old grease and corrosion on the pivot pin. In

...if the pitman leather squeaks, don't bother trying to clean and lubricate it. Replace it. In a pinch, I have pulled the pitman leather off and replaced it either endfor-end or upside down and had good results.

most cases, cleaning the pin with a solvent such as WD-40, then drying the pin and reinserting it will stop the noise, at least temporarily. If the squeak comes back after a short time, the build-up inside the holes in the traplever and the trapwork blocks must also be cleaned out. These holes may be scraped with an umbrella stay or may be cleaned by inserting a piece of coat-hanger wire wrapped with fabric which has been soaked in solvent.

In extreme cases, I have glued a piece of veneer into the pivot-pin hole in the traplever, so as to make the pin tight in the traplever. I have then enlarged the holes in the trapwork blocks slightly and bushed these holes with good-quality bushing cloth (the kind with the white center). This procedure makes the traplever pivot function just like an action center, and it works very well

Next, there are those squeaks

All too often, well-meaning 'tooners' lubricate the sides of the pitman with graphite grease or who-knows-whatelse in an attempt to keep the pitman from squeaking against the keybed bushing. The grease then transfers to the bushing cloth and over a short time, hardens.

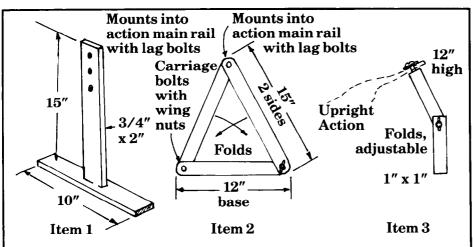
which originate at points above the traplever. These include most commonly the pitman, rubbing either against the bushing in the keybed hole or on the damper lift trav leather; the lift tray pivots; and the lift try return spring. Of these, the lift tray return spring is analogous to the traplever spring and may be treated the same way. The lift tray pivots can be silenced quickly by spraying with either WD-40 or LPS, using the "spaghetti" nozzle extension. Experience has shown that this cure is not only quick but longlasting as well.

The pitman problem is again the most difficult to deal with, and it arises because of the tendency for the pitman to slide back and forth as the pedal is depressed. All too often, well-meaning "tooners" lubricate the sides of the pitman with graphite grease or who-knowswhat-else in an attempt to keep the pitman from squeaking against the keybed bushing. The grease then transfers to the bushing cloth and over a short time, hardens.

My usual solution to this problem is to remove the bushing from the keybed and to insert center pins or short pieces of music wire in the ends of the pitman. If the pitman is made of brass, I make a new one out of a wooden dowel. This endpinning of the pitman keeps it from sliding, thus eliminating most of the potential for noise. It is this method, in essence, that Steinway has been using on their later grands.

Finally, some squeaks will be traced to the lyre box or to where the pedal rod fits into the back end of the pedal. In the latter case, replacing the rubber bushing in the pedal will usually do the job, with light lubrication sometimes being necessary. I find that the pivot (in the lyre box) rarely causes a squeak on this type of piano, but when it does, it's best to pull the pedals from the lyre box to investigate. Chances are, the pivot bushing will need to be replaced.

In this discussion, I've dealt with some of the more common problems with what we might call the "Steinway type" of pedal system. Although other types have problems peculiar to themselves, the skills and techniques I've outlined here can be useful in at least helping to solve problems on other types as well.



It's The Little Things That Count! Transporting Action

Gerald Foye San Diego Chapter

was transporting a grand action to my workshop when a sudden stop created a horrendous problem. The action sailed over my head, through the windshield and onto the freeway where it was immediately flattened by a semi-truck. Boy, did it need regulation after that.

On those occasions when we must transport actions, whether they be a fine grand action or an old, well-worn upright, we must use care to avoid adding to the proposed work. I have a small station wagon with a nice, flat floor. However, there was initially a problem with the grand action sliding forward and getting rammed against the back of the seats which isn't good for the action and also tends to scuff the seat material.

This matter was easily resolved by fabricating a removable back-stop which, in this case, is secured by seat locking brackets (every car is different so a suitable method must be devised). When the rear seat of my wagon is flopped down, I place the backstop in position and the action is secured by it. When the seat is flipped back up the device is removed and, being rather narrow, is easily stored behind the seat. Regardless of what kind of vehicle or where the actions are placed, they should be on a flat surface to avoid distortion or even breakage from jarring. A piece of plywood fitted in place might resolve the problem of an uneven surface.

Upright actions can be a problem since they tend to roll over easily and this can lead to a lot of extra repairs.

There are many devices which are either available or can be easily fabricated that will serve the purpose of both transportation and work on the action.

Item 1 and 2 can be used for transportation and bench work. A hole is drilled into main action rail with a #2 or 7/32-inch drill bit and secured with a long 1/4-inch lag screw. Generally about a one-inch spacer block is also required between action support and main rail to provide clearance for damper rod.

Item 3 is strictly for transportation and is easiest to use since no holes are required in the action. Simply mount in action support bracket mounting hole. Action is tilted with dampers facing down, placing the action in a stable position for transportation or storage.

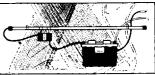
In all cases a pair of each item is required. Where adjustments are necessary use 1/4-inch carriage bolts with wing nuts, and washers between wing nuts and wood.

Dimensions are approximate and materials used are dependent on what is available to you. Perhaps a little thought will offer something even more practical and easier to make.



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Tuning Checks And Inharmonicity: Part II

Virgil E. Smith, RTT Chicago Chapter

ast month we attempted to show how to modify the tuning checks so as to remove the conflict between inharmonicity and the tuning checks. One then supports the other rather than contradicting it. No longer is one consciously or unconsciously choosing between the demands of inharmonicity and the demands of the tuning checks.

The tuning checks can now accurately function in the three areas listed last month: first, by showing whether the note is sharp or flat and by how much before tuning; second, by verifying when it is correctly tuned; and third, by indicating when any slippage occurs after tuning.

The benefits from the use of modified checks can be far-reaching. For the aural tuner, it means that completely accurate tuning is possible without the use of electronic aids. The electronic tuner can now check his tuning with the same checks as the aural tuner, making it possible for both the aural and electronic tuners to consistently arrive at the same high tuning standard. In addition, the non-tuner, by familiarizing himself with these modified

checks, can intelligently evaluate either aural or electronic tuning.

There are several points to keep in mind when dealing with the modified tuning checks.

1. Interval beat speeds will not be the same on every piano—the greater the inharmonicity, the faster the expanded intervals and the slower the contracted intervals. This means that counting exact beat speeds should soon be passe, if it is not already. There is no merit or

44

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superior sound in an interval beating at a specific speed. The only reason for tuning an interval at a specific speed was to make possible an equal temperament. Actually, true equal temperament is usually not possible with intervals beating as listed in the beat speed tables.

2. The relationship of different kinds of intervals, such as minor thirds and major sixths, will vary from piano to piano—the greater the inharmonicity, the greater the difference in speed between expanded and contracted intervals.

3. These differences need not interfere with the consistent progression of each interval—each interval can still gradually increase in beat speed as it ascends chromatically and gradually decrease in beat speed as it descends chromatically. The secret is to find the beat speed that makes these consistent progressions possible. Consistency in tuning is much easier to attain if one uses a temperament based on relative rather than absolute beat speeds.

The correct use of tuning checks in tuning and checking octaves is very important. With all the emphasis in recent years on the matching of upper partials in octave tuning it is easy to forget that octave tuning can also involve matching fundamental to fundamental. This involves matching the whole sound of the upper note of the octave with the whole sound of the lower note of the octave as it is actually heard in musical performance rather than matching a common partial. Though many musicians are capable of readily identifying specific upper partials, in actual listening or performance they hear the octave as composed of two different whole sounds rather than several upper partials beating at various degrees of intuneness.

Electronic tuners and many aural tuners tune octaves by matching upper partials, but many fine aural tuners tune octaves by matching fundamentals, or the whole sound of each note. With the correct use of the modified octave checks either approach should result in the same high standard of octave tuning.

The pitch, tone quality and resonance of any fundamental are greatly influenced by its upper partials. In turn, the volume and resonance of upper partials are greatly influenced by other fundamentals and partials tuned to matching frequencies. This accounts for dull, weak tones becoming brilliant, strong sounds after the piano is properly tuned. No matter how much the volume and resonance of the upper partials are reinforced or amplified by the matching of other fundamentals and partials, the overall sound remains the fundamental pitch; a much stronger, more resonant and more brilliant sound, yes, but still the same fundamental pitch.

In tuning octaves by matching fundamentals, first tune the octave so that the 10th beats faster than the third, or the 17th faster than the 10th. Now slightly manipulate the hammer until the best-sounding octave is achieved—clean, beatless and with slightly more volume, just like a good unison. Just as the bestsounding unison does not necessarily have all the strings beating in perfect phase, so the best-sounding octave may not be when the partials are in the most ideal relationship. The result should be a beautiful octave with the octave checks still in their modified form. It may be

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Interval beat speeds will not be the same on every piano — the greater the inharmonicity, the faster the expanded intervals and the slower the contracted intervals. This means that counting exact beat speeds should soon be passe, if not already.

II

easier to find the best octave position with correct modified checks dealing with each sound as a whole, than by matching each set of partials until the best solution is found.

Though tuning checks are very accurate when modified for inharmonicity it is not recommended that they be tuned directly. It is better to tune the octave and use the check as a check, for the check can seem correct without the octave being at its best. The octave can be refined after the checks show it to be in the right general area. This is a general principle and not a hard and fast rule, for there are times when it may be most helpful to tune the checks themselves.

A careful analysis of octave tuning will reveal that there are roughly four general categories of octaves usually considered acceptable by the public today. I choose to classify these as "A," "B," "C" and

Though tuning checks are very accurate when modified for inharmonicity it is not recommended that they be tuned directly. It is better to tune the octave and use the check as a check, for the check can seem correct without the octave being at its best.

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"D" octaves. A correct use of the modified tuning checks makes it easy to identify these four categories.

1. A mathematically exact 1:2 octave. This octave will contain a slow roll, and the checks will read just like they do in the beat speed tables: the minor third and its inverted major sixth will beat the same speed, the third and 10th and the 10th and 17th will beat the same speed, and the fourth will beat only slightly faster than the fifth with a common top note. I call this a B octave. It is usually the result of trying to follow the checks as they appear in the textbooks. It can also be the result of slippage of the upper note of an expanded octave that was not corrected.

2. An octave slightly more contracted than a B octave which I choose to call an A octave. This results when the fourth and fifth with a common top or bottom note are beating the same speed. The octave will have a more pronounced roll than the B octave but not fast enough to be considered a definite beat. This octave can also be the result of slippage of the upper note



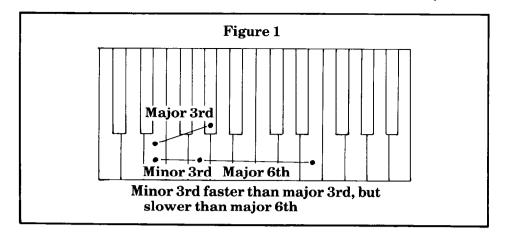


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of a more expanded octave. Any narrower octave than an A octave would have too decided a beat to be considered acceptable.

3. Octaves expanded to a pure beatless situation with no roll and having the greatest amount of volume and resonance possible. Whether it is a 2:1, 4:2, 6:3 or some other combination octave is not important as long as the whole, overall, musical sound meets the



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above requirements. The fourth will be considerably faster than the fifth with a common top or bottom note, the minor third will be slower than its inverted major sixth, the 10th will be faster than the third, and the 17th faster than the 10th. If this stretch is achieved consistently throughout the entire tuning, the result will be beautiful, clear, bell-like double and triple octaves.

This I call the C octave that represents the ultimate in octave tuning. It is most difficult to complete a tuning with all C octaves because of slippage and settling of notes during the tuning. The slightest slippage of one note can measurably affect stacked fourths and octaves above that note. A constant use of modified checks which can instantly reveal any slippage plus the needed correction is necessary to achieve the highest tuning standard.

4. Octaves expanded further than a C octave, giving them a slow roll or beat. Evidently many tuners still think that an octave is not expanded unless it is stretched enough to contain a beat. It was necessary to stretch treble octaves this much to get the upper notes high enough before tuners began stretching octaves immediately at the temperament octave, but with octaves stretched consistently throughout the entire tuning it is no longer necessary. Any slippage or settling in the middle or lower treble will need to be compensated for with this kind of an octave which I call a D octave. The D octave, often stretched until there is a definite beat, is still prevalent in many tunings and accepted by many musicians, but is not necessary if the other octaves are properly tuned. Again, the modified octave checks

will quickly show whether the octaves are stretched enough or overly stretched.

One of the real problems in tuning that every tuner must face is the problem of settling or pitch change after a note has been tuned. One dare not assume that every string will stay where it is tuned, no matter how well the pin seems to be set or the tension of the various parts of the string equalized. It is one thing to tune a piano to a specific standard, but an entirely different matter to walk away from that piano with every string still tuned to that standard.

The tuning checks are most helpful in detecting any such slippage, but only if they are read in their modified form as presented in these pages. It takes a lot of character to take the time to carefully check for these changes, especially if one is running late and the piano sounds fine when a favorite piece is played.

One of the most difficult areas to accurately tune so that each interval gradually decreases in speed as it descends is the tenor area just below the temperament. Though the minor third-major sixth check has limited value in the upper range of the piano it can be of great help in this area. The minor third should beat slightly faster than the major third when the common bottom note is the lower note of the octave being tuned, but slightly slower than its inverted major sixth (Figure 1). This is a difficult pattern to work so that all intervals progress consistently downward. It leaves no room for error in the temperament or a poor scaling. The slightest change of pitch alters the relationship of these intervals drastically, but it is exciting when one is able to keep this pattern for one to two octaves into the bass.

A clear understanding of how to modify the tuning checks to allow for inharmonicity should certainly clear up a lot of confusion in aural and electronic tuning. It should be simple for any tuner, aural or electronic, to critically evaluate his or her tuning, determining at a glance whether an octave is an A, B, C or D octave, and hopefully to soon be tuning consistently with all C octaves. It is certainly hoped that those involved with super tunings will stay with them until every octave is clearly a C octave.

S O U N D BACKGROUND

Early Music Revival And Development Of The Modern Harpsichord

Jack Greenfield Chicago Chapter

Two Phases Of Early Music Revival

The revival of early music and presentation of historical performances can be divided in two phases. The first phase, which started earlier but was not fully underway until late in the 19th century, was halted by the start of World War II. During this period, Hipkins, Dolmetsch, Landowska, and others by performance, lecture, and instruction created a wide audience for the neglected harpsichord music of the past, although little attention was given to the use of historical temperaments. The modern harpsichord, a heavier instrument with metal structural reinforcement and other design features of the modern piano, was developed and produced in the piano factories of Pleyel (France), Neupert (Germany), and others in Europe and Chickering in the United States.

The second phase, from the late 1940s to the present, was started by scholars with the purpose of achieving more authenticity in the sounds of the music. Hubbard and Dowd in the United States and Skowroneck in Germany and others began to build harpsichords closely patterned after instruments in historical collections and Barbour, Jorgensen, Lindley and others made studies aimed at restoring the authentic historical temperaments. Most recently, the scope of the historical performances has been widened to include music written for the early piano presented on restored instruments or copies with the unequal

tuning in use at the time of the composer.

How Revival Started

When the interest in Baroque and earlier music was renewed during the 19th century, performance of clavier music on the piano was fully accepted because there were many who were of the opinion that Bach, Handel and the other composers of music for the clavier would have preferred the iron-framed overstrung double-escapement modern piano if it had been available in their time. Harpsichord manufacture had come to an end early in the century and soon disappeared almost completely from public performance. Occasionally, harpsichords were used to provide continuous background for opera and oratorio. One of the few concert per-

...there were many who were of the opinion that Bach, Handel and the other composers of music for the clavier would have preferred the iron-framed overstrung double-escapement modern piano if it had been available in their time.

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formers who gave programs on the harpsichord in the interval before its return was fully underway later in the century, was Ignaz Moscheles, a student of Clementi who had begun his career before the harpsichord became obsolete. Moscheles' height of popularity was reached during the 1830s.

In the 1860s several other concert pianists, Earnest Pauer of Vienna and Louis Diemer of Paris started to give "historical recitals" on early keyboard stringed instruments. Pauer's programs included music of the English virginalists. His program notes for this music were written by Alfred Hipkins. Hipkins had risen far from his start as an apprentice piano technician for Broadwood. While he remained an associate of the firm, he had also developed into a concert pianist and a writer on musical topics. He received much praise for his accurate description of Chopin's technique he observed while Chopin's piano tuner. He described such details as fingering, touch, use of the pedal and other elements of style and performance. As Hipkins acquired an interest in old keyboard stringed instruments he began to devote much of his work to collecting and performing on them. By the 1880s, Hipkins gave programs in the form of lecture demonstrations. He usually played several different instruments, either his own or borrowed from the Shudi-Broadwood collection. Hipkins was one of the first performers since the 18th century to acquire a true understanding of the proper use of the two keyboards of the double manual harpsichord. This he demonstrated by reintroducing the performance of Bach's Goldberg Variations which Bach specifically wrote for two manual instruments.

French Production Of Harpsichords Begins

Diemer gave concerts on a 1769 Taskin harpsichord owned by descendants of the Taskin family. In 1882 after restoration, this instrument was borrowed for use as a model for the production of new harpsichords by Erard of Paris, a leading builder of pianos and harps. A few years later, a rival French firm. Plevel, also borrowed the Taskin harpsichord for the same purpose. Both firms exhibited their new harpsichords at the Paris Exposition of 1889. Each manufacturer, influenced by the construction of modern pianos, had made modifications in the original harpsichord design. While no metal was used in the structure, the instruments had heavier framing to withstand the higher tension of the heavier strings. There were other similarities to piano design-in soundboard and bridge construction, scaling, keyboard construction, and design of pedals.

Dolmetsch Begins Career In Early Music

The next great pioneer in the revival of early music was Arnold Dolmetsch (1858-1940). Dolmetsch, born in LeMans, France, became familiar with many kinds of keyboard instruments, old and new. and learned piano making in the shop of his father who was a dealer as well as a builder. The family owned and still played the clavichord. Dolmetsch also studied violin at the Brussels Conservatory, and completed his musical education at the Royal College of Music, London. He settled in London as a violin teacher and started to give programs of Renaissance and Baroque viol music. He soon met Hipkins, who interested him in restoring old keyboard instruments. After acquiring his own small collection of old instruments, he built his first clavichord in 1894, an instrument used in solo performances and for accompaniment of some opera productions.

Several German instrument makers, including some piano factories, began to build harpsichords and clavichords in the period 1899-1907.

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Harpsichord Production In German Factories

Several German instrument makers, including some piano factories, began to build harpsichords and clavichords in the period 1899-1907. Their model, a harpsichord from a Berlin museum, was then believed to have been a design used for Bach's instruments. It had two keyboards with 16- and eight-foot registers for the lower and eight- and four-foot registers for the upper, an arrangement which became known as the "Bach" disposition. The name was retained even though it was later learned that the model instrument had been modified considerably from its original form and such a disposition was unsuitable for Bach's music. The preferred disposition is eight- and four-foot registers on the lower manual and a single eight-foot register on the upper manual. The 16-foot register is considered undesirable for most of the keyboard music that appeared from the time of the early virginalists to the late Baroque masters.

Dolmetsch Starts Harpsichord Building At Chickering Factory

Harpsichord building was first begun in North America while the

After independence and just prior to the introduction of the piano, there were at least a dozen shops located in Philadelphia, New York, Boston and elsewhere in the East that built harpsichords.

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colonies were still under British rule. After independence and just prior to the introduction of the piano, there were at least a dozen shops located in Philadelphia, New York, Boston and elsewhere in the east that built harpsichords. One of these was the shop of Benjamin Crehore, whose apprentices include Alpheus Babcock, later the inventor of the one-piece plate for pianos, and John Osborn, in whose shop Jonas Chickering learned piano making.

A little less than a century later, in 1905, Dolmetsch was asked by the firm Chickering founded in 1823 to set up the production of harpsichords, clavichords, lutes, and viols in the Chickering Boston factory. Dolmetsch had first come to the United States in 1902 for extensive early music concert tours.

The Dolmetsch-Chickering harpsichords, while containing some modern modifications, were closer in authentic design and sound to antique French instruments than the harpsichord being built in European factories. Dolmetsch-Chickering harpsichords still in existence are valuable collectors items. In 1911, three years after the merger of Chickering, Knabe and other firms to form the American Piano Company, Dolmetsch's work at Chickering ended and he returned to Europe.

Landowska Advances Harpsichord Music

Harpsichord manufacture still continued to flourish in Europe. especially after Wanda Landowska (1879-1959) took up the instrument. She had made her debut as a pianist at the age of 11 in Warsaw. In 1900, she arrived in Paris where she made her home alternating between periods of teaching and concert tours. Her interest in early music led her to the harpsichord and she gave her first public performance on the instrument in 1903. As she continued her concert career, critics acclaimed her as a virtuoso, a rating Hipkins and Dolmetsch hadn't

Early in her harpsichord career, she began a life-long assocation with the Pleyel firm, France's leading manufacturer of harpsichords. Her services as a consultant and endorsement of the firm's instruments benefitted Pleyel immensely.

When Dolmetsch left Chickering, he went to France to work for Gaveau, another French piano manufacturer who had decided to produce harpsichords. The instruments Gaveau made were similar to those Dolmetsch had designed for Chickering. Landowska did have a favorable opinion of the Gaveau harpsichords but she had no desire to break her affiliation with Pleyel.

Based on her advice, in 1912 Pleyel introducted a "Landowska" model, the type of instrument she used for the remainder of her career. This instrument, large and heavy with an iron frame similar to a modern piano plate, was strung with thick strings under high tension. Keyboard touch and dimensions were also similar to those in a modern piano. The "Landowska" model succeeded in dominating the limited harpsichord market and set the pattern for the heavier modern factory harpsichords also produced by German firms.

Landowska lived in Berlin 1912-1919, in Paris 1919-1940, and finally in New York City and the nearby Connecticut area until her death in 1959. She taught, edited music, wrote books, and made frequent concert tours. Her spectacular dramatized presentations attracted wide public interest and did much to further appreciation of Baroque harpsichord music. To avoid unfavorable comparisons, some concert pianists became reluctant to perform such works on the piano.

Dolmetsch Returns To England

Dolmetsch left Gaveau and returned to England in 1914. There he established his own instrument-building business and became vigorously engaged in furthering the performance of early music. In his keyboard instruments, he did not stick to one design but introduced a variety of different features including a welded metal frame to improve tuning stability. The business activities he started were continued by members of his family after his death in 1940.

In addition to his other achievements, Dolmetsch advanced the revival of harpsichord building by training apprentices that went on to open their own shops. After four vears of study with Dolmetsch, one of his pupils, John Challis of Ypsilanti, Mich., set up a shop in New York City in 1931. Challis was the first modern builder of harpsichords in the United States since Chickering had stopped about 20 years earlier. Challis built instruments with all-wood framing initially but later used metal and new synthetic materials.

There were no other professional harpsichord builders in business in the U.S. until after World War II. Several other Dolmetsch pupils who became prominent harpsichord builders started shops in England in the 1930s. Meanwhile, factory production of harpsichords continued in France and Germany until halted by the start of World War II.

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1984 Technical Index

Compiled by Chris Palmay

Here is an index for all technical articles that appeared in the Journal from January through December, 1984. Index entries have been divided into nine categories used in the *Classified Index to Published Piano Technology*: Piano -Musical Instrument; Manufacturing; Tools and Equipment; Reconditioning (Main Body and Fixed Parts); Reconditioning (Moving and Related Parts: Action); Regulating; Tuning; Voicing; and Organization, Literature, People.

The Technical Forum, a monthly column edited by

Jack Krefting, has been treated separately. It is listed by month with subjects listed in order of appearance. Names of those who contributed either questions or technical information are listed in parentheses.

We hope that you find this index convenient and welcome any suggestions that you might have for improvement for next year. (Please note - the March, 1984 issue of the *Journal* was the directory and contained no articles).

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Sixth In A Series Of Articles Lagoy, Martha The Quick And Easy (Maybe Baldassin, Rick L. Even Painless) Practice Room On Pitch Dealing With The Integration Tuning; August, 1984, pp. 17-19. And Equation Of Aural And Electronic Tuning Techniques: Contiguous-Interval Aural February, 1984, pp. 29-31. Sanderson, A.E. Tuning Tests; November, 1984, p. 19. Baldassin, Rick L. Seventh In A Series Of Articles Dealing With The Integration On Pitch Tuning Temperaments And Smith, Virgil E. And Equation of Aural And Electronic Tuning Techniques; Taking The Mystery Out Checks; November, 1984, May, 1984, pp. 30-31. pp. 14-15. of Tuning Eighth In A Series Of Articles Smith, Virgil E. Tuning Temperaments And Baldassin, Rick L. Dealing With The Integration Inharmonicity; December, 1984, On Pitch Taking The Mystery Out And Equation Of Aural And of Tuning pp. 17-20. Electronic Tuning Techniques; The World's Most Insignificant June, 1984, pp. 27-29. Tremper, Fred W. And Useless Calculator Program; January, 1984, pp. 24-25. Baldassin, Rick L. Ninth In A Series Of Articles Dealing With The Integration On Pitch Voicing And Equation Of Aural And Brady, Stephen H. Concert Preparation, Part 2 Electronic Tuning Techniques; Continuing Education (Conclusion); February, 1984, December, 1984, pp. 27-30. pp. 24-25. Concert Piano Preparation, Brady, Stephen H. Part 1; January, 1984, pp. 20-21. Brady, Stephen H. The Case Of The Percussive Continuing Education Continuing Education Piano; December, 1984, pp. 31-32. Burkhalter, Nancy Tuning In Saudi Arabia; Geers, Cliff (Transcribed Grand Hammer Hanging; May, October, 1984, pp. 19-20. by Douglas Neal, RTT) 1984, pp. 12-17. Running The Keyboard; Foye, Gerald F. Hammers And Music; July, 1984, Isaac, Ari January, 1984, p. 23. It's The Little Things Hammers And Music That Count! Hammers And Music; August, Mathematical Theory Of Isaac. Ari Greenfield, Jack Hammers And Music 1984, p. 30. Sound Background 1/4-Comma Meantone Temperament; January, 1984, pp. 16-19. Isaac, Ari Profundity And Engagement; Hammers And Music September, 1984, p. 29. Meantone Temperament Varia-Greenfield, Jack Sound Background tions: Marin Mersenne; Isaac, Ari A Perfect Hammer; October, February, 984, pp. 20-22. Hammers And Music 1984, pp. 30-31. Greenfield, Jack Early Well-Temperament; April, Robinson, Christopher S. Hammers: Strike-points and Sound Background 1984, pp. 27-29. Weight; April, 1984, pp. 25-26. Eclectic's Notebook The Well-Tempered Keyboards Greenfield, Jack Robinson, Christopher S. Now, The Acupuncture; June, Of Bach And Neidhardt; May, Sound Background Eclectic's Notebook 1984, pp. 36-38. 1984, pp. 24-26. Robinson, Christopher S. Hard Hammers; July, 1984, Greenfield, Jack Later 18th-Century Music And Eclectic's Notebook pp. 24-25. Sound Background Tuning In Germany; June, 1984, pp. 30-32. Bringing Up A Piano; August, Robinson, Christopher S. Greenfield, Jack Eclectic's Notebook 1984, pp. 24-26. Music, Theory And Tuning In Sound Background 18th-Century France; July, 1984, pp. 20-23. Organization, Literature, People Greenfield, Jack 18th-Century Harpsichord Music Brady, Stephen H. Concert Preparation, Part 2, And Tuning In Italy And Sound Background Continuing Education (Conclusion); February, 1984, England; August, 1984, pp. 20-23. pp. 24-25. Greenfield, Jack Early Advances In Equal Teaching Pianists About Pianos; Brady, Stephen H. Temperament; September, 1984, Sound Background Continuing Education May, 1984, pp. 18-20. pp. 23-25. Isolating Problems; November, Foye, Gerald F. Transition In Temperaments; Greenfield, Jack It's The Little Things 1984, p. 23. October, 1984, pp. 32-34. Sound Background That Count! Greenfield, Jack Preferred Temperaments Of Foye, Gerald F. Losing Points; December, 1984, Bach, Mozart And Other Sound Background It's The Little Things p. 32. Composers; November, 1984, That Count! pp. 20-23. Greenfield, Jack Transition To Equal Temperament: Final Stage; December,

1984, pp. 24-26.

Sound Background

TECHNICAL FORUM					
Issue/Page Numbers	Subject (Contributors)	Issue/Page Numbers July, 1984, pp. 10-16	Subject (Contributors) Vertical Rebuilding		
January, 1984, pp. 10-15	Another Precision Tuning Device Vertical Rebuilding Removing Grand Knuckles (Luther Minton) Damper Repair Spring Installa- tion (Ellen Sewell) Broken Shank Removal (Barry Heismann) Upright Hammer Boring	υαι y, 1304, ββ. 1 U-16	Vertical Rebuilding Polyester Finish Repetition Height Stability Hammer Boring Distance Variation On A Gun Cleaning Rod (Glen Hart) Steinway Wippen Conversion (Charles J. Greve)		
	(Vince Mrykalo) Separable Damper Action Rail (David Nereson) Tony's Tuning Hammer (Ron Nossaman and Tony Novinski) Regular Screwdriver with a 1/16" Notch (Joe Meehan) False Beats (Marvin Snell)	August, 1984, pp. 10-16	Upright Action Design (Dietrich Dotzek) Vertical Rebuilding Heat Treating Capo d'Astro Bar (Matt Grossman) Straight Vertical Springs (Paul Bergan) Bass String Twister And Shank Reducer to Fit Combination		
February, 1984, pp. 11-14	Simple Homemade Gadget (Michael Tocquigny) Variation on Notched Screw- driver (Luther Minton)		Handle (Dan Sponenburg) Unusual Pianos (Sid Stone) Thanking Writers (Ben Carlton)		
	Vertical Rebuilding Soundboard Crown (Kent Galloway) Grand Knuckle Removal (Luther Minton) Key Level (Michael Travis) Staib-Abendschein Action (Charles P. Huether) Reader Comments (Bob Nichols and Dan Evans)	September, 1984, pp. 16-20	Vertical Rebuilding New Uses For the Wire Handled Mute (Robert E. Musser) New Tool Cases Replacing Grand Backchecks (Michael Tocquigny) Marius' Accomplishments (Martin Tittle) Key Bushing Removal (Howard Jackson) How Should Our Services Be		
April, 1984, pp. 14-19	Vertical Rebuilding Vise-Grip Pliers (Charles Gibson) Best Time To Tune (Charles Gibson) Bass String Breakage (Richard Capp) String Replacement in Vertical (Barry Heismann) Portalign Drill Guide	October, 1984, pp. 13-18	Priced? (Will Truitt) Vertical Rebuilding Packing Stripped Screw Holes (Hiram Hunnicutt) Temperament Methods (Sturm, Fred) Removing Polyester Finishes (Allen J. Macchia)		
	(Russell Gordon) Decal Application (Russell Gordon) End Key Positioning (Sally Jameson) Needle-nose Glue Injector Transporting Grand Action (Errol P. Crowl) Transporting Grand Action (Herman Koford)	November, 1984, pp. 8-13	Vertical Rebuilding Repetition Height Stability Talc Vs. Rosin 12 Uses For The Six-Inch Steel Rule (Sid Stone) Cristofori Action (Martin B. Tittle) Unusual Repair For Broken Key (Hiram Hunnicutt) Steinway Balancier Tool (Stan Oliver)		
May, 1984, pp. 7-11	Sharing The Knowledge All-purpose Tool (Carl Root) Vertical Rebuilding Key Bushing Removal (Steve Grega)		Shank Height Gauge (Stan Oliver) Portalign Drill Attachment (Ed Adams)		
	Damper Felt Cutting Tool (Mark Ritchie) Collard & Collard Piano (Don Flippin) Repair For Cracked Butts (Vince Mrykalo) Setting Damper Stop Rail (Bob Waltrip)	December, 1984, pp. 10-16	Keyframe Bedding (Kent Galloway) Brass Rail Butt Plate Repairs (Paul Bergan) Screw Sizes And Types Multi-Purpose Tool: The Human Finger (David Patterson) Capo Bar Profile (Ed McMorrow)		
June, 1984, pp. 14-19	Favorite Tuning Temperaments (Ralph Kingsbury) Vertical Rebuilding Combination Grand Hammer Blow Distance Gauge And Pencil (Dan Sponenburg) Computers (Mark Anderson)				

Thrive in '85!

Getting The Organizational Spirit

M.B. Hawkins Vice President

Once again we find ourselves into a new year. What will 1985 bring? One thing for sure; if we fail to plan we are planning to fail and nobody wants to fail.

During the coming weeks, all of us should spend some time alone putting together some thoughts relative to what we expect to achieve during 1985. During this time, what we structure could very well mean the difference between a year of significant growth and development and one which by year's end may not be too pleasant to look back on. The choice is ours.

I believe that an improved organizational spirit can certainly contribute to a continued positive attitude. Finally, that word has occurred ... attitude!

During the months ahead, we will deal with this word attitude because it may be the spark needed to propel us toward our membership aspirations for the year, but for now, let's focus on immediate goals. Many have done this already, but perhaps some angles can be refined a bit. Our continued conversation and communication with other chapter members usually gives rise to some alternatives we may not have thought about alone. So the spirit of warm conversations about the directions our intentions are pointed serve to energize others and of course the reverse is true. This thought by itself shows how an improved organizational spirit can help us move ahead. If we were to continue to pinpoint the smallest ideas we would continue to grow from our associations.

During these exchanges, be sure to bring up the

month of July. This year our Annual Convention in Kansas City is going to be tremendous. In my opinion, each and every Guild member should include in his or her goals a provision that will ensure that July will find them in Kansas City. With the International Association of Piano Builders and Technicians (IAPBT) present along with our membership, the entire affair is bound to be an overwhelming sccess. What a wonderful opportunity to meet and exchange ideas with fellow technicians from around the world. What a perfect time to make friends and prepare for a trip abroad to visit a piano factory in another part of the world. I become very excited just thinking about what a great time July '85 will be. All of our membership deserves this type of exposure. And just think of the impact a press release back home can have on your business after returning from such an uplifting session. Oh yes...have no doubt that an improved organizational spirit can truly help each of us thrive in '85.

Now is the time to set the machinery in motion for months down the road. Develop and review anticipated expenses and work out the dollars required to put you in Kansas City in July. Then plan out how much you will need to put away by the week or by the month to net you the result you decide upon. It is an educational expense and you will go home a different person, a more well-rounded technician and a broader person. I'll see you there!

New Members

Registered Technician

Connecticut Chapter Anderson, Timothy T. 5 Fourth Ave. Old Saybrook, CT 06475

Detroit Chapter Haas, Mark E. 6017 Sylvia Taylor, MI 48180 Hampton Roads Chapter Macdonald, Gerald W. 2973 Bridge Road Suffolk, VA 23425 Oklahoma Chapter McGavern, Keith A. PO Box 2602 Shawnee, OK 74802 Member-At-Large Hill, Paul K. 1109 W. Iron Hobbs, NM 88240

Apprentice

Cleveland Chapter Nemeth, Alan J. 1290 Hird Avenue Lakewood, OH 44107

L.I. Christofori Brotherhood Chapter Traxler, William E. 43 Hawkins Stony Brook, NY 11790 Sacramento Chapter Kellogg, Timothy R. PO Box 1325 Orangevale, CA 95662

Student

Connecticut Chapter Moore, Robert S. 26 Putnam Park Road Bethel, CT 06801

Powers, Eunice C. 10 Spriteview Ave. Westport, CT 06880

Detroit-Windsor Chapter Snook, Arthur J. 5367 Thirteen Mile Warren, MI 48092 Fresno Chapter
Geiger, Steven B.
948 Cambridge
Visalia, CA 93277
Lansing Chapter
Bender, Bruce A.
224 Elizabeth
E. Lansing, MI 48823
Nebraska Chapter
Decker, Larry M.
525 E. Ashton
Grand Island, NE 68801

Affiliate

Member-At-Large Sanabria, Miranda Ramon Lucio Blanco 461 Edif. IC9, Apt. 201 02400 Mexico City, D.F., Mexico

Reclassifications

Registered Technician

Kansas City Chapter Snow, Ken A.

Lansing Chapter Jones, Loren J.

Los Angeles Chapter Watson, Robert H.

New Jersey Chapter Funk, Peter J.

Twin Cities Chapter Fruhstuck, Charles B.

Sacramento Valley Chapter Goldsmith, Maryll R.

Member Recruitment Points June 1, 1984—December 1, 1984

	Pts.	Mbrs		Pts. N	Abrs.			
Ackman, W. Harold,	1	1	Harris, Dale L.	1	1	Nelson, Clifford G.	1	1
Anderson, Robert A.	4	1	Hazzard, Nancy M.	4	1	Ousley, Robert L.	5	1
Bailey, Benjamin N.	5	1	Heismann, Barry	1	1	Pagano, Joseph L.	4	$\bar{1}$
Bessette, Roland	5	1	Heneberry, Alan J.	4	1	Palm, Stanley S.	1	$\bar{1}$
Betts, David C.	4	1	Henry, Fern L.	4	1	Pearson, Walter T.	5	1
Bittinger, Richard E.	3	1	Hess, James N.	5	1	Pettit, Thomas V.	5	1
Blees, Willem	5	$\overline{2}$	Hess, Marty A.	5	1	Phillips, Webb J.	10	2
Bridges, Nate	2	2	Hines, David M.	5	1	Pierce, James C.	4	1
Bryant, Ken L.	5	1	Hitt, Henry L. Jr.	4	1	Pierson, James B.	1	1
Bullock, Wilbur W. Jr.	4	1	Holder, Leopold,	5	1	Pike, Gene A.	5	1
Burow, Burtis L.	4	1	Hornberger, Paul R.	1	1	Prentice, Randy A.	1	1
Burton, Janes H.	1	1	Houston, James P., Jr.	9	2	Riedel, Paul W.	4	1
Burton, Robert H.	4	5	Howell, W. Dean	1	1	Roe, Donald E.	1	1
Callahan, James J.	4	1	Jackson, Stephen S.	1	1	Rosenfeld, James I.	5	4
Cannon, James D.	5	1	Johns, Barney J.	1	1	Schmitt, Jake E.	5	1
Churchill, Kenneth R.	1	1	Jorgenson, Les O.	1	1	Schoppert, Robert L.	5	1
Coffey, Barbara L.	10	2	Jorgenson, Owen	1	1	Sierota, Walt	1	1
Coffey, Bruce F.	2	2	Keast, Lawrence J.	1	1	Sloan, Kenneth A.	4	1
Coleman, James W. Sr.	5	1	Kreitz, Richard C.	1	1	Sloffer, Phillip C.	5	1
Conrad, Robert	5	1	Krentzel, Jim L.	1	1	Speir, Leon J.	5	1
Cox, Merrill W.	1	1	Leary, Kevin M.	9	2	Stone, Sidney O.	5	2
Dante, Richard	4	1	Leonard, Grant G.	1	1	Stout, Clarence P.	1	1
Delpit, John A.	4	1	Lillico, John E.	2	2	Towne, Christine S.	5	1
Doss, Harry W.	4	1	Lovgren, Christine	25	6	Tremper, Fred W.	1	1
Duncan, David R.	2	2	Macchia, Frank S.	5	1	VanPatten, Aija B.	1	1
Fandrich, Delwin D.	1	1	MacKinnon, Karl T.	1	1	Vogellehner, Karl	1	1
Foss, Mark E.	5	1	Manna, Tony	1	1	Welton, T. Scott	1	1
Fox, John D.	5	1	Matley, Wayne O	6	2	West, Ivan	4	1
Geiger, James B.	1	1	McKay, C. Guy	1	1	West, Richard E.	1	1
Godfriaux, Stan R.	1	1	McNeil, Thomas	1	1	Wilkinson, Asa	4	1
Graham, Susan E.	4	1	McVey, James I.	5	1	Winters, Kenneth E.	5	1
Groot, Gerald W.	1	1	Mehaffey, Francis	3	3	Wisenbaker, Martin G.	1	1
Grossman, Matt	1	1	Melton, Eddie J.	1	1	Wurz, Douglas K.	5	1
Grossman, Michael S.	14	3	Metz, J.A.	4	1	Yonley, Fred T. Jr.	9	2
Hansen,Charles	2	2	Morrow, Hope E.	1	1	Zeringue, Nolan P.	6	3
Harmon, Clayton C.	1	1	Mrykalo, Vincent E.	4	1			

Auxiliary Exchange

President's Message

"I know about a little bird who was told that he would not be able to fly. He, believing this, did not even attempt to soar into the sky. He missed the exciting experience which would have been his if only he had tried."

In this New Year of 1985, it is again time to look at our goals! There are risks, of course! If we let others take these risks, they will do the soaring and we will sit, look up at them and wish that we, too, could fly!

Are you afraid that you will not be chosen? Are you afraid of being nominated and then not elected? Take heart! It happens to all of us. Try again. Tell one of your officers or someone on the nominating committee what you would like to do. They will fit you into a very special place in our Auxiliary. Ruby **Discon** found her special place! She made centerpieces for our installation luncheon in New Orleans. Remember? They were so beautiful that everyone wanted to take them home after the convention! She has promised to do something for us again. Come to Kansas City and see what Ruby brings with her this time!

Are you willing to take risks? Tell us what you will do for your Auxiliary at the next convention. We are not allowed to advertise or accept money for our contributions (see bylaws), but let me assure you in advance of the heartfelt thanks of your officers and your fellow members as you help to make this International Convention in Kansas City the best one we have ever had!

Louise Strong

Edited by: Ginger Bryant 1012 Dunburton Circle Sacramento, CA 95825 Meet Your Officers Bert Sierota — Corresponding Secretary



Bert Sierota

Bert was born in the "City of Brotherly Love," Philadelphia, PA. She was employed by Sears, Roebuck & Co. in the accounts payable department and was promoted to the personnel department after five years. There she met and married Walt after an extended courtship of one month. She left Sears two years later to raise a family of two daughters, Patti and Sherri. After her daughters graduated from high school, Bert returned to the work field and became a secretary for a small private Catholic girls school.

She joined the Auxiliary in 1973 and has been active locally, holding offices of Secretary, Vice President and President. She has been active nationally and was chairperson of the Auxiliary activities for the National Convention held in Philadelphia in 1980. We have had the advantage of her expertise at the national level, as she was our recording secretary for five years and is presently our corresponding secretary.

She enjoys attending local and state seminars as well as the national conventions and treasures the many friends she has made over the years.

In her spare time she enjoys knit-

ting, crocheting and all other types of needle work. Likes to read, especially mysteries (loves to solve problems). If you have any, send them to Bert—she says she will solve them for you.

A First For The Central Illinois Chapter

With a little of this, a smattering of that and lots of attention to the details, the Central Illinois Chapter of the Guild and its spouses hosted a great seminar the last weekend in October. Our home base was the Chancellor Hotel in Champaign, Illinois, where a fascinating game of Piano Pursuit (a trivia game specifically for piano people) was the highlight of Friday evening's Early Bird Party. Saturday morning those of us attending the spouse program had a chance to try our hand at needlepointing a musical note under the expert guidance of Marilyn Dewey from Penfield, Illinois.

Later we boarded a bus—a kneeling bus no less—for a guided tour of the University of Illinois led by **Jim Strehlow**, one of the technicians' husbands. Jim grew up around the University and worked as one of its carpenters, so he was familiar with all the important sites on campus. One of our stops was at the UI film lab where we had a screening of a film on the history of the piano. Jim also proved his skill at selecting a good restaurant for our lunch.

Saturday evening we were treated to a friendly banquet with lots of door prizes and entertaiment. Ron Berry and Ginny Russell provided the entertainment. Ruth Corkins made ceramic leaf dishes and jack-o'-lanterns of yarn for each table. Cindy Genta fashioned witches on broomsticks from piano parts. **Bob Morris** told the group that hosting this seminar was important to the Central Illinois Chapter because it gave them a chance to repay the hospitality that has been shown them by other chapters at their seminars and conventions.

Trisha Crowley, an assistant states attorney and wife of Guild technician Steve Schmidt, helped us all get a better understanding of contracts, small claims court, business partnerships and the like during her Sunday morning class

entitled "Legal Aspects of Doing Business." All of us who attended came home with new knowledge, new friendships, and lots of happy memories from the first ever Central Illinois Seminar. We hope they'll host another seminar again soon. Our thanks to Jan Baird, Ruth Corkins, Trisha Crowley, Marilyn Dewey, Joan Morris, and Jim Strehlow for their welllaid plans and stunning hospitality at this seminar.

Julie Berry

Texas State Convention

A good time was had by all at the Texas State Convention in Waco October 19th to 21st in spite of some unscheduled excitement in the middle of the night. (See T & T-B). They had an interesting tour of the Andrews Armstrong Library at Baylor University. A faculty duopiano recital was held at Baylor on Friday evening. At the Saturday nights banquet they were entertained by the Baylor Showtime, a very good group from the University doing a song and dance variety act.

Deanna Zeringue reported that she and her husband, RVP Nolan, managed to take 11 applications for PTG membership, one of whom was a new affiliate member from Mexico City.



A Gift For A Special Friend

We have available a few of the beautiful Sun Catchers. Professionally made art glass—of royal blue and white. They will make your sun shine even brighter as you display them from a window. They may be

purchased from the Auxiliary President, Louise Strong, One Knollwood Drive, Rome, GA 30161. A bargain! \$5.50 including postage.



Norma Lamb, of the Los Angeles Chapter, has assumed the duties of PTGA Vice President, filling the vacancy created when Louise Strong became PTGA President.

A New Beginning

How fortunate we are that each 12 months we are given the opportunity to begin again! Why not take advantage of this gift — put our mistakes behind us and reach for the stars? We have a new progressive, Auxiliary President. Let's help her make 1985 our most successful year. Just think what it would mean if each of the 272 members did the favor of introducing one new member to PTGA! 544 Members! A good New Years resolution for each of us.

If we use the advantage of our membership to better learn to cope with the future we can accomplish miracles. What a dynamic organization we will be!

As we raise our glasses this New Years Eve, let's all resolve to make this a most Happy New Year!

Tidings And Tidbits

A hot time in Waco. At the Texas State Convention Deanna and Nolan Zeringue were awakened by loud pounding on the door at 1:25 a.m. Nolan answered the door to find no one there. Suddenly alarm bells went off! The hotel was on fire! It was evacuated and a portion of the morning was spent with an impromptu fashion show of the latest in Texan nightwear. There were no injuries although the hotel received quite a bit of water damage. The pianos, fortunately, received no damage.

California's State Convention (Feb. 15-17) will be held in the only hotel in the country to have piped in chamber music in it's lobby, according to the PBS program "Tribute to Lincoln Center". They said a "hotel in San Jose" and, since the Ste. Claire Hilton does have piped in chamber music in their newly restored, period lobby, that has to be it. The Santa Clara Valley Chapter have a great program lined up for the Auxiliary. The \$60 registration fee includes a full breakfast with the technicians Saturday morning; a Saturday tour of the Mirassou Winery, luncheon, and a visit to the Rosicrucian Museum: the banquet Saturday evening, and another luncheon with the technicians on Sunday. The program is being planned by Joe and Annette D'Angelo.

PTG AT Sonja Lemon, Sacramento Valley Chapter, received two to three minutes of prime time coverage on the top rated show in the 7-7:30 p.m. slot in the nation's 20th largest TV viewing area. They featured the player piano rebuilding shop she operates with her husband

Bob

National Executive Board

Mary Louise (Mrs. Donald) Strong

PresidentOne Knollwood Drive Rome, GA 30161

Norma (Mrs. D. Elwyn) Lamb Vice President 1833 Echo Park Avenue

Los Angeles, CA 90026

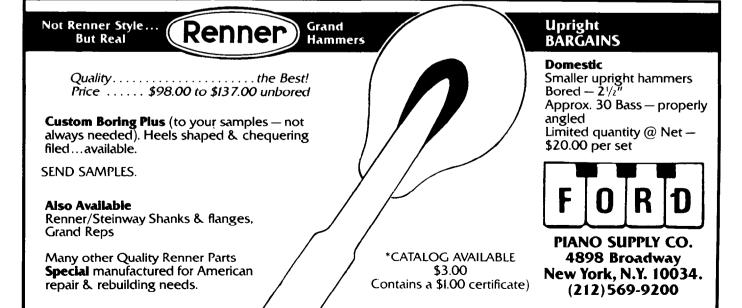
Helena (Mrs. Dean) Thomas Recording Secretary RR. Box 210A Edinburg, PA 16116

Bert (Mrs. Walter) Sierota Corresponding Secretary 5201 Whitaker Avenue Philadelphia, PA 19124

Kathryn (Mrs. Willis) Snyder Treasurer 79 Furnace St. Robesonia, PA 19551

Coming Events

Date Jan. 4-5, 1985	Event Arizona State Seminar	Site Arizona State University, Tempe	Contact Wirt Harvey 5901 Calle Del Norte Phoenix, AZ 85018
Feb. 1-3, 1985	NAMM Winter Market	Anaheim Convention Center, Anaheim, CA	(602)945-8515 NAMM 5140 Avenida Encinas Carlsbad, Calif. 92008
Feb. 15-17, 1984	California State Convention	Saint Claire Hilton, San Jose, Calif.	(619) 438-8001 Robert W. Brown 2853 Butte St. Santa Clara, CA 95051 (408) 984-0625
March 28-30, 1985	Pacific North- west Conference	Ridpath Hotel Spokane, WA	Scott Colwes 1315 Coeur D'Alene Ave. Coeur D'Alene, ID 83814
March 28-31, 1985	Pennsylvania State Conference	Philadelphia	(208) 667-3393 Walter Sierota 5201 Whitaker Ave. Philadelphia, PA 19124
April 12-14, 1985	Michigan State Conference	Hilton Inn Lansing, Mich.	(215) 533-3231 Dale Heikkinen 1914 Wayne Ann Arbor, MI 48104
April 19-21, 1985	Northern Illinois Piano Technicians Seminar	Northern Illinois University, DeKalb, IL	(313)662-0915 Jack Greenfield 259 Riverside Drive Northfield, IL 60093
April 26-28, 1985	Central West Regional Seminar	Minneapolis, MN	(312) 446-9193 Jonathan C. Nye 1515 Almond Ave. St. Paul, MN 55108
April 27, 1985	Los Angeles Chapter Annual Seminar	El Camino College, Torrance, CA	(612) 646-1622 Lindasue Darling 828 Dickson St. Marina Del Rey, CA 90292 (213) 822-9690



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Michigan State Conference

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- Expanding your bag of tricks; improving your tuning skills
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- Historical temperaments
- · Computers: making them userfriendly for business
- Hammer care and tone regulating

FOR THE REGULATOR:

- Regulating the grand action
- · Glues and adhesives
- Upright hammer installation
- Grand hammer installation
- Useful gadgets and tools
- Upright damper making and installation
- · Key bushing in one-hour

FOR THE REBUILDER:

- Appraising pianos
- Restringing techniques
- Bridge and pinblock repairs
- Plate refinishing and preparation
- Building and equipping the oneperson shop
- · Grand piano restringing
- Removing mortised pinblocks
- · Soundboard shimming and refinishing

Registration Information Dale Heikkinen 1914 Wayne Ann Arbor, Michigan 48104

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

(Act of August 12, 1970; Section 3685 Title 39, United States Code.)

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- 6. Full names and complete addresses of publisher, editor, and managing editor: Publisher - Barbara Parks, Executive Director, Piano Technicians Guild, Inc. 9140 Ward Parkway, Kansas City, Missouri 64114. Editor Larry Goldsmith, Communications Director, Piano Technicians Guild, Inc. 9140 Ward Parkway, Kansas City, Missouri 64114. Managing Editor - Larry Goldsmith, Communications Director, Piano Technicians Guild, Inc. 9140 Ward Parkway, Kansas City, Missouri 64114. 7. Owner: Piano Technicians Guild, Inc.
- 8. Known bondholders, mortgages, and other security holders owning or holding one percent or more of total amount of bonds, mortgages, or other securities: none.

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- 10. Extent and nature of circulation.
- A. Total number of copies printed (net press run). Average number of copies of each issue during preceding twelve months: 4,409; actual number of copies of single

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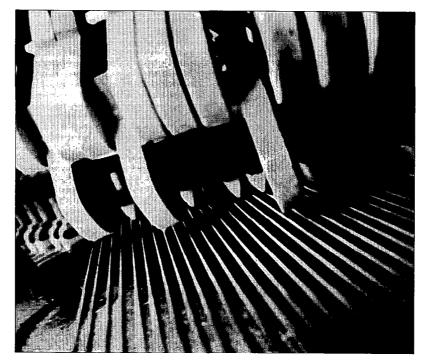
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Update

January 1985

Teaching Teachers About Their Pianos

Ruth Brown Chairman, Teacher **Relations Committee**

Teacher Relations Committee has its work cut out. Our board has a goal for our membership—that of a consolidated effort, a strength, unity. Chapter Achievement, under Dale Heikkinen, has taken on the task of analyzing us, in a sense, through our quarterly activity reports. The idea is not to see who can get an award, but to find out the things we do which can be shared among us all. The response has been very enlightening, and now there is compiled information accessible to anyone who wants it and can utilize it.

In the past year as chairman of the Teacher Relations Committee. I have found there to be a great deal of interest in this subject. Many of you are actively working with teachers in your area, many are concerned with this group and are seeking appropriate material. new ideas, different approaches. Many have offered program ideas. For instance, the Pennsylvania state conference has a slide show of a trip through a factory—high quality photography used to detail piano making (developed by Dick Truax and Jim Hess).

Current state committee chair Pauline Fox has augmented this by playing musical passages with deliberate regulation errors thrown in, clearly demonstrating to teachers how a faulty piano affects their students. Charlie Huether gives a program which explains pedal function, followed by a recital to demonstrate.

The Washington, D.C. Chapter, then presided over by Ruth Ann Jordan, held a class and open forum with several of their techni-

cians participating at a convention of the Music Teachers Association. Larry Crabb sent me a wonderful tape of a schoolteacher with her very young brood showing every aspect of the piano in a very understandable way. Several chapters, including Detroit-Windsor and my own. Reading-Lancaster, sponsor piano competitions for junior to senior high school students.

So one of our committee tasks is to compile what you tell us into a form other members and chapters can look to for ideas. The ideas and the activity are there. But for us to use this to the whole PTG's advantage, we need to know from you what you are doing now, what you feel needs to be done, and so forth. We want to hear from every corner of the union - every urban, suburban and burg area - hamlets and country lanes, too - whether hot, cold, wet, dry, populous or fifty miles between calls, your voice is important and part of the picture.

To this end, a questionnaire is going to each chapter president in the monthly mailing from Home Office. Please take a few minutes at your next meeting to answer the questions, "yes/no" or write an essay if you wish.

A second vital area is letting the teachers know we're here. So a letter is going out to heads of all teacher groups at state and national levels. Perhaps you are already in contact with many of them, but we don't want to miss anybody. Some conventions have already been attended this past year and several more are already on this year's calendar. This is a beginning but it is imperative that we develop this into a cohesive and regular ongoing educational program of teachers by Guild members.

The third charge of this committee has been to develop a program for teaching. This is where we break with administrative duties and paper work, and dive headlong into philosophies about our work, and so, herewith I present my treatise on the Education of the

Customer (Teacher).

A recent article in the Volkswagen "Small World" Magazine illustrates my idea of the ideal class for teachers. The article is about front-wheel drive. I had to pay close attention while reading the two short pages, and referred often to the color illustrations. For a day or so afterwards, I could describe something general about axles, shocks, struts, etc. Now it's all lost to me except an impression — but the impression is that VW really knows their stuff — that their engineering is tops. At no time did I learn what gauge to buy to check this valve or how the wrench adjusts that bolt.

Their point is to gain your respect for VW's technology and get you to buy from them again next time.

Salesmanship!

We have a product to sell — tuning, repair, regulation, rebuilding.

How often has this happened to you? You spend an hour with a customer going over hammer replacement, tuning problems, noisy dampers and so forth, all the time being sure they're following you and understanding you—then in walks the spouse, and the customer relates your message-"Honey, the piano needs work and it's going to cost \$ (blank)." Everything you said, and were sure was

Continued On Next Page

Teachers...

understood, has been boiled down to the most common denominator, money. And this is their home, with their piano and with the immediacy of the moment. How much less will be recalled when the situation is a group of 30, with just any old piano, everyone else's pet question, etc.?

We must know and accept that details will be lost no matter how good a job we do, particularly if the subject is too broad. So we must instead leave an impression.

Let me back up here. Do you remember high school science? A chemistry student's first lesson is not a complex formula, but a basic experiment with one purpose that of teaching the beginner how to think like a scientist, and not to make assumptions. Objectivity is imperative. In the same light, our own education should begin a serious survey of the materials from which pianos are made. We pick up tuning hammers and learn fifteen ways to approach a temperament without knowing why the piano is out of tune. We learn regulation from every angle but hear only in passing to watch out for safety zones and changing in the weather. We want to install soundboards yet don't understand crown.

Esoterics are what eventually separates the joyous creation from the mundane, but it is impossible to attain that level without the background. The majority of us did come by our education in precisely such a hard-knocks-learn-by-doing school. We study books, pick up the trade in bits and pieces. But how many could recommend that course to a newcomer, knowing how misleading a lack of study can be? Our lot is most complex, and we cannot afford to give even an implied idea that "it's a snap".

My interest in teacher relations is due to the large influence these otherwise normal customers have with the parents of their students. Naturally their pianos should be the best kept in town, but this is rarely so. The unskilled teacher who picks up extra money by taking on the beginners often has a piano half a tone low with a "tired" action. At the other end of the spectrum is the music edu-

cation grad who knows just everything about everything, absolutely.

The bad news is that these people are consulted about piano care infinitely more often than we are. (When you think about it, when was the last time a student asked you how to execute a trill?) The good news is they are hungry for information, and in nearly every case are receptive to the right presentation. The misinformation they pass on is not deliberate—they assume they know, and we are not saying otherwise.

This group we belong to, the Piano Technicians Guild, is not exactly a household word. Twenty-five-plus years and nobody knows we're here! Advertising is often mentioned, then shunned due to costs. But the best public relations efforts are in our daily contacts. No amount of money spent can be enough to make a dent without the follow-up at the local level and in the home.

As a group, we are often viewed as someone to contend with more than someone to respect. As conscientious technicians, we are often caught between a rock and a hard place, between dealer, manufacturer and of course, teacher. Our best defense is our professionalism, but particularly in the case of music teachers we have a real opportunity to educate, and that group's influence is nothing to sneeze at.

We as individuals have many approaches to this customer education, with a common goal—better kept pianos and the seekingout of professional quality service by piano owners. Basic criteria: Do the materials presented get results? It's the same thing as when you're showing a particular customer a situation in their piano—what approach is going to make them have you do the work?

Already in our corner are a third group of teachers, those gems in our days who hang on our advice, follow our suggestions and recommend us to their students and friends. How do we win over the others?

My own answer to that question has been put into a class which would most accurately be called "Why call a professional." In the tradition of that VW article, say-

ing so is not the most productive approach. Leaving the idea as an impression, however, works wonders. The title is "Professional Piano Care for Home, Studio and Institution," and it's a crash course covering the major factors which regularly and generally affect every piano, namely usage and humidity. Designed to run one to two hours, it is not meant to replace any other program, but can be used alone or as one section of a larger program. In fact, I feel we should delve into as many aspects as there are in pianos for our customers, whatever they're open to and interested in, and can absorb. But also cover the basics.

Details on the class are available to anyone interested and could take any form from a simple outline to a video tape. As your questionnaire responses come in with the details of your courses. they too will be made available to the organization at large. Your answers will give us the picture of where we are strong and where there are blank spots, and of how national can best work together with the regions, states and locals. We need to attend every teacher convention there is, and also to have classes and activities for them in conjunction with our own seminars. Every contact is important by keeping our name constantly in the public eye.

In conclusion, just consider these three points the committee has worked out:

1. Learning of our current status and sharing our ideas with each other (questionnaire to you in Home Office mailing)

2. Reaching the teachers (letter of introduction and questionnaire to teacher groups)

3. Finding appropriate material to get PTG's message out (new class based on general usage and humidity problems). No two people can use the same material, but study these precepts, adapt and tailor them to yourself and your locale. The intention is not to muscle in where something already exists, but on the other hand, looking at our current low esteem proves we need a strong national organizing base and additional material. At the end of this class teachers will be looking for Guild technicians.

Texas Convention Attended by 146

They came from 10 states, Canada and Mexico City to attend the Seventh Annual Convention of the Texas State Association. From California to New Jersey, from Mexico City to Ontario, a total of 146 people came to Waco, Texas, October 19-21.

The convention began with a lecture by Dr. Roger Kirk of Baylor University in Waco, on research he conducted at Baldwin Piano Company 25 years ago on unison tuning preferences. Using graphs, charts and tape recordings which Baldwin loaned to him, Dr. Kirk detailed the research that led to the conclusion that pure unisons are not always preferred by listeners. He then conducted a test on the audience using the same sounds he used in the original

The following classes were offered: "Tone Regulating," Fred Drasche; "Vertical Rebuilding," Joel and Priscilla Rappaport; "Basic Tuning Fundamentals," Jim Geiger; "Advanced Tuning Techniques," Don Stephens; "Hammer Making and Voicing," Ari Isaac; "Polyester Repair," Tom Pettit; and "Computers in Your Business," Jerry Harris.

The Texas convention had an event that, to our knowledge, has ever occurred at any PTG convention in the U.S. At 1:30 a.m. Saturday, the alarm system in the hotel



Jim Geiger, Houston, struts his stuff during his class at the Texas State Convention.

rousted everyone out of bed and everyone in the hotel was evacuated into the parking lot. Vandals had caused the second-floor sprinkler system to activate and the water was pouring down into the first floor. Fortunately none of the seven pianos and one harpsichord which were on exhibit were damaged, but some of the guests had to walk down 11 or more flights of stairs. This was a convention no one will forget. After about an hour out in the cold everyone was allowed to return to their rooms.

New officers elected at the convention were Danny L. Boone, president; Joe Lafuze, convention

chairman for 1985; and Martin Wisenbaker, treasurer.

Perhaps the highlight of the convention came during the drawing for door prizes at the banquet. Among the prizes awarded was a set of hammers from A. Isaac. Guess who won them—Fred Drasche!

There were 82 PTG members, 28 non-members and 30 spouse registrations for the convention, and plans are underway already to have 200 at the next state convention in Dallas in 1985. Eleven new member applications were processed by SCRVP Nolan Zeringue.

Danny L. Boone Convention Chairman

Examinations Committee Needs Volunteers

The Examination and Test Standards Committee needs volunteer chapters to try one or both new technical exams, according to Committee Chairman Fred Yonley.

Request forms were sent to chapter presidents in the December Chapter Mailing. If the form has been misplaced, chapter presidents should write Yonley to request these exams. If you request one or both exams, it is asked that you mail a critique to the ETS chairman by May 1985. Both the original exams have been added to or changed, and therefore the new versions are needed to make an appropriate critique.

There is a lot of expense in mailing these; therefore, only one per

chapter will be sent. Your participation is appreciated.

Chapter Notes

Harry Berg of the Los Angeles Chapter describes their October meeting, "Teri Powell gave our first inspirational talk on tuning for the Olympics. While there were 84 small grands in the Colliseum, there were also four concert grands that were used. The 84 were played in the stadium, but were not heard on TV. On TV the four concert grands were heard, and they were

two Steinway grands and two Baldwin grands, all four being nine-foot grands. The four pianos were multiplied on tape to enlarge the volume. This is why the tape sounded so good, because there were just four players."

The evening's technical session, "High Level Regulating," was presented by LaRoy Edwards, now a consultant to the Yamaha Corp.

Planning A Regional Conference

Dale Heikkinen Chairman, Chapter Management And **Achievement Committee**

Many chapters are involved, sometimes almost exclusively for a vear, in planning regional conventions. The Piano Technicians Guild Seminar Handbook compiled by Dick Bittinger, Bob Russell and Bob Smit is a very good tool for planning these conventions.

Chapter Management and Achievement will carry this one step further by compiling financial data on each convention. At the current time, we have financial reports on five conventions. This will prove to be of inestimable value to state conference chairmen who can request this data for their planning. We currently have registration fees, room rates, and banquet fees going over a seven-year period primarily covering the Eastern part of the United States. This type of financial data will guide a conference chairman as to what kind of risks can be taken without taking a financial bath. This type of information will be available only to those who are actually planning conventions.

News And Notes

From the Northern Virginia Chapter, Editor Dave Frease included this information for his readers...

BUSINESS: We are all manufacturers. Some make good, other make trouble, and still others make excuses.

ACHIEVEMENT: The person who rows the boat generally doesn't have time to rock it.

ADVERTISING: He who has a thing to sell and whispers in a well is not so apt to get the dollars as he who climbs a tree and hollers.

FRIENDSHIP: Never explain. Your friends don't need it, and your enemies won't believe you.

The Northern Virginia Chapter had an unusual promotion for their November meeting as well. Jordan Kitts Music will sponsor three lucky technicians for the Kimball Technical seminar in March, 1985.

The Chicago Chapter reported

on a very interesting survey, the results of which were reported in the September issue of the Wippenpost, edited by Fred Tremper. At the heart of the survey, the Program Committee attempted to find out what activities their readers were engaged in and where they were doing most of their work. The vast majority of responses, according to Program Committee members Jack Greenfield and James Houston, were from nonmembers who were required to respond under threat of having their subscriptions to the Wippenpost cancelled.

There were 104 questionnaires returned, 87 from nonmembers and 17 from members. The following reports only the nonmember

responses.

There are 31 who work in the business full time and 48 part time. Of the services our non-members provide, all provide tuning; none is a technician only. The method most used to tune is aural (60): there are 20 who do both electronic and aural tuning combined; only 2 admitted tuning only electronically.

The service most often provided (other than tuning) is repair (78), followed by regulation (66). We asked if rebuilding is a service offered to a customer and a surprising number (22) replied that it is. We suspect that since piano rebuilding requires possession of a considerable inventory of equipment, that this is probably a referral service rather than one provided directly.

Other services are voicing (29), sales (10), consulting (27), and refinishing (2). A surprising number of nonmembers (22) claim to do their own key recovering. This, too, is probably a referral service. In the "other" category there is one scale designer and one teacher of tuning.

"All in all, the survey was enlightening," says Fred Tremper, "for it gives insights into what work is being done and where. Perhaps just as important is the information that there are about as many non-members who are making their living tuning as there are members of the Chicago Chapter. This tells us that there is a significant number of potential members out there."

The Santa Clara Valley Chapter under William Reid, submitted the following items of interest which, in turn, are attributed to the San Francisco Chapter "In Tune." Special blue bushing cloth for Bluthners and Bechsteins can be had through Hechscher, Bayham St., London, Duplication of special action parts such as wippens can transacted through Roy Bunn, Prickwillon, Cambridge, England.

For your listening pleasure, check into the dazzling jazz pianist Tete Montoliu from Catalonia, Spain. His Boston concert is a good introduction.

Chapter Programs

Leamington Spa, England— "Advanced concert regulation," Heinz Kamper Alpha Vermont—"Reed organs," Ed Hilbert Syracuse—"The varied application of epoxies in the piano shop," and "Veneer patching," Ken Walkup Alpha, Washington D.C. — "Special tools, jigs and fixtures,"

moderated by Carl Root Houston—"On pitch; checks for intervals by ear and electronically," Rick Baldassin Bluegrass - "Scale re-design," Mark Rains and David Hayden Twin Cities, MN—"Refinishing," Ben Luhm Hutchinson, KS-"Examining pinblocks; discussion," Leonard Railsback

Sacramento—"Bridge repairs and capping," Yvonne Ashmore Seattle—"Tonal characteristics and differences of concert grands," Dr. R. Hokanson, Professor, Emeritus, University of Washington.

CTE s Listed

The names of four Certified Tuning Examiners should be added to the list published in the Guild's Directory last March. They are: Ray Zeiner, 65 Woodchuck, West Simsbury, CT 06092; Charles Hubert, 466 Stanley St., New Britain, CT 06051; Thomas McNeil, 119 Allen St., Lansing, MI 48912; and Les Jorgensen, 1135 Sunset Lane, East Lansing, MI 48823.