Piano Technicians Journal

February 1985

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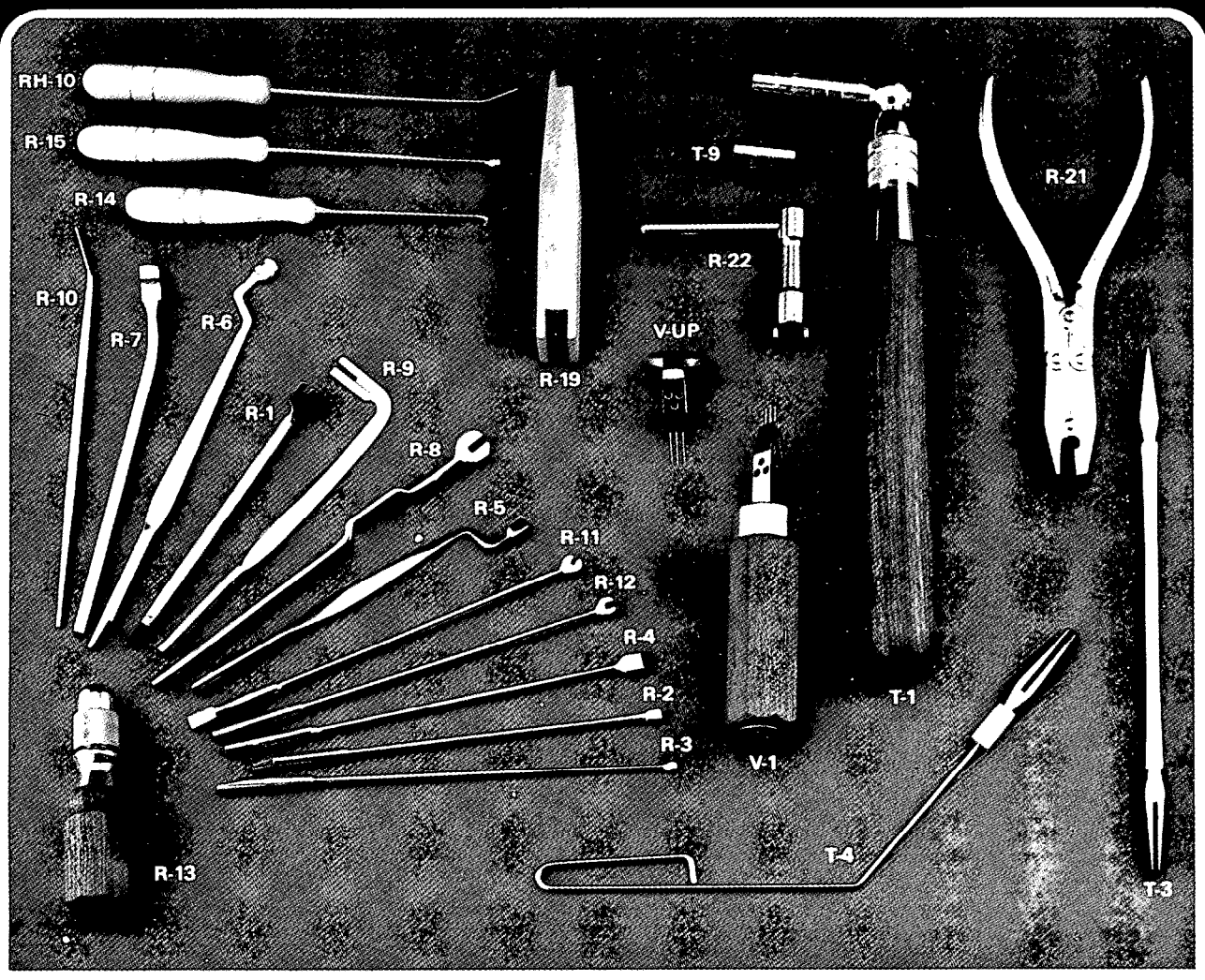

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R-3	STOP RAIL SCREWDRIVER
R-4	REGULATING SCREWDRIVER
R-5	DAMPER REGULATOR (UP)
R-6	DAMPER REGULATOR (SP)
R-7	POST WIRE BENDER (UP)
R-8	OFFSET KEY SPACER
R-9	SPOON BENDER (UP)
R-10	CAPSTAN SCREW WRENCH
R-11	DAMPER REGULATOR
R-12	DAMPER REGULATOR

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R-15	DROP SCREWDRIVER (GP)
R-19	BACK CHECK REGULATOR
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R-22	KEYFRAME SCREW REGULATOR
RH-10	CAPSTAN SCREW WRENCH
T-1	TUNING HAMMER
T-3	WOODEN MUTE
T-4	WOODEN MUTE
T-9	TIP
V-1	FELT PICKER (LARGE)
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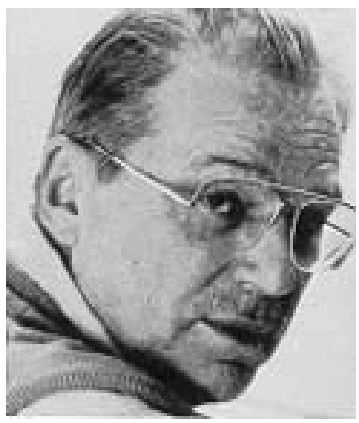
The President's Perspective



Charles P. Huether
President

Wanted: Future Washingtons And Lincolns

February is a great month if you are working for someone else. It is the shortest month of the year and has two holidays, the birthdays of Washington and Lincoln. Of course it depends on where you work, for Lincoln's Birthday is not a federal holiday, and both of these days have been turned into gigantic shopping events, so store clerks are very busy.

The greatness of Washington and Lincoln, already diluted by the "shopping" motif which has captured their holidays, is being further diluted by a new day called "President's Day," designed to create a long weekend and incentive to spend a lot more money, usually as far away from home as possible on a long weekend. It equates the importance of these leaders with high-powered shopping days. The legacies of Washington and Lincoln recede into the confusion of ignorance. It seems like we do not want heros anymore.

Washington and Lincoln were the right men at the right time. Each had the ability to lead, to attract loyalty, to make difficult decisions and to persevere until time proved their rightness. They were great leaders in every sense of the word. While we, in our typically American self-depreciatory manner, ignore them, their stature continues to grow among the world's historians. Our heros are honored more by others than by ourselves.

The need for leaders in the Piano Technicians Guild is no less than in any other organization, business or political. The honors we can bestow are so few and so limited that they in themselves are no good reason to seek high office. The requirements of leadership; the ability to make difficult decisions and to get others to accept them even though they do not favor them; the willingness to act in ways one considers right even though they may be contrary to the feelings of others whom one respects; the willingness to get things done without necessarily getting the credit for doing them; are all actions which do not necessarily guarantee material compensation. The rewards are, instead, bittersweet; misunderstanding and heartache, pride of achievement; and sometimes, recognition.

We piano technicians usually like to work for ourselves. Many have left other lines of work so as not to be a boss or work for one. We like it better that way. How can we find leaders among members so strongly inclined to go their own way and let others do the same?

If we have enough willing to serve, the time of commitment will be shorter for all. The individual sacrifice will be less and more acceptable. We can then ask members to put the importance of the organization above their personal feelings. We need the organization. The benefits of being part of a group, a cooperative and sharing group such as we are, are beyond description. But it does not just happen. We exist because there were and are people who recognized the need and were willing to face the disagreeable work of running the organization. We would not be here without them.

Washington and Lincoln shouldered responsibilities and hardships they never really wanted. So did and do some members. We are a great organization because members, mostly unrecognized or unappreciated, make heroic committments to serve at all levels of leadership.

I have come to the conclusion that, when elected, the first responsibility of any officer is to select his or her replacement. The most important function of leadership is finding new leaders. Take a shot at leadership. We need you, the more who are willing to serve, the briefer will be the terms of responsibility and sacrifice. Try it.

A Washington or a Lincoln we may never be, but the satisfactions of the work are often overwhelming, even though hard to describe. The tangible rewards are few if any, but the intangible ones must be experienced to be believed. The more who are willing to serve, the fewer will be the hardships.

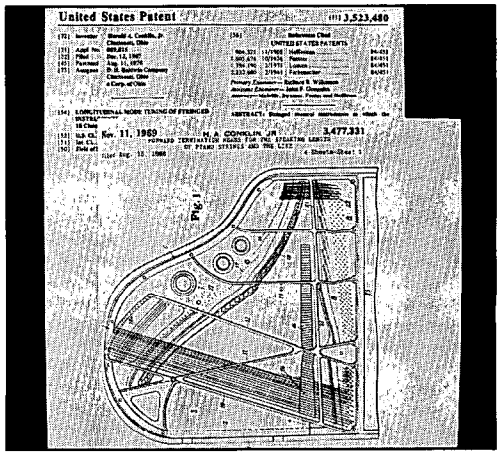
The Baldwin Piano...

You can see why it sounds better

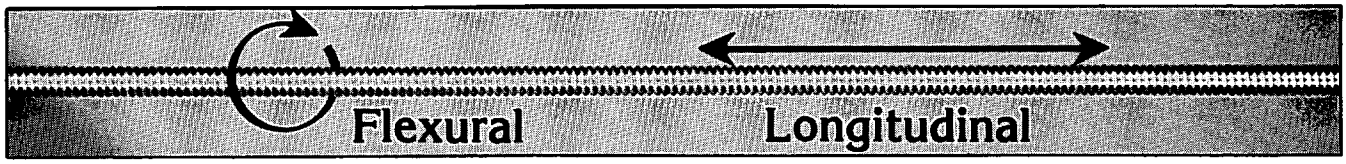
Exceptionally rich, clear tone with note-to-note consistency is a characteristic of the bass of a Baldwin piano. Our exclusive SynchroTone™ Strings are one of the main reasons why.

When a string is set in motion, two distinct groups of tone components are produced. The predominant group involves the flexural mode, which has always been the basis for stringed instrument design. The longitudinal mode is less audible but still present in every vibrating string.

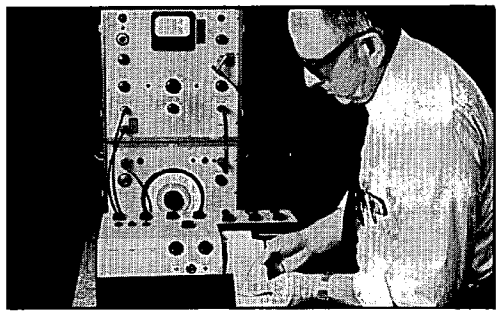
Several years ago, our research staff, seeking a way to improve the traditional string, invented a way to tune the longitudinal mode in addition to the flexural mode of the string. By isolating and "pre-tuning" this mode (usually 4000 to 5200 cents above the fundamental frequency of the flexural mode), Baldwin has devised the SynchroTone String principle — a significant breakthrough in scale design (U.S. Pat. No. 3,523,480).



To take full advantage of this SynchroTone principle, we even invented a precision string winding machine, so different from the ordinary winding machines that it, too, is patented (U.S. Pat. No. 4,055,038).



Precision SynchroTone Strings were first introduced in Baldwin grand pianos. Similar SynchroTone Strings are now found in every Baldwin piano built. This is just one more example of how we build incomparable tone quality and consistency into every Baldwin piano... from the concert grand to the smallest vertical.



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

Baldwin. - *Leading the way through research*

BALDWIN SPECIAL SERVICE—You may order Baldwin replacement parts at any time our office is closed—nights, weekends, and holidays—by dialing direct (513) 852-7913. Your verbal order will be recorded on our automatic answering service and processed the next working day.

From The Executive Director

Barbara Parks
Executive Director

Let's Not Be Too Professional!

Everybody's a professional these days.

That seems to be the big push in our society. A few people get together over drinks, and all of a sudden it's a profession. They set professional standards, and they insist on incomes befitting a professional.

It used to be that if you were a professional, you were a doctor, a lawyer, or maybe an architect. Then other groups got into the act. Now, it seems that everyone who provides any kind of service wants to be known as a professional.

Taken as a whole, I think it's a good thing in our increasingly service-oriented society. As we change from a society in which most members manufacture a product to one in which most provide some type of service, we need standards. We want an assurance that whatever service we buy is performed well. The best way to do that is to go to a certified professional, whether he or she installs aluminum siding, fixes our hair or represents us in court. Guild members certainly feel that way. The Guild spends a great deal of time, energy and money in setting standards and making sure that they are met.

But there's another side to the professionalism coin. Take sports, for instance. A professional athlete is one who performs for money. An amateur is one who does it for love of the sport. A professional athlete may also love his or her sport, but the equation often comes down to money, to paying the bills, to buying a new car.

When five o'clock rolls around and you're working for someone else, it's easy to say, "It's not my problem, not really. I'm a professional and I'm good at what I do, but if this task doesn't get done, my life won't be affected. I'm knocking off." What we have to remember is that it will affect someone who probably cares very much.

Standards are well and good, but sometimes they can turn into a meaningless, mediocre common denominator. They're only as good as the individuals who stand behind them and decide whether or not to live up to them on any given job. I'm sure you've had the experience of going to someone who came highly recommended and finding out too late that he had left his high standards at home that day.

I know that a lot of dreams, knowledge and plain hard work went into setting up the Guild's testing program, and I know that anyone who displays the title, "Registered Technician" absolutely deserves it. I know, too, that most piano technicians don't punch a time clock because they enjoy working for themselves.

The point is that standards can be looked at two ways. True, they're something to strive for, and if you meet them, you have every right to be proud of yourself. But you can't stop there. Once you meet them, you have to keep going. Then the standard becomes the minimum that you can accept from yourself.

So when I say, "Let's not be too professional," I don't mean that we shouldn't try to do a good job for our client. I mean that we should remember why we started doing what we do, and perform each job because we love it and because we're proud of our abilities, not just because we're being paid for it.

That's the true meaning of professionalism.

1985 Technical Institute

Ernie Juhn
1985 Technical Institute Director

A Preview Of Kansas City

Quote: "I am going to leave you with a cliff-hanger." (Ernie Juhn at closing luncheon of the 1984 convention in Indianapolis.)

Well, here it is. I thought that since we will have an international convention in Kansas City, where tuner-technicians from all over the world will attend a meeting of the International Association of Piano Builders and Technicians, we might as well have an international Technical Institute. And indeed, an international one it will be.

For the first time, we will feature instructors from *Australia, Japan, England, Austria and Germany.* These instructors will be part of the teaching staff of the Technical Institute. We will have a chance to get firsthand information from people we have only heard or read about. In addition, of course, there will be an outstanding selection of our own instructors to cover subjects of all kinds and parts of our craft. During the next few months, I will describe some of the classes you can look forward to. There's no doubt—the Technical Institute in Kansas City will be one that you can't afford to miss. Old timers as well as newcomers will find classes of interest or value.

Have you ever wondered what makes pianos go out of tune or, for that matter, stay in tune? *Klaus Fenner* from Germany will cover this subject in a class that has been a success all over Europe.

For those who have been asking for a class about small repairs on old pianos and hard-to-find parts, I am happy to announce the return of the *"Klunker Klinic,"* with *Jesse Lyons* and *Bob Qualls.*

How can you make that piano sound better? Well *Norman Neblett* will give everyone a chance to learn how to improve the tone quality of any piano. Norman's newly revised class, *"Tone Regulation From A to Z"* is a must for the tuner-technician who does more than just tune.

How is business? Fine? How come you are not rich? *Ron Kistler* cannot make you rich, but he can show you how to *"Keep The Profit."* Ron's class was packed in Indianapolis last year. Those of you who missed it will have a chance to see it in Kansas City.

Basic tuning techniques and how to use tuning tools to your advantage is the subject of *Sally Jameson's* class *"Learn How To Tune Pianos (In 90 Minutes)."*

And, if you have mastered the basics, you can become an expert by attending *George Defebaugh's* class *"A Musical Approach To Tuning."*

And, if you still want more on tuning, there is always *"A Master Class On Tuning,"* which will be presented by *Bill Garlick.*

There's a lot more, lots of exciting new classes as well as some repeats of old favorites. Look for another "Preview of the 1985 Technical Institute" next month.

Economic Affairs

Bob Russell
Chairman, Economic Affairs Committee

Adequate IRS Records

Beginning now, January 1985, it is most important that you keep strict records of business expenses. You will be expected to keep detailed, contemporaneous records to back up all your deductions.

It used to be advisable to keep an up-to-date log of your business trips, or a record of the time spent on your computer for business. Beginning January 1985, it will be *mandatory* that you keep detailed records of expenses, miles, etc. and you will have to indicate on your tax return that you have adequate records. Without these records, tax benefits disappear!

If you sublet or farm out some of your business (piano refinishing, rebuilding, etc.) check immediately with your accountant concerning IRS form #1099 or you may not be able to deduct legitimate claims on your tax return.

It seems you must also be sure you log all your car mileage in order to prove your percentage of car use for deductions.

The International Scene

Fred Odenheimer
Chairman, International Relations Committee

Conventions In Europe

Our annual Technical Institute is very likely second to none. The best possible instructors are assembled, teaching any subject that is of interest to the tuner and technician. We have the piano industry supporting us and sending their experts to teach us their way of repairing, regulating and caring for their instruments.

And yet, when I occasionally read a report from Europe, where institutes are held close to a factory or factories, where factory technicians are sent to institutes, and where one can also go to a factory at the same institute and observe their procedures firsthand, I sometimes feel that it would be nice if such things could be done over here.

I have a report in front of me of the German Convention in spring 1984. It included a visit to a saw mill where trees for soundboard material are sawed, cut into boards and finally also assembled into soundboards. An excursion took participants into a forest nearby under the guidance of a forester (forest director) who gave a lecture on trees and also pointed out our world problem, the dying of forests.

Naturally, attendance at European conventions is small compared to ours. They do not need large facilities and hotels our organization has to have for their conventions. Naturally also, 500 to 1,000 people cannot walk through an establishment without halting all proceedings. But once in a while, one should be allowed to dream, especially a short time before Christmas.

A new back for upright pianos has been designed by the eminent piano designer, Dietrich H. Dotzek, *Europiano* Magazine reports. He calls it a "Rigor X-Beam," claiming that it counteracts torsion. For all of us tuning and servicing upright pianos, a construction that would prevent tuning instability due to an uneven floor would certainly be more than welcome.

An interesting little tidbit taken from an article in *Das Musikinstrument* entitled, "What is happening in the Piano Markets" notes, "In designing the 1984 Hohner Pianos (a cooperation between Hohner, Germany, and Hellas Pianos, Finland) planning went world-wide. Sitka spruce from Alaska for soundboards and ribs, Saito Actions from Japan and Renner Hammer heads from Renner in Stuttgart, Germany."

Kimball Develops Olympic Commemoratives

Kimball International Keyboard Division, which supplied more than 100 pianos to the 1984 Olympic Games, now produces limited-edition commemorative grand pianos similar to those played during the opening extravaganza.

Each limited edition commemorative grand piano will carry a two- by three-inch plaque bearing the words "In commemoration of Kimball's participation in the opening ceremonies of the 1984 Olympic Games." The plaque will be located where the Olympic medallion was situated inside the original piano.

"When a commemorative grand is purchased, the new owner can mail us a postcard included with the piano. We'll send back a certificate with the serial number of the piano to authenticate it as one of the limited edition," said James Birk, executive vice president and one of the performers in the opening ceremony. "Also included will be an eight- by 10-inch color print of the 84 grands under the Coliseum arches."

Coberly Retires From Grayson

R.L. Coberly, founding instructor in the Piano Tuning and Repair program at Grayson County College, Sherman-Dennison, Texas, has announced his plans to retire at the end of the fall 1984 semester.

During his 10 years at the 5,000-student community college, Coberly has taught students from 39 states and four foreign countries. Before coming to Grayson County College, Coberly was owner and manager of music companies in west and south Texas.

THE TECHNICAL FORUM

Grand Key Dip, Spoon Benders, Tech Tips, New Steinway Action Parts, The Multipurpose Tool Contest And Reader Comments

Jack Krefting
Technical Editor

Grand Key Dip

Steve Brady's "The Case Of The Percussive Piano" (December 1984 Piano Technicians Journal) has provoked a considerable amount of renewed interest in the subject of key dip, punching firmness and in general the effects of percussive key noise on our perception of tone. The idea of switching to the softest available front rail punching has stirred some controversy as well, with adherents and opponents seemingly in about equal numbers.

Those favoring softer punchings point out, quite correctly, that there is less noise transferred from the key into the keybed, and hence less chance that the thumping sound will be carried through the case and into the soundboard, than would have been true with firmer punchings. Others, with equal validity, note that soft punchings cause unequal dip in that the punching will compress considerably more on a hard blow than on a soft one, which allows a variation in aftertouch according to the force of the blow. Worse yet, they say, the sharps will be affected far more than the naturals in that regard, having so much smaller a surface area to touch the punching. The sharp tends to bury itself further than a natural on a hard blow, so the inequity between the two is increased when softer punchings are employed.

Another factor not discussed by either group, is the sound propagation of the various case parts in a given piano. Since some species reflect and/or transmit sound better than others, it then follows somewhat ironically that the pianos with the hard maple rims which seem best for tone also are prone to reflection of action noise. Softer rims do not seem to pose as much of a problem in this regrad, but neither do they produce the best tone quality. It would seem, assuming that premise to be correct, that this represents a trade-off.

"Another factor... is the sound propagation of the various case parts in a given piano. Since some species reflect and/or transmit sound better than others, it then follows somewhat ironically that the pianos with the hard maple rims which seem best for tone also are prone to reflection of action noise."

It also is possible that there may be a reasonable compromise in that we don't have to restrict ourselves to extreme choices in softness. A relatively dense cloth with surface nap, found on all new punchings will do the job; old, worn punchings, conversely, are noisier not so much because of greater density as the fact that the surface nap is worn away. The punching must be firm enough to prevent the sharps from burying significantly on a hard blow, as above all else, the key dip must be consistent from note to note. Some pianists can detect even the tiniest difference in dip, even down to tissue thickness.

Standard dip blocks that are 3/8-inch thick at the front edge are in ready supply, even though at that dimension they are suitable for very few pianos. It is almost always necessary to add tape or paper to the underside of the dip block to bring it to the proper thickness for a given piano, and of course one must use the same amount of downpressure and feel across at the same point along the length of the block, or else it will be impossible to achieve precision.

Spoon Benders

Q: *Help! Does anyone make a spoon bender that actually works?*
Robert A. Grillo, RTT
Chestnut Hill, Mass.

A: They all work on certain pianos, but unfortunately none of them work on everything. Most technicians have a problem with damper spoons, because, first, since the spoons can't be seen, the big problem is *finding* them, not bending them accurately; second, this adjustment is not frequently needed, so the technician doesn't get enough practice to become really skillful at it; or third, he is trying to use a certain tool on all sizes and types of vertical pianos. Nine out of 10 technicians, at a guess, are so unskilled at spoon bending that they will avoid it at all costs, which of course only compounds the problem. Pianos needing minor adjustment don't get it, so when major adjustment is needed the average technician is unprepared.

One solution to the problem, for the technician who is serious about providing top-notch service, would be to purchase one each of every available type of spoon bender and take time off work to practice. Find a church or school that has various sizes of vertical pianos and adjust the spoons on all of them. A few hours' practice will be well worth the effort. The technician will suddenly be so confident almost to the point of hoping to find a piano with a spoon problem so that he can sell an adjustment job.

Those who are so heavily scheduled that taking a few days off would be out of the question could take a different approach: buy or make all the needed tools, but instead of concentrating on nothing else but spoons for two or three days, simply make a point of adjusting at least one spoon on every vertical piano serviced in a given time period. It won't take much time, it will improve the piano and you will gain experience.

Figure 1 shows the configurations of the more common spoon benders. It goes without saying that the plane of the slot in the tool must be the same as that of the spoon or it will not be possible to engage the latter to bend it, even if it is located. The in/out plane is of primary importance here, but the side angle

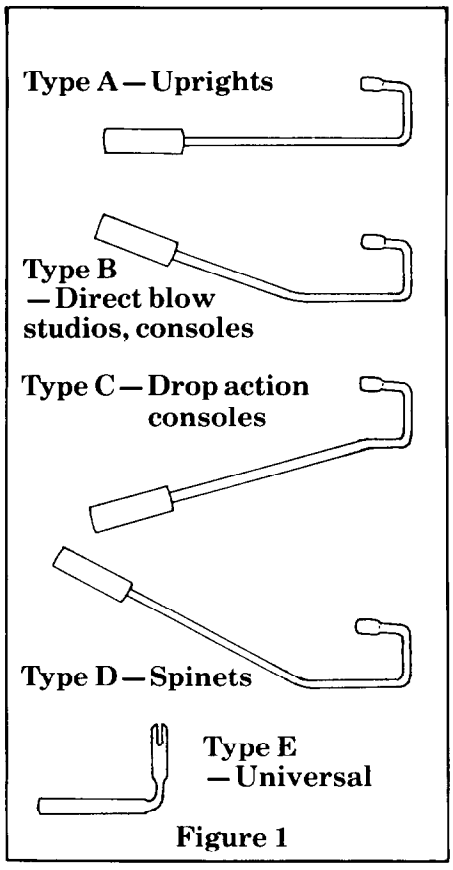


Figure 1

is also to be considered. *Figure 2* shows that if the right tool is used, one can simply raise or lower the handle and/or raise or lower the wippen until the tool engages. Then it is a simple matter to bend the spoon by pulling up on the tool while pushing down on the wippen, or vice versa as required.

To determine whether the spoon is angled right or left, look at the spacing of the damper flange of a particular note, compared to the position of its hammer butt and flange. They will be staggered, partly so the spoon won't completely block access to the wippen flange screw and partly because otherwise the damper flange screws could touch the butt flange screws inside the action rail. They are thus staggered for convenience, and any resultant spacing problems are easily justified by bending the damper wires.

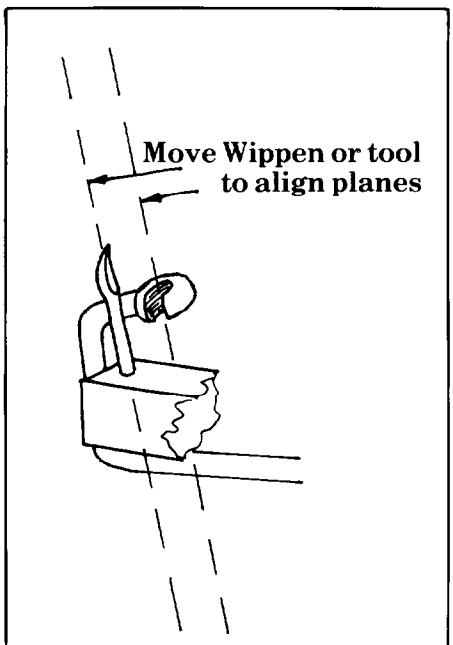


Figure 2

One of the most useful tools is the Type E tool which can be tilted 90 degrees to get it between action parts, and then tilted counterclockwise to engage the spoon. The relatively deep groove allows it to fit even if the side angle of the tool doesn't exactly match that of the spoon, and it will fit more pianos than any other type.

The drop action spinet is the easiest to adjust since there is no interference, provided one is accustomed to working with the right hand under the keybed with a Type A tool. Drop action consoles are easy, too, provided one has a Type C tool, which allows adjustment from below the keybed just as in the spinet. Next comes the direct-blow studio or console, which is best adjusted with a Type B tool, provided the keys are removed first. Finally, the most troublesome is the tall upright with stickers. The Type A tool is as good as any for this, but because of the stickers, one cannot "fish" from one spoon to the next, but rather it is necessary to retract the tool and reposition it for every note.

Always place the bending tool to the right of the wippen, between action parts, and then try to pick up the feel of the spoon by moving the tool to the left and onto the spoon. If the tool doesn't slip onto the spoon, move it around the area to get a feel for placement. An old factory trick is to move the tool to the right instead, feeling and listening for the spoon to the right. When the click is heard, the tool can be moved to the left as the wippen is moved up and down with the other hand, allowing the spoon to come into alignment with the tool.

Tech Tips

Our first tip addresses the perpetual problem of retaining spinet stickers when removing and replacing the action.

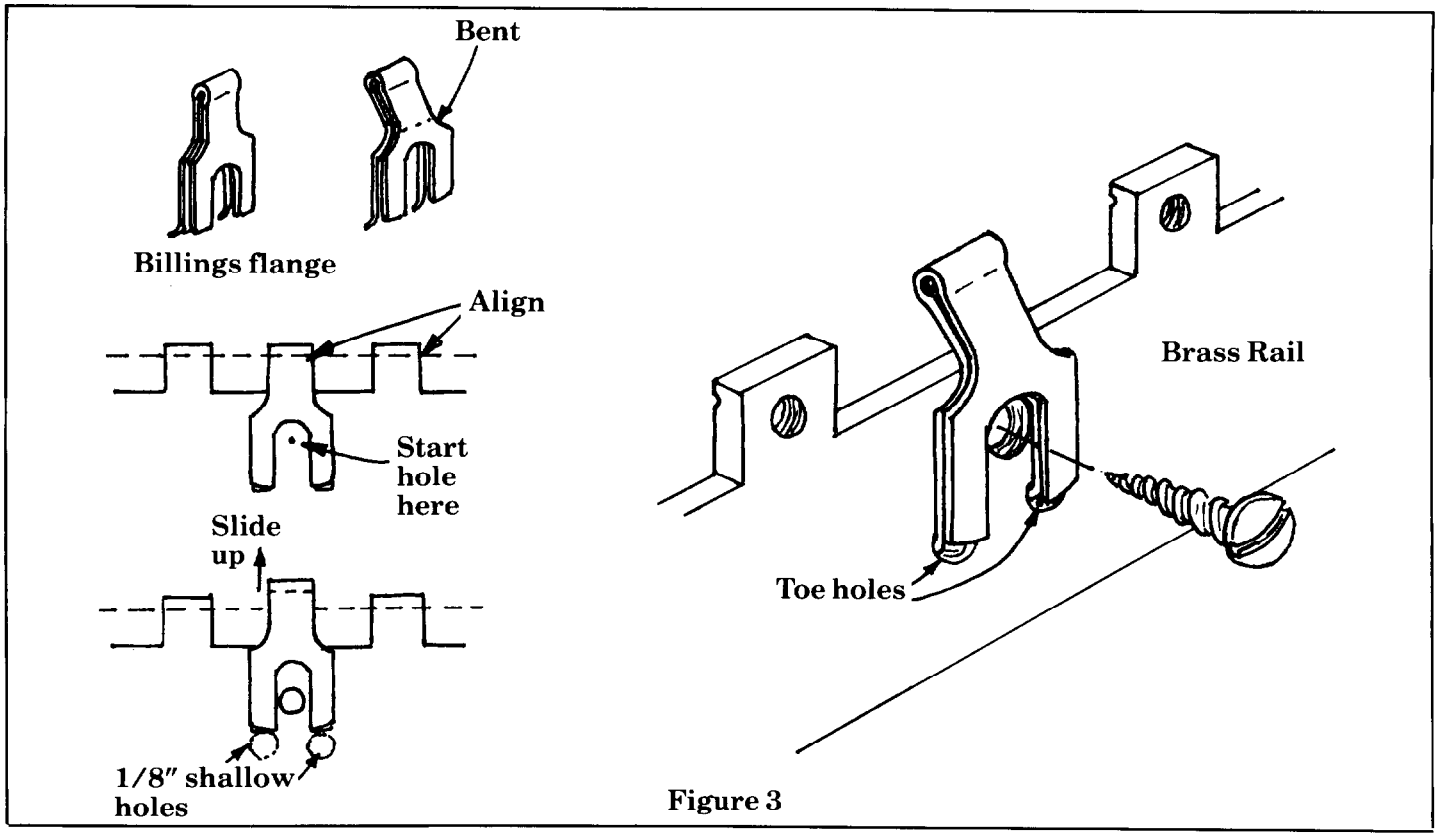


Figure 3

I have found a simple way to tie up spinet action stickers using a long piece of elastic (six feet long by 1/3 inch wide). The elastic is sturdier and, of course, more flexible than string. I use intermittent hammers and the brackets for "anchors." A side benefit is that once the action is out, it is possible to easily work on an individual action part, by popping the sticker out of the elastic without having to untie and retie the entire action.

Mary McNerney, RTT
Oak Lawn, Ill.

Next, Don Farrar concerns himself with the old problem of brass rail repair clips which won't stay in placé under hard use:

Having encountered all sorts of unsatisfactory repair jobs on brass rails with broken tongues, I would like to share a procedure I devised recently, which is so simple I would be surprised if no one else has tried it.

The repair attempts I have seen range from use of the various styles of repair clips offered by the supply houses to the use of a regular wood flange screwed in place and all the regulating problems that entails. My solution solves these problems, and allows easy servicing later if needed.

My customer has an old Knabe upright which had recently been "rebuilt" with new strings, hammers and dampers. Everything worked well, except that during tuning, one hammer and butt popped out. Investigation revealed that the brass tongue had broken off and been replaced by a massive repair clip which was hanging on by its fingernails, as it were, as there was very little rail left for it to grab. Attempts to re-install the repair clip soon proved to be futile and I was forced to devise the following:

1. Remove the action and remove the wippen involved, plus the ones on either side, giving you room to work.

2. Take a Billings flange and carefully bend the top over about 40 degrees so that, once installed, the center pin hole will line up with the existing centers on either side.

3. The hammer butt and clip being out of the way, place the Billings flange on the brass rail as shown (see *Figure 3*... Ed.) *and, with an ice pick or similar tool, punch a center for the screw hole you will drill to hold the flange in place. Don't drill the hole too high on the rail. Better to drill it a little too low as this can be compensated for later.*

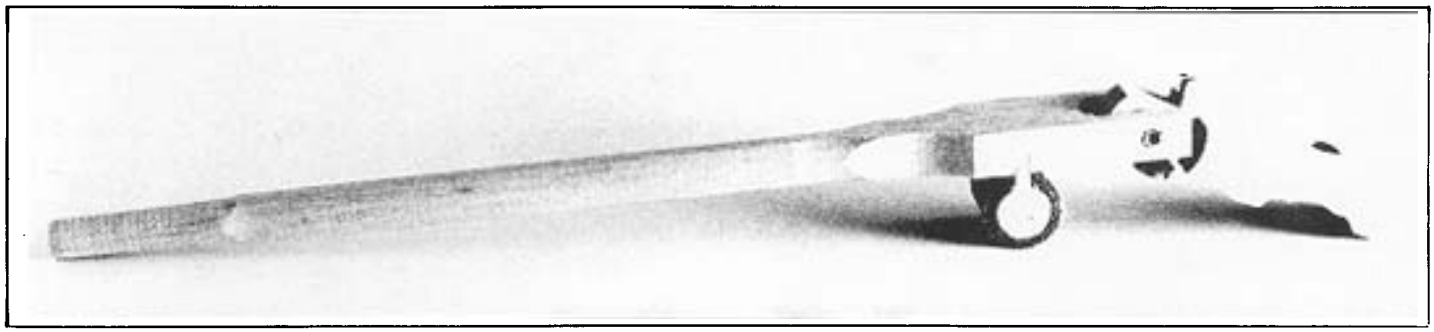
This hole should be the proper size for a No. 8 by 3/4 pan-head tapping screw, just as if we were drilling a normal wood-flange rail. You can countersink the hole slightly *with the next-larger size bit, so the screw doesn't encounter too much metal on the way in.*

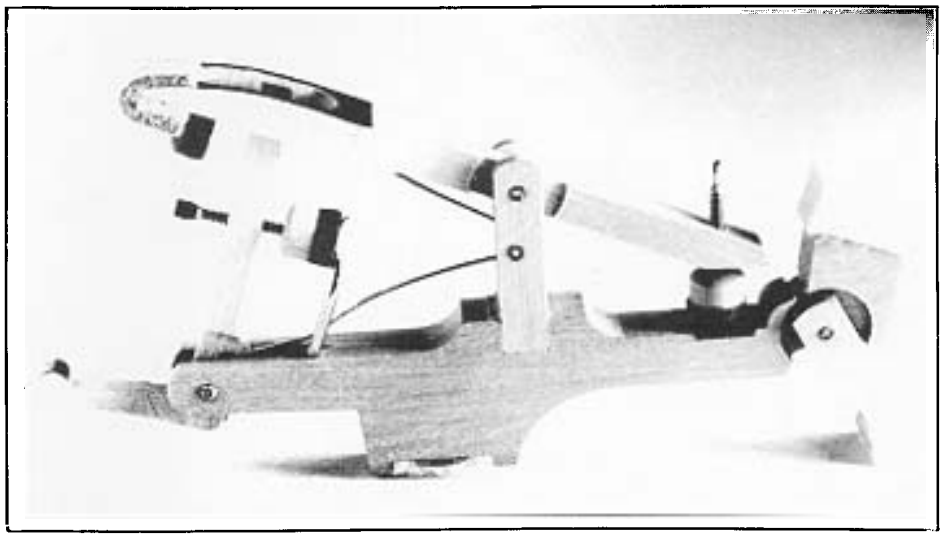
4. Try the flange at this point, holding it lightly in place with the screw. Carefully slide the flange a tiny bit upwards and, with the ice pick, mark the place where the "toes" of the flange touched the rail.

5. Using a 1/8-inch drill bit, carefully drill two shallow pits at the two points. The toes of the brass flange will just fit into these two indentations, thus keeping the flange from wobbling side to side during use. Do not worry too much if the holes are a little off, as this can be compensated for by bending the flange toes up or down as needed. Too much "toe" can easily be cut off with your center-pin flush-cutters.

6. Now you can install the flange on your existing hammer-butt in the usual manner, and try the whole assembly in place, tightening it down. Check for proper alignment and travel, height, etc. Any necessary adjustments are easily made by simply bending the brass flange.

The repair works perfectly, needed only lost motion removed, and I anticipate no future problems





(until another tongue breaks). I might only suggest that the hammer butt be re-bushed, since a large-diameter center pin is very difficult to install in a Billings flange without scoring it excessively on one end, leading to a chewed-up bushing on one side and subsequent wobble. Start with the smallest-size center pin you have (number 18); Billings flanges are made to hold that size quite tightly.

With proper preparation the whole operation can take less than an hour, and will leave you and your customer well satisfied.

Don Farrar, RTT
New York Chapter

New Steinway Action Parts

Effective immediately, all model B and D Steinway grands in production are being fitted with action parts which are somewhat different, as shown in the accompanying photographs. As this is written, the new parts are being incorporated into the S, M and L models as well.

According to a spokesman for Steinway & Sons, the new parts represent a refinement in design and may be used as replacement parts to upgrade and improve older instruments. The retrofit operation is quite simple and straightforward, with one minor exception which we will discuss presently.

A glance at the photos indicates that the butterfly design is retained, along with the two-piece jack and the integral rest cushion, although the latter loses its red felt covering. The wood parts are of hornbeam rather than maple, and the bushings are traditional wool cloth. The old Emralon lubricant has apparently given way to burnished graphite and there are subtle differences in the shape of the moldings and hardware items, but otherwise the new parts appear similar to the ones previously used.

The important thing to note here is that, while these new parts are usable on older pianos without modification provided the wippens are replaced along with the shanks and flanges, if the technician elects to replace just one of the above (shanks *or* wippens, not both) it probably will be necessary to replace the letoff buttons as well. There is a minor dimensional difference between the old and new parts which requires a special thinner button when new shanks are used with old wippens, and a special thicker button for use in the unlikely event of replacing wippens but not shanks.

When replacing existing parts with the new-type replacements, Steinway suggests installing one sample part in the bass and another in the treble, and checking for correct letoff on that note. Obviously, if the new part is a shank, it will be necessary to dry-fit a new hammer temporarily and then try it with the keys and action in the piano. If there is insufficient range of letoff adjustment, fine; but more likely, the technician will find the letoff too wide even when the buttons are practically touching the underside of the letoff rail. In that event, grasp each letoff button in turn with the fingers while twisting the screw counterclockwise, until the button comes off the screw. Continue turning the screw until it protrudes from the bottom of the rail by only 1/16 inch, then do the next one and so on until all buttons are removed and all screws high in the rail. This procedure is more easily done if the wippens have been removed from the action frame, incidentally, so if they are to be reconditioned it would be a good idea to remove them at this point.

Grasp one of the new, thinner buttons between thumb and forefinger, holding it firmly in position under the letoff rail while turning the screw clockwise until the button starts turning in the hand. Install the remaining buttons in this manner and then regulate the action normally.

Steinway will also make extra-thick letoff buttons for use when wippens are replaced but the old shanks are retained. As before, check one assembly each in bass and treble for range of letoff adjustment. In this case, it is likely that the eye of the screw will be so

close to the rail that it is not possible to prevent blocking, in which event the thick buttons should be installed just as in the first procedure, followed by the usual regulating.

To sum it up, *it is not necessary to replace letoff buttons when installing the new action parts unless new shanks are used with old wippens or vice versa.* If all new parts are installed, they should be compatible with each other and with the old keyset and action frame, including the original letoff buttons.

Multipurpose Tool Contest

This month's entry comes from Miriam Graham, who attended the North Bennett Street School and wants to be sure that David Betts and Bill Garlick are given credit for her entry, since they were her teachers. Here's Miriam:

It is an eight-inch, triangular, fairly fine file. I have bent the end that would go on a handle in a slight curve. This tool can be used for regulating grand letoff in the piano; regulating grand or upright capstan screws that have holes; filing the square joints on ivories, and also the fronts; filing other small parts, wood or metal; making other tools where you need to file a V-shaped groove in them; and poking unfriendly dogs if necessary (just kidding, of course).

Miriam Graham, RTT
Santa Fe, N.M.

Reader Comment

...some tremendous writings have been published in the Journal, especially in recent months... Some of this has been common knowledge to the older folks, who have been privileged to know Dr. William Braid White, Charles Frederick Stein, Alfred Knight and a host of others. (Of all of these,) *only White wrote a book. I asked each one why he didn't write a book. Stein said he didn't have time. Knight said he wasn't educated enough...*

At a council meeting (ASPT) in Chicago, the idea was put forth to take material from the magazine and put it in book form, and to sell it with all proceeds to go to ASPT (now the Guild). It was accepted... but...petty bickering scuttled it. (Some of our recent series could be reprinted). *They would not have to be expensive hard-cover or even paperback. Mimeograph loose leaf would do... So little practical knowledge has been written, so many great brains have been buried and so many of the newcomers are asking the same questions and making the same mistakes, we are duty-bound to do it.*

If one truly gives it away, without thought of return, one will receive rewards uncountable...

Robert E. Musser, RTT
Colorado West Chapter

It would be possible to publish some of these series, certainly, and Bob is not the only one to suggest this. Dave Roberts; "The Calculating Technician" comes to mind immediately, as do David Pitsch's "After Touch" and Rick Baldassin's "On Pitch," as likely candidates for reprinting. President Huether has expressed interest also, and if enough people like the idea, it may happen.

It appears that this may be the year for controversy regarding technical topics, what with several articles recently published that have contained unusual or even startling material. Chris Robinson, for one, has certainly raised some eyebrows with his voicing methods, and my feeling is that his offering this month just might raise them a bit further. Similarly, some of Virgil Smith's recent statements on tuning have raised a few hackles, one respondent even suggesting that extreme drowsiness on the part of the Tech Ed must have been a factor in the approval of the December material. Another stated that he could prove it is physically impossible to alter the quality of tone by changing punchings, as mentioned earlier in regard to the Brady article.

All of this falls directly on my head, of course, since I have the responsibility for editing all technical material, and at the risk of sounding defensive, I have to say that I don't always agree completely with everything that is submitted for publication either. But if I edited out everything that I didn't completely agree with, the *Journal* would become simply an extension of my own opinions on everything. I might as well do all the writing myself and save the trouble of recruiting and editing.

If a problem indeed exists, it is that some regard the *Journal* as a textbook for beginners rather than a professional publication which exists for the benefit of the majority of members and subscribers who are not beginners. Textbooks should contain only tried and proven material, because the beginner will be confused and hindered by anything else. But the advancing technician wants more than that.

As a profession, we are at a curious stage of development — we don't have the solid, published basics that other disciplines have, so we tend to feel that our periodical should serve that purpose. Indeed, maybe it must, but it also must allow for the growth of the profession by permitting new ideas to surface, if only for a moment. The great ideas will surface again and again, and so long as we continue to publish the thought-provoking ideas as well as the well-proven ones, our industry is alive.

Incidentally, and in view of the foregoing, this is probably a bad time to ask, but we do need new writers, as always, so if you have an article, comment or technical question, please send it to me:

Jack Krefting,
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Seasoning Of Timber

Brian Dockrill, Affiliate Member
New South Wales, Australia

Almost all of us at some time come into contact with products made from seasoned timber. Desks, toys, pianos, furniture and wooden flooring are made of seasoned timber. But how many people really comprehend what timber that is seasoned really is?

Regrettably, many people associated with the piano trade have little knowledge of seasoned timber and the best method of obtaining it. When a surface breaks down on furniture; that is, when it warps or cracks in time, people give no thought to the concept of seasoned timber.

What Is Seasoned Timber?

"Drying" is the term used for drying moisture from "wet" or "green" timber. All living matter depends upon water for life...so too does timber. Food, that is sugars and starches, are made by photosynthesis and transported in solution up the inner bark of the tree to the growing cells. Along with various minerals, water enters through the roots of the tree and is carried in the sapwood (the outer, woody part) to the leaves. The complete trunk of any tree is made up of cells, which are small tubes with walls of cellulose, also with a hollow containing water and minerals. Consequently a sawn, felled tree shows in its sawn section innumerable small cells containing water. The seasoning of timber enhances its properties to a great extent.

Moisture Content

Moisture content must be understood to in turn understand seasoned timber.

This is simply the weight of water contained in a piece of timber, compared with the weight of actual woody substance in the same piece. This is usually expressed as a percentage. The formula for moisture content is the weight of water divided by the weight of wood multiplied by 100 percent.

For example, consider a sponge. Its weight when dry is 100 grams. When saturated with water, its weight is 500 grams. Saturated moisture content is said to be 400 divided by 100 multiplied by 100 percent, or 400 percent. The sponge is approximately four times its own weight when saturated.

A "green" moisture content, that is, moisture content of a freshly sawn log, varies with density of timber. Balsa, a porous timber, can have a green moisture content of 400 percent. However, ironbark, a hardwood and very heavy timber, has a green moisture content of about 40 percent.

Free And Bound Moisture

The moisture in the cell cavities in timber is named *free moisture*. The moisture saturating the cell walls is named *bound moisture*. Although moisture in either position is exactly the same, the effect upon timber is quite different. As the timber dries, the free moisture evaporates and the effect is principally a loss of weight. As the bound water is removed, properties of the timber change radically. For example, ironbark has a woody tissue and has very little free space to hold water, so moisture content is low.

Fiber Saturation Point (FSP)

Eventually, through drying, the cell cavity is absent of free moisture, with the cell wall still saturated. The drying is termed *Fiber Saturation Point*. Moisture content FSP lies between 21 and 33 percent.

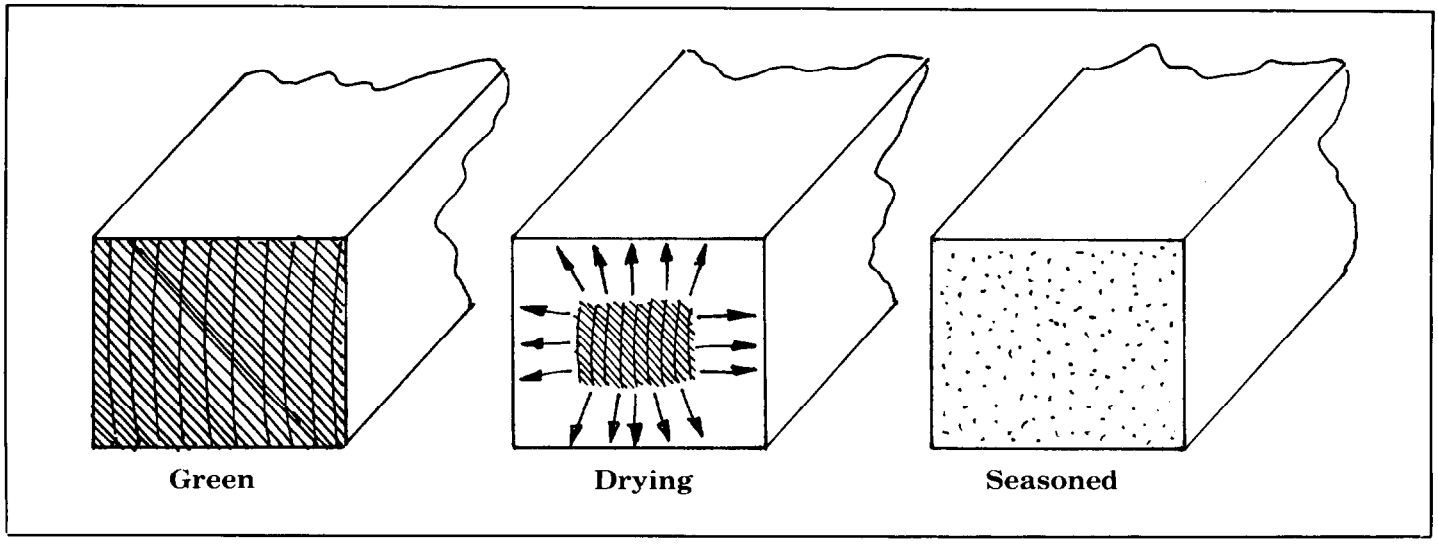
The term FSP strictly refers to the moisture content of each cell and not a piece of timber as a whole. For example, a board 10 cm. by 25 mm. as Australian hardwood, tallowwood or brushbox...green moisture content would lie between 50 and 70 percent. Softwoods could have a range to 400 percent.

With exposure to the *air*, the outside section of the board dries first. Therefore, the cells about one millimeter inward would dry to FSP long before the board has begun to dry at its center.

The moisture content of the outer section or *case* would be 21 to 33 percent while the *core* will be the same as when sawn. The average moisture content will be close to the initial figure. When the moisture content of timber is specified, it is always the average moisture content that is considered.

Moisture Gradient

Since all timber dries from the outside to its center, *commercial sizes* of timber have a higher moisture content at the core than at the case when being seasoned. This difference is named the *moisture gradient*. It is always present as the timber dries. Moisture tends to flow from a wetter position to a drier one, and the result is the dried core. Now again, when drying pieces of



timber, the case of the timber dries to FSP and continues still to dry. The timber dries from the case to the core. Timber will not dry to a zero moisture content state, unless it is kept in an oven with a temperature above the boiling point of water. Likewise, if timber is placed in an oven with acid, a lower temperature is maintained with a similar result. Silicon gel can be used to draw air through itself in an enclosed airtight chamber to lower moisture content.

As timber in use is exposed to air, which always has moisture, the moisture content of timber is relative to humidity (The quantity of moisture in air is humidity). Consequently, as the humidity rises and falls, so does the moisture content. Timber remains with an ability to absorb moisture. The following shows humidity with corresponding moisture content of timber.

Table 1 gives Equilibrium Moisture Content of timber at various relative humidities at 20 degrees Centigrade (68 degrees Fahrenheit).

The timber will dry until moisture content of case and core are approximately the same. Considering the timber is indoors, the moisture content will fluctuate only a few percentage points with humidity. When timber is dried, it has its *Equilibrium Moisture Content* (EMC) and is thus fully seasoned. In Australia, especially New South Wales, indoor situations appreciate a seasoned timber with a moisture content of 10 to 15 percent. In coastal areas, timber that is seasoned will maintain a moisture content of 12 to 15 percent. And in dry areas of western N.S.W., such as Broken Hill, timber will dry to approximately seven percent moisture content during summer. The humidity of an air-conditioned building can show an approximate average moisture content of 10 percent with a drop to eight percent in winter, when heating is added to the building. In summer, the air, being more humid, gives a rise to 11 to 12 percent in seasoned timbers. This brings me to say weather conditions and storage of timber is vital in determining moisture content.

Reason For Seasoning Timber

The properties of timber maximize after seasoning, e.g., strength increases. A principal disadvantage is shrinkage. However, with a correct understandingof timber shrinkage, this behavior is minimal.

Shrinkage Of Timber

Every type of timber shrinks when dried. This results in a direct loss of volume. Shrinkage causes cracks upon a surface, cracks in a sawn edge and is a primary cause of warping. With a loss of free water, there is no effect on timber other than to lighten it. It is when the combined moisture starts to dry from the timber's cell walls that the physical properties change. When timber dries below FSP, it begins to shrink. The walls of the cells are made of long chains of cellulose molecules called *microfibrils*. These are saturated when the timber is green and the water molecules (that is, the bound water) keep these threads of microfibrils apart. As the water is removed by drying, the *fibrils* come closer together.

Since there is movement, no matter how minute, within the timber structure, the timber shrinks. The timber will continue in this process until EMC is reached. After seasoning, there is still a movement in timber that can be noticed in sticking doors and drawers. This happens as the timber swells and will disappear with a weather change.

There are three basic different directions shrinkage occurs. First, in its length, it shrinks .1 percent, that is, one millimeter per meter. A slight longtitudinal swelling can occur, but this is quite rare. Second, a higher shrinkage of one percent can occur if the timber has *reaction wood*, but this, too, is quite rare. Third, a sloping grain such as a cross or curly grain can cause a higher length shrinkage.

A shrinkage in width will depend upon how a piece is sawn from the log. When quarter-sawn, that is, in radial direction at right angles to

Table 1

Relative Humidity (%)	*Moisture Content (%)*
10	2.6
20	4.6
30	6.2
40	7.8
50	9.2
60	11.0
70	13.2
80	16.1
90	21.0

the growth rings, the shrinkage is nearly half that of a piece sawn in a direction tangential to the rings, or back sawn.

Shrinkage leads to a product of force and stress on timber. In an early stage of shrinkage, when the case is drying and the core is still wet, *tension stress* is induced. When this stress is severe enough, it can cause a rupture to the surface of the timber that leads to a formation of cracks or checks. As the core dries, core tension stress becomes apparent. This pulls the case and tends to close surface cracks and checks. However, if the tension is great enough, the internal timber may rupture, causing internal checks and cracks.

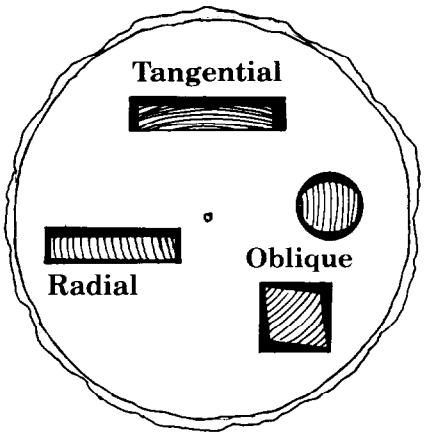
A phenomenon known as collapse can occur when individual cells are flattened. This will cause an irregular and large shrinkage of the cross section of a piece, typically with the faces hollowed. It also can cause honeycombing separations of the wood fibers internally with an open split or holes running along the grain as a result.

Reconditioning

A process of steaming the wood when it is below the FSP will remove most of the collapse, shrinking and distortion. Collapse will not recur unless the piece has an increase in moisture above the FSP.

Warping of Timber

Cross grain is a form of sloping grain. Curly grain and spiral grain are often contained in timber. Where a knot occurs, the grain deviates markedly from the direction of length of tree. The result is a sloping grain. Brushbox contains a large proportion of curly grain as a natural feature. The direction of grain is sharply inclined at different angles along the length of the tree.



Shrinkage is uniform and at right angles to the length of a piece during the drying of a straight-grained timber. If the timber contains curly grain, it shrinks at right angles to the grain direction. Since the grain is inclined at different angles, shrinkage can cause warp. Timber containing spiral grain with a direction of grain following about the tree will dry with a twist. Warping can be induced by uneven timber drying, e.g., a piece of green timber will cup at a face exposed to the sun, as a result of faster drying and earlier shrinkage of the top surface. Such drying also will see checking on the top face of a piece.

Bow in timber can result from overhanging ends when timber is stacked. Spring would be due to a presence of knots. To minimize the warp timber may gain, stack it flat and protect it from the sun. When stacking timber, weights may be used to keep the timber flat.

Properly seasoned timber, if protected from the weather, will not crack, warp or shrink. This stabilizing of timber is undoubtedly the advantageous principle of seasoning timber. Here's how seasoning will improve the properties of wood.

Strength — Drying increases strength, especially compressive, tensile, bending and stiffness. A building constructed with green timber will gain strength with age.

Hardness — Seasoned timber gains hardness. Thus furniture and pianos are more resistant to damage, bumps and knocks.

Weight — With a definite loss of weight, dried timber becomes easier to handle and less costly to freight.

Durability — At a 24 percent moisture content, timber becomes susceptible to rotting and staining fungi. This will destroy or soften timbers. A seasoned heartwood or treated sapwood kept below 24 percent moisture content in a controlled situation has indefinite life. Much attention needs to be paid to process, technique and skill to prepare such a timber.

Finishing — Lacquer, polyester or varnish does not adhere to a green timber. Blistering, peeling and/or cracking of the surface occurs.

Gluing — Glues and adhesives have a stronger bond if the timber is properly dried. Moisture content, together with shrinkage of an unseasoned timber, can cause the joint to move, break or fail.

Resistance To Insect Attack — The seasoning of timber limits the species of insects likely to attack it. Some have treated timber with a preservative to resist attack, although a partial seasoning is a prerequisite. Properly treated seasoned timber is therefore almost immune to all attack.

Tuning Stability

Sally Jameson, RTT
Cincinnati Chapter

One of the difficulties of writing for a technical journal that is based on sound as well as mechanical considerations is that one needs to be able to listen to examples to understand tuning concepts thoroughly.

One of the most important but least understood aspects of a piano tuning is not how to hear that a unison or octave is in tune but how to make it stay in tune.

Many pianists are under the impression that a piano goes out of tune because of loose tuning pins. While this is certainly a consideration, a pin with 40 to 60 pounds of torque can be successfully set well enough for tuning stability. The main reason for changes in pitch is unequal tension on the various portions of the string due to failure to properly set the pin and string.

The portions of the string that we tuners call the speaking length is the most noticeable to the customer when it is at the wrong tension, resulting in an "out-of-tune string." Immediately after tuning there are other portions which may be incorrectly set but not apparent to the customer until after heavy playing or a day or two of settling. If the tension on the top string is too tight, a string will equalize with a hard blow and go sharp. If a portion of the string is a lower tension, then the result will be that the pitch of the speaking length drops.

A good hard test blow to the string will quickly prove whether or not the pin and string have been properly set.

If the tuning pin has been twisted in the hole so that the top portion is flexing or bending, the pin will quickly return to its normal position and the result will be a change in pitch of the string. Care must be taken to turn the pin along its entire length in the hole. The tuning hammer must not be pushed up or down in an effort to set the pin, but must pull in a horizontal plane with the plate to ensure movement of the upper and lower portion (in the wood of the block) at the same time.

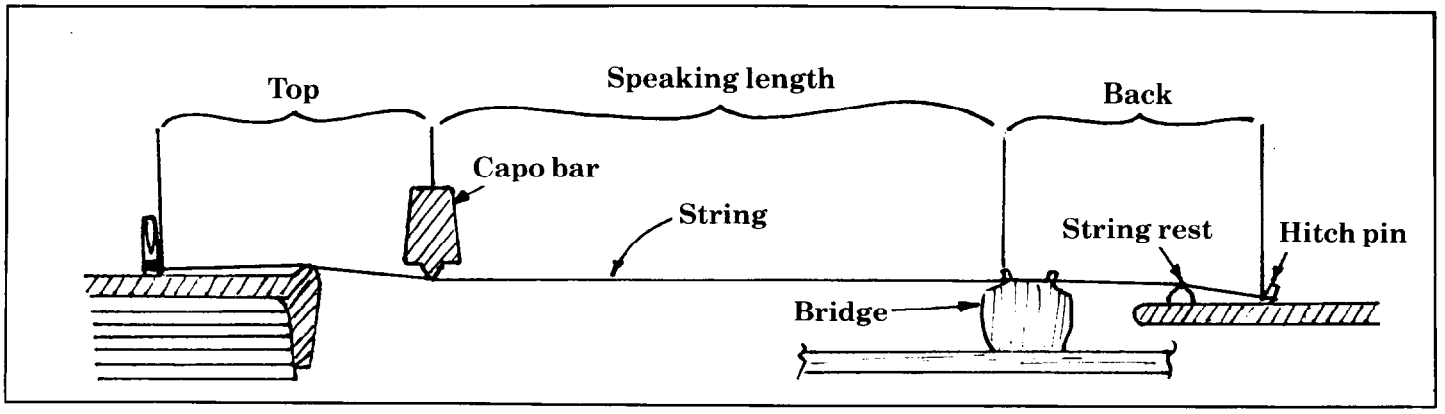
A properly settled string will not go as drastically out of tune with weather changes and I fully expect a concert piano to be in tune for the entire performance after much pounding by the pianist. Nothing is more disconcerting than to have the pianist start a large work with a vigorous first movement and begin the second slow movement with wandering unisons.

I'm going to jump right out here on a limb and say that I don't believe that a stable tuning can be done without solid test blows. This is because the string is so tight and pressed firmly against all of the friction points (capo d'astro, bridge, duplex, treble termination, etc.) that a great amount of movement away from its rest position is needed to release it from these points.

If the tuning pins are too high in the hole, a springy pin will result. The clue to this is if the bottom of the coil is more than 1/4 inch from the plate. Setting pins that are too high is very difficult because they tend to twist and bend forward.

If the torque on the tuning pin is more than 180 pounds, then the ability of the pin to be moved in the hole without twisting is diminished, and tuning pin breakage could result. Even if it isn't, the poor tuner is severely limited in very minor adjustments. An impact tuning technique where short and fast movements tend to break the friction of the pin in the hole is recommended for this problem. In well-made pianos and my own pinblocks, I would rather have overly tight pins for the first few years than overly loose ones in 10 years.

Concert instruments which need the most torque to start out because of the probability of many, many more tunings than the average home piano, are also the pianos that need the greatest degree of sensitivity for high-level tuning work. Even given the problems and demands of a concert tuning situation, I find the tunability of concert pianos prefer-



able to a $600 spinet with 60 pounds of torque because they are so much easier to hear.

Now to the question of pounding. I'm a pounder. I admit it. To prevent parts breakage on older pianos, I resort to 10 or 12 lighter blows to settle the string. On a relatively new instrument or concert grand, I figure if these pianos can stand Mickey Gilley, they can stand a little pounding by the tuner.

On a normal tuning of one note, I give each string four or five test blows. The string is pulled slightly sharp of pitch. Then, while gently tapping on the tuning hammer to set the pin, I give the key several test blows to bring it down to the proper pitch. After I am satisfied that the string is where I want it, I give it several more blows to ensure that it is firmly seated. Again, after removing the hammer from the pin, I give it another to ensure that the pin did not move further.

"

...on older pianos, I resort to 10 or 12 lighter blows to settle the string. On a relatively new instrument or concert grand, I figure if these pianos can stand Mickey Gilley, they can stand a little pounding by the tuner.

"

When I'm in a new customer's home, I explain exactly why I intend to play so hard while tuning and I have never had a complaint about it. The customer perceives that I'm working much harder and doing a better job because of it, and of course, I've had lots of good reactions and more call-backs because my tunings hold a lot longer. That certain satisfaction of a job well done is reinforced when others notice your achievement. A fellow technician using these techniques recently tuned a concert grand that had been sent out to a hall for a concert. After the concert, it was sent back to the dealer. The floor tuner and dealer were amazed that they couldn't even tell that the piano had been moved, much less played, put on a truck and returned to be set up in the showroom.

Now *that's* a tuning worth repeating!

SHOP TALK

Heave Ho!

Susan Graham
San Francisco Chapter

According to C. J. Jung, there are no coincidences. Seemingly unrelated events which affect each other demonstrate not chance but synchronicity—an order to the universe exists although we may not perceive it.

No sooner had I finished the last article, which dealt with registering plate location, than I had two calls from technicians (both competent and qualified) who had relied on plate screws to reposition the plate. One found the tuning pin holes in the webbing didn't match the block. The other detected the error when the damper guide rails wouldn't fit beside the plate strut.

A sense of synchronicity prompts me to interpret these calls as a signal to reemphasize the point about wedges and plate registration. Make this an *automatic* procedure *whenever* you remove or even unfasten a plate. If you always make them, you'll never miss them...

Enough of that. As of that last article, the piano was unstrung, position data recorded, and the bolts and screws removed. This brings us to plate removal. Whether this is necessary for other work or not, remove the plate and inspect the block if at all possible. After all, this is the only chance to do so.

Removing the plate without damaging the case is tricky. Often there is little clearance between the rim and the plate. Nose bolts interfere—the plate hangs up on the threading, or on a slightly bent bolt, and then suddenly jerks free and swings into the case. Paper, cardboard or bushing cloth between the plate and case helps if it will stay in place, but usually it won't and anything thick interferes with removal. After years of struggling with this, I heard of an idea from Jim Coleman Jr. of mounting felt on thin sheets of metal. Metal stock is available very cheaply at surplus/equipment liquidators. Rather than piano quality felt, use cheap craft felt from sewing stores. Cut the metal into sheets about one by three feet and glue felt (PVCE works well) so it entirely covers one side and overlaps all edges. The metal can be bent to form a lip which hooks over the top of the case, felt against the wood. I modified several pieces by cutting through the bentover portion so the whole piece can be flexed to follow the curve of the rim—much the same as saw-kerfing wood so it will bend. The pieces will curve if left unbent, but the bent portion will protect the top of the rim, which is often where the plate comes to rest.

> "There are really only two ways to get 300 pounds of cast iron out of a piano case. One is the bunch-of-guys method ('guys' used generically to mean strong, foolish persons of either gender). The other is to use a hoist."

Another aid is several lengths of two-by-four covered with felt: two which are two feet and one about five feet long. After the plate is raised above the case, these can be placed across the corners by the stretcher and the back to provide a better intermediate resting place. They can also be used to support a low corner if it is necessary to readjust straps to even out the lift. The plate can be left unsupported on these blocks while the dowels or pinblock receive attention, rather than having it swing free.

There are really only two ways to get 300 pounds of cast iron out of a piano case. One is the bunch-of-guys method ("guys" used generically to mean strong, foolish persons of either gender). The other is to use a hoist. Both methods have strong points and drawbacks. Bunch-of-guys is cheap and simple if you have ready access to groups of people, or can accommodate delay while you wait for a crew to assemble. This can get tedious if you are resetting bearing or fitting a block. It may lead to a compromise in fit. On the other hand, people are easy to move and can work anywhere, and having them stationed around the case may minimize rim

damage. Hoists take much of the work out of plate removal, and enable the solitary technician to continue work. However, they must be hung from someplace—a substantial ceiling beam or a freestanding framework. The hoist and the straps require several feet of room. If the ceiling is low, the horn may not clear the case. The horn is the triangular extrusion from the bottom of the plate. It will do tremendous damage if dragged across the edge of the case.

Whether utilizing manpower or a fixed-position hoist, it is easiest to handle the plate if the case can be rolled out from under the raised plate. The plate can then be let straight down and either raised on one edge and "walked" over to lean against a wall, or positioned on a piano tilter for easy moving (as well as cleaning and spraying).

One final word about the bunch-of-guys method. Train them to be careful where they grab the plate. The most convenient places—under the lip near the bridge, for instance—can be the worst, since there is a good chance of smashing fingers against the bridge if the plate comes down suddenly. Plan where people should stand to even the load and still provide an exit route for the case—and is someone free to pull the case away? Cast iron doesn't withstand shocks very well, and is very tricky to weld. A dropped plate usually means a ruined piano. Not to mention potential personnel damage... Think it out first, not with the plate in midair.

If you decide to go to a hoist, you'll find many makes and models available. You must decide how much you can spend, how often it will be used, how it is to be mounted, and whether hand operation is feasible or you must have power. It is helpful when gathering information about hoists to take a picture—I used the sketch available from Baldwin of an "exploded" view of a grand piano—which clearly shows the size and position of the plate. With such a picture and the knowledge that piano plates weigh about 300 pounds (slightly more in concert grands), you can demonstrate quickly and clearly what you need. Try to talk with several distributors. Even if you eventually decide on a cheap lever hoist from the corner hardware store, commercial hoist people can provide interesting and helpful information about moving large, heavy objects.

"Cast iron doesn't withstand shocks very well, and is very tricky to weld. A dropped plate usually means a ruined piano. Not to mention potential personnel damage... Think it out first, not with the plate in midair."

First of all, understand that a hoist is a hoist and a winch is something else. Winches and pullers are designed to *move* weight; hoists are designed to move and *support* weight. A winch or a puller may not be suitable for piano plate lifting, which usually requires that the plate be left suspended. You may see a term such as "puller-hoist," which indicates the tool is suited for either, but it may be rated to hold much less weight than it can pull. Winches and pullers may also have a less convenient braking system.

Hand-operated hoists are cheapest. They are most often made in one of two styles: lever, which are operated by a reciprocating handle, and chain, which are worked by pulling a hand chain. Cheaper lever hoists have wire rope for cable; there are lever hoists with chain but for purposes of discussion I'll refer to lever hoists and chain hoists to distinguish the two. One difference is in the way they are operated—would you rather raise and lower a lever or pull a chain? Working the chain is faster and less tiring. Better hoists will tell you how much they are geared down—how much effort is required to raise the maximum load—which also is a factor when evaluating comparative effort required.

Another difference is in the brake. Most lever hoists have a ratchet-and-pawl brake and will lower the load one tooth of the ratchet and then stop. The load descends in a series of jerks. Some chain hoists have this same brake, but many have a load brake with friction plates which refine control and motion.

I use a common hardware store half-ton lever hoist (brand name Mini-Mule, cost around $50). It is a cable-type with the ratchet brake and is what the commercial people cheerfully call a throwaway—when it jams or the cable frays, you throw it away. Don't buy anything cheaper—I did, once, and it jammed the first time I used it. A hoist which jams once will jam again, and should be checked by a qualified repair person or replaced.

Working the lever on the Mule is tiresome, and the handle has to be raised very high to release the pawl to lower the load (this can be a problem with a low ceiling or a short technician). However, I've used the Mule for years and it works—as well as it's designed to work. Many makers, including Sears, have such a hoist, often called a come-along.

Both the chain and cable hoists should be kept clean, especially around the brake. If a cable shows *any* fraying, replace it or the entire unit immediately. With a chain hoist, this is unlikely, but a chain container may be needed to keep the free loop of work chain from marring the plate or case.

Winches work by a rotary crank, which many find to be very tiring. They are usually intended to be base-mounted and frequently have less gearing down and a less convenient or reliable brake. Often an auxiliary brake is recommended for a winch to be used as a hoist. Be sure if you purchase a winch that the salesperson understands what you are going to do with it.

I don't recommend any system, be it nautical block and tackle or whatever, which does not have a brake. Raising and lowering a plate can be tricky enough without having to tie off rope or rely on human inertia to hold it.

Work a plate in and out with a hand hoist a few times and you begin to dream of power hoists. As far as I can tell, the problem is that without putting out a lot of money, you pick up a serious drawback which may offset the benefits. The problem is the lift/lower speed. Power hoists usually have a set speed, varying from four to 32 feet per minute, with the lighter-duty hoists such as we would use having the faster speeds. Once the hoist is activated, it raises or lowers at its

set speed until it is stopped. There is no easing the plate up past nose bolts or lowering it gently while you guide it in place. Only in more expensive (usually heavy-duty) hoists do you get a "creep" feature. I did locate one such hoist in a 1/4-ton model for around $900, brand new on the market, with a microprocessor control which will raise and lower in 1/16-inch increments. This one is made by Columbus McKinnon. There may be others on the market. Certainly, without this speed control, shifting the plate in and out with a power hoist might prove difficult and even hazardous.

There are more expensive hoists, and there are hydraulic and air-powered hoists. If you are in a position to shop for one, you probably already know more about it than I can tell you. The same goes for invalid-lifting systems and equipment adapted from other lines of work. Just keep in mind the difference between lifting and suspending weight.

Auto-engine hoist: Here's a solution to the high-ceiling or rare-usage situation. Rent (or buy for around $1,900) an engine puller. This is a hydraulic hoist mounted on its own stand. You work a pump handle to raise, and release the pressure to lower. The release is slow and very controllable. Some of these must be operated from behind the stand, which makes it impossible to guide the plate without help, but others have a side control. Boom length must be long enough to center the hook over the piano. The stand is on wheels, offering the advantage that the plate can be rolled away. These can be rented in two styles — one breaks down and can be transported in a car, and another which can be pulled behind a hitch. They usually are used for auto engines so watch out for grease.

Suspension: If you use a hoist, it has to hang from something. I reinforced a ceiling beam by bolting on a six-by-12 and adding extra vertical supports at the ends. Two one-inch bolts are threaded into the beam with a short length of chain suspended between the two, held in place with nuts. This was fine except that it was so close to the ceiling I couldn't get the suspension hook of the hoist over the chain and didn't have clearance to raise the handle to release the brake. A loop of cable was suspended from the chain to make this possible.

This is obviously a stationary system. There are I-beam and trolley mounts if you prefer a movable hoist.

Strap vs. rope: Something has to connect the plate to the hoist. I much prefer webbing straps to rope. Mine are plain army surplus straps with buckles. Buckles are easier and faster to secure and release than tying rope. The width of a strap also helps stabilize the plate and spread the contact area so there is less chance of rubbing through the plate finish.

Several short straps are easier to work with than one long one. The plate should be balanced so it comes up fairly level, without raising one corner or the back end ahead of the rest. Otherwise, the plate is very likely to hang up on a nose bolt or wedge against the stretcher and then destroy the inside of the case when it jerks loose. Balancing the plate can be time-consuming but is still easier to do with short straps so one section of the plate can be raised or lowered in relation to the rest without having to readjust long lengths of strap.

A final word on safety: if you work with hoists and power tools alone, it's a good idea not only to have a phone in the shop, but to call a friend or neighbor before you start work, and set a length of time within which you'll call back. If they don't hear from you, they call or come over. We hope you'll never need assistance, but even in case of a minor injury, it's good to know that there is someone already alerted that you can reach quickly.

I hope this quick survey of hoisting equipment will provide some helpful guidelines to assist in further investigation.

Food For Thought

Christopher S. Robinson
Connecticut Chapter

Murphy's fourth corollary states that "an easily-understood, workable falsehood is more useful than a complex, incomprehensible truth." How often we find this to be true in our day-to-day operations as we find remedies to ordinary problems which should be resolved (it says here) only with complicated and unapproachable techniques.

This little prelude harkens back to the series of articles that the reader enjoyed and disagreed with on the subject of voicing. As you will recall, one of the premises of that series was that voicing could be broken down from the standpoint of *time* and *volume*, but not from the standpoint of the predominance of *overtones* or *upper partials*. As my thesis went, although we knew that overtones played a part in the *way* a piano tone is perceived, we could not be *specific* about how to control the degree of its presence in any given (subject) note.

You are about to get a glimpse of the complex, incomprehensive truth—in spades, very much as I did recently. As a guest of the Vermont Chapter, I was recently invited to give a technical presentation on voicing at one of their chapter meetings. This meeting was held at the offices of the company that manufactures the Synclavier, a remarkable electronic instrument that not only *assembles* musical tones, but *memorizes* existing sounds as well. It has a number of other rather astounding features, the least of which is its ability to print out sheet music from anything played or improvised from its keyboard. It is not our purpose to pursue the abilities of the machine in this article, as you may be able to read a more detailed account of our gathering in a future issue of the *Journal* under the authorship of Edwin Hilbert Jr.

It is, however, the intent of this column to throw out a couple of ideas and observations based on what we were able to witness at that Vermont meeting. Please note that these ideas are not presented as some unapproachable truth etched in granite, but as a plastic group of observations, able to be confirmed or refuted by the tangible experience and experimentation of those who care to address them in a dispassionate, disinterested manner.

Here's what happened. I was placed in a small room with a computer, a whiz-kid who knew how to program it (whiz-ware), a style A grand piano in marginal condition, a microphone stuck into the belly of the thing, and a group of skeptical piano technicians. As I made changes in the voicing of the piano, specifically three subject notes in the mid-to-upper-treble, the microphone fed the tonal information into the computer which broke down the data and analyzed it.

"I was placed in a small room with a computer, a whiz-kid who knew how to program it, a style A grand piano in marginal condition, a microphone stuck into the belly of the thing, and a group of skeptical piano technicians."

We got off to a very slow start. The whiz-ware wanted to know what I was trying to do, and I explained it to him in the same terms that you the reader absorbed in the first 12 or 13 of these articles. The computer was able to produce an envelope very similar to the one which I drew in the first column (except that the screen produced the negative of the curve as well). This envelope was produced in an X-axis and Y-axis graph in which the X axis showed time, and the Y axis demonstrated volume. On the cathode ray screen, volume was read as the output in volts from the microphone.

Our first attempts produced very little results since changes that were audibly made in the sound of the piano produced only miniscule and barely readable alterations in the pattern that we were able to discern on the CRS. People immediately began to question whether what they were hearing was in fact being produced. Have you ever noticed that people will place more credence on their sense of sight than their other senses? Have you ever questioned *why* they wish to do this?

At any rate, after dinner we all

Inharmonicity

	Before voicing:	*After voicing:*
Partial 1	0	0
Partial 2	+9	+5
Partial 3	+25	+31
Partial 4	+48	+50
Partial 5	+80	+85
Partial 6	+111	+118

went back to work, and the whiz-kid, along with one or two of Vermont's similarly inclined members, decided to break down the component parts of the *time/volume* wave form. Here's what they looked at.

1. A section of the waveform "expanded" (slowed down) about 100 milliseconds "out" into the produced tone.

2. Each of the first 10 partials readable inside that section, measured in strength, by decibels.

3. The frequency, or inharmonicity, measured over the fundamental note in Hertz, deviation in cents.

Here is what became apparent from the material that we were able to examine: In each of the tested notes, the volume levels measured in dB (actually minus values) *increased significantly on the second and fourth partials!* The volume levels *decreased* significantly on the third and sixth partials. In one case, the volume increased a little on the fifth partial, and in another it decreased slightly on the fifth partial.

The very big surprise of the evening came when we examined the *frequency shift produced as a result of the voicing process.* The note under scrutiny was D#6. The inharmonicity of the note before voicing is shown in the accompanying table.

Imagine being able to alter the inharmonicity of a piano purely by the tone regulation process. Interestingly enough, fine piano technicians have always known that a well-voiced piano was easier to tune than an instrument in poor voice. The reason for this difference now becomes readily apparent as we begin to see that the volume will actually increase on the low octave partials of the given note, *thus acutally reinforcing the fundamental frequency of that note.*

Furthermore, the degree of "stretch" required in tuning one note which is located an octave away from the other, but in which more distant partials are used for "accuracy verification," *will actually be reduced as the second partial decreases in inharmonicity,* and as the more removed partials *increase* in inharmonicity.

I would like to throw down the gauntlet to any reader who has the interest to pursue this matter after having read this article. Can you either support or refute the observations presented here? The only restrictions are that no chemicals of any kind are to be used in your observations. The entire readership of the *Journal* would be interested in scientific and conclusive information on this subject. I leave it to you...

Early Music Revival—Return To Historical Instruments And Temperaments

Jack Greenfield
Chicago Chapter

Differences Between Modern And Historical Harpsichords

After its interruption by World War II, the early music revival was resumed and its growth continued. Many of the harpsichords used at this time were modern instruments that differed in more or less respects from historical designs. Harpsichords built in factories have many features adapted from the modern piano. Just as the early piano was a modification of the contemporary harpsichord, some factory harpsichords are basically modified pianos. The designation of various models as "Scarlatti," "Rameau," "Vivaldi," etc., has no significance concerning the composer named.

Post-war instruments made in small shops were closer to traditional designs but some builders did not hesitate to make changes in construction, use metal and plastics and adopt other modernization.

One builder, John Challis, built all-metal harpsichords. Major differences in construction of modern instruments include heavier cases, thicker soundboards with open bottoms—traditional designs have closed bottoms forming a soundbox, ribs crossing under the bridge—old harpsichords have fewer ribs with none passing under the bridge, metal frames and the use of modern materials for jacks and quills. Some modern harpsichords have piano-type bushed and weighted keys, while the old instruments have light, shallow, unbushed keys.

The physical differences in construction give a change in tone. Many of those now interested in early music prefer the historical instrument designs for musical quality as well as authenticity, which is further heightened by the use of historical temperaments.

Return To Historical Harpsichord Design

In 1949, Frank Hubbard and William Dowd established a workshop in Boston and began to build harpsichords which were accurate copies of historical models. Both had attended Harvard. After graduation, Hubbard spent several years in England working with Dolmetsch. He also studied old keyboard instruments in public and private collections in England and on the continent. Dowd, after graduation from Harvard, learned harpsichord building as an apprentice to Challis, who himself had been trained by Dolmetsch. In nine years of partnership, Hubbard and Dowd produced about 50 instruments. In 1958, they set up separate businesses.

Hubbard's interest went deeper than just the business of building instruments. He devoted much of his attention to the study of the historical principles of design and construction details.

Hubbard's studies were presented in his book published in 1965, *Three Centuries Of Harpsichord Making.* This book provides technical engineering details, including accurate constuction drawings. The appendix contains excerpts and figures of historical interest from obscure contemporary writings, for example—inventories of 18th-century French workshops and drawings of instruments in a book by Mersenne. An excerpt from a 1781 manuscript describes construction of a clavier with a laminated soundboard.

Hubbard's studies served as a

guide for other builders who followed him in making accurate copies of old instruments. With the details uncovered by Hubbard and others in similar studies later, antique instruments could be reinspected more critically to determine whether they were in their original form or had been modified since construction.

Hubbard's book was preceded by two earlier books with less technical detail but more historical information. *Harpsichord and Clavichord Makers 1440 to 1840* by Donald Boalch (London, 1956) is a biographical listing of builders with descriptions of their surviving instruments. *The Harpsichord and Clavichord, an Introductory Study* (London, 1959) presents general, historical and technical information and includes more than 100 photographs and reproductions of historical documents. While there is some overlapping of subject matter in the three books mentioned, each contains important information not in any of the others. The modern harpsichord is the topic discussed by Wolfgang Joachim Zuckerman in his book *The Modern Harpsichord* (New York, 1969). Zuckerman gives information on the revival of the harpsichord, 20th-century instruments and their makers, and instructions for maintenance, tuning and repair.

Barbour Publishes Survey Of Tuning And Temperament

The groundwork for the modern return to unequal temperaments was laid by J. Murray Barbour in his book *Tuning and Temperament—A Historical Survey* (East Lansing, Mich., 1951; later reprint by DaCapo Press, New York). Barbour had begun writing on temperaments at Cornell in a 1932 dissertation on the history of equal temperament. He wrote several papers later primarily concerning mathematics of tuning and temperament, which appeared in mathematical journals and in musical journals.

Tuning and Temperament was Barbour's major work. His bibliography lists almost 200 writers ranging from Aristoxenus of ancient Greece to authors of modern times whose writings he consulted in the Library of Congress or in other libraries with collections of old music books. Barbour extracted whatever acoustical data he could from these sources and prepared a total of 180 tables showing tunings and temperaments starting with some from prehistoric China.

Barbour used his judgment in converting string lengths, mathematical ratios and ambiguous details into modern units, in terms of cents and by the system of exponents showing tempering in fractions of a comma. Barbour had little experience tuning keyboard instruments and believed equal temperament was superior to earlier systems. He based some of his statements on the use of temperaments by specific composers on his statistical analysis of intervals in their keyboard compositions. Although there is a disagreement with his ideas on usage by composers, his data on intonation is accepted as authoritative. For most scholars, who have no access to the many original sources Barbour consulted, his book is a rich mine of historical and technical information tracing the development of tuning and temperament. His presentation of the varieties of meantone temperaments, explanation of irregular temperaments and clarification of the difference between "well tempered" and "equal tempered" afford a technical understanding available from no other source.

Other Authors Advance Historic Tuning Study

Another author beginning in the 1930s who wrote on historical temperaments but with more emphasis on mathematical theory was Llewelyn S. Lloyd, a British physicist and writer. A collection of articles Lloyd wrote over a 20-year period beginning in 1937 is included in Part I of *Intervals, Scales, And Temperament* (English edition, 1963; New York edition, 1979). The co-author, Hugh Boyle, an electrical engineer, is the writer of Part II, "Musical Acoustics." This book is listed in the bibliographies of many later writings on tuning.

William Braid White published a paper "Mean-tone Temperaments—A Classical System of Instrumental Tuning" (*Journal of The Acoustical Society of America*, July 1943, Vol. 15, No. 1). White recommended tuning with a Conn Chromatic Stroboscope and gave intonation figures. In addition, he also gave beat rates of aural tuning. The same information is given in the appendix in White's *Piano Tuning and Allied Arts*.

John W. Link's studies that appeared in the 1963 *Piano Techni-*

cians Journal, "A New and Reliable Tuning Method for the Meantone Temperament" (February), "The Theory of Meantone Tuning" (April) and "Marpurg's Temperament I" (July) are clearly written presentations of theory and practical aural tuning methods. The same material is given in Link's *Theory And Tuning* (Boston: Tuners Supply Company, 1963). Link was a public school music supervisor but also a member of the Piano Technicians Guild with a background of musical education and training and experience in piano technology.

Early Tuning Methods Revived By Harpsichordists

The papers on historical tuning reflect the interest of harpsichordists. Dale Carr, an organist and harpsichordist with some training in Europe, wrote on historical temperaments popular among harpsichordists in "A Practical Introduction To Unequal Temperaments." *The Diapason* (February 1974). Directions are given for aural tuning of 1/4-comma meantone, Werkmeister, Kirnberger and Valloti-Young temperaments. Their use for specific composers is also discussed.

Carr's paper presents material that also appears in a small manual written for a harpsichord instruction class and published in June 1974 by G. C. Klop, a Dutch builder of historical model harpsichords. The English translation, *Harpsichord Tuning*, a 30-page paperback containing information on tuning about 15 historical temperaments, is a useful practical guide.

The Tuning of My Harpsichord by Herbert Anton Kellner, is the 54-page paperback English translation of a German book originally published in 1976. The author, a graduate of the University of Vienna with a Ph.D. in theoretical physics, became known for his lectures on tuning and musicology and papers on the physics of the harpsichord. Kellner's book contains only four historical temperaments but is helpful for its presentation of theory.

Mark Lindley, an influential specialist in historical tuning, is author of "Instructions for the Clavier Diversely Tempered," *Early Music (1977) V*, an article with instructions for aural tuning of Pythagorean intonation, 1/4-comma meantone,

It's The Little Things That Count!

Light Touch Up

Gerald Foye
San Diego Chapter

I'm no refinisher. Besides I have enough to keep me occupied without getting involved in that end of the business. However, there are times when the removal of a small scratch or scuff mark can gain the tuner lots of valuable good points.

Basically, I carry red brown, light brown and dark brown felt touch up pens, which are great lifesavers in the business. Also, I have an almond stick, a few basic-color hot melt lacquer sticks and a hot lacquer knife. And always have an eraser on hand — one attached to a pencil is all that is needed.

The felt pens and almond stick are easy to use and don't require special skills—even I can do that. Lacquer sticks take some practice, although they are not as difficult to use as anticipated. The hardest part is learning to blend in the surface with rubbing. I generally use the lacquer sticks only on high-gloss finishes and only small spots. Anything beyond that goes to the professionals.

But what about that eraser? I don't know, what about it? Well as long as you asked, an eraser is the simplest device to remove scuff marks from high-gloss white providing they are scuff mrks and not gouges. Erasers also work very nicely to remove pencil and other marks on white key tops that don't wash off. I had some very stubborn red pencil marks on white key tops that defied everything else that I considered safe. But that eraser took care of the problem easily.

French Baroque and the Valotti-Young temperaments. Lindley discusses use of piano tuning techniques in harpsichord tuning.

Lindley studied musicology at Columbia University and received a fellowship for research at the Smithsonian Institute. He also collaborated with Donald Hall, a physicist, in research at the University of Iowa in which historical temperaments were evaluated against computer-determined "optimum" intonation for a wide range of early music keyboard pieces (*Journal of Music Theory*, Vol. 17, p. 174, Fall, 1973; *Piano Technicians Journal*, November 1984, page 20). Lindley is also author of the sections on "Temperaments" and related subjects in the *1980 Grove Dictionary of Music*.

Works By Jorgensen

While the preceeding articles in books on harpsichord tuning are concerned with a small number of temperaments, Owen Jorgensen's *Tuning The Historical Temperaments By Ear* (Marquette, 1977) is a 435-page book with a much wider scope—"89 methods for tuning 51 scales on the harpsichord, piano and other keyboard instruments." Jorgensen, a member of the faculty at Michigan State University, also with a background of experience as a piano technician, pianist, and harpsichordist, has written a book at the educational level of a college text. Although the number of historical temperaments presently used to any extent in actual performance is small, some knowledge of the large number presented in Jorgensen's book is desirable for serious study and research, and for professional reasons.

Some of Jorgensen's work has appeared in the *Piano Technicians Journal*. His first article, "Forgotten Sounds of Music" (December 1971) is a reprint of program notes for his historical tuning lecture-recitals. His articles, "Restoring Forgotten Temperaments" (May 1977) and "Which Tunings For Which Temperaments" (January 1978) and articles by Martin B. Tittle, "Keyboard Tuning" (January 1977), "Meantone Tuning" June, 1977), "Well Temperaments" (July 1977) and "Equal Temperament: Its Rivals And Successors" (August 1977) in the *Piano Technicians Journal* contain excerpts and summaries from *Tuning the Historical Temperaments* (Unfortunately now out of print). *The Equal Beating Temperaments* (Raleigh, 1981) by Jorgensen is a 36-page paperback with directions for 15 historical temperaments.

Piano Tuning In Unequal Temperaments

The use of unequal temperaments for pianos is increasing now that it is known that unequal temperaments did not become extinct during the Baroque period. Furthermore, in the steps taken to restore even more closely the original sounds of composers, keyboard music of Mozart, Haydn, Beethoven and others is now being performed and recorded on new instruments constructed as accurate copies as well as on restored pianos of their times. These developments will generate increased needs for professional skill in tuning modern pianos as well as historical restorations and models in unequal temperaments for performing, recording and educational purposes.

The series on tuning and temperaments is concluded. Additional material on the subject will be presented occasionally in future articles.

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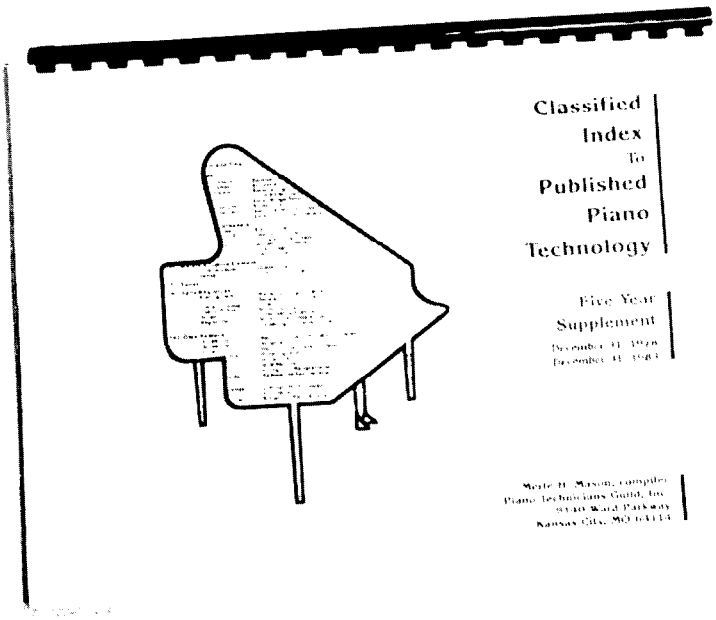

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Getting The Organizational Spirit!

M. B. Hawkins
Vice President

While we are not too far into the new year, perhaps we should check our attitudes. We all have attitudes and our attitude toward one thing or another may well be the deciding factor as to how well we develop along any given path of pursuit.

As an example, let's look at our attitude toward membership development. How do you feel about new members? Many are anxious to help a new person in the business to develop as rapidly as he or she can. The phrase "as rapidly as he or she can" does not mean simply memorization of what has been read in a book, however. It means that process through which one moves by doing over and over and over again until certain functions are mastered.

From the other side of the coin, the phrase "as rapidly as he or she can" can look quite different. Some people new to the business interpret the phrase to mean "read it a time or two and do it once." Now I am accomplished, they think, and in reality, that particular job or function may be quite sloppy. Having little experience, they think it is great. Feeling good about what has been done is terrific and contributes to a good positive attitude.

But when a more experienced person tells them the job or function is not too good, often a negative attitude is developed. This can come from many different directions. Perhaps the newer person does not think the other, more experienced, individual has enough experience to be judging their work. Sometimes an attitude is developed because the more experienced person may not have as much formal education as the less experienced, which sometimes may cause the less-experienced individual to pass judgement on the more experienced person's abilities in piano work based on their formal education, which may have little relevance. This scenario could go on for a long time because there are many, many ramifications, each of which has some rather strong implications relative to our attitude. Please remember this has to do only with the member who is anxious to help a new individual develop "as rapidly as he or she can."

How about the other type of member? The one with more experience who is not anxious at all to share information with the new person coming into the business. This type of attitude is sure to breed a negative type of response from one who is anxious to learn the business. Some would say "these newcomers just want to chisel in on my business!" You can certainly substitute many different lines for that one, and sometimes there may be some truth in the statement, but isn't that what we as members of the Piano Technicians Guild are supposed to be about? Taking good healthy work habits to the consumer is our business. Shouldn't we be helping to develop those coming along as well? It should be remembered that not one of us will be around forever.

From this brief discussion about attitude as it relates to new members, I hope each of us would develop some thoughts as to the many different directions this business of attitude toward new members could go. Discuss it frankly among those with more experience as well as those with less experience. Also discuss it with potential members. I'm sure you will come away with still another attitude. I hope it is healthy!

Next month we will touch on another aspect of attitude. Until then, join me daily in a check-up from the neck-up; it really makes a difference.

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Charlotte Chapter
Anglin, Anita L.
1012 Rockway Dr.
Charlotte, NC 28205

Golden Gate Chapter
Landreth, Joyce M.
36250 Newark Blvd.
Newark, CA 94560

Milwaukee Chapter
Walston, John A.
6207 W. Darnel Ave.
Brown Deer, WI 53223

Nebraska Chapter
Sawatzky, Daniel E.
1304 17th Street
Central City, NE 68826

New Mexico Chapter
Wassil, Michael G.
Rt. 1, Box 537
Roswell, NM 88201

Oklahoma Chapter
Trawick, Ross E.
3200 N. Bartel Rd.
Oklahoma City, OK 73121

Santa Clara Valley Chapter
Graeber, Mark P.
562 Kings Cross Way
San Jose, CA 95136

Southwest Florida
Guido, Nicholas F.
444 18th Avenue
Indian Rocks Beach, FL 33535

Mariscal, Susan S.
10235 Serena Dr.
Largo, FL 33540

Member-at-Large
McKendree, Wm. E.
1228 Clay St.
Henderson, KY 42420

Affiliate

Member-at-Large
Baxter, Ian A.
63 Tate Avenue
Wantirna, So. Vict., 3152,
Australia

Reclassifications

Registered Technician

Eugene Chapter
Byrd, Donna R.

Indianapolis Chapter
Reeder, William D.

Orange County Chapter
Jackson, Robert G.
Vanderlip, David A.

San Diego Chapter
Shallenberg, Robert

Apprentice

New Mexico Chapter
Schumpert, Burnie J.

Youngstown Chapter
Peebles, Bruce L.
Reed, Jay M.

Member Recruitment Points

June 1, 1984—Jan. 1, 1985

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

The Auxiliary Exchange

President's Message

The subject for February is usually "love!" Love is a feeling we have for our spouses who are members of the Piano Technicians Guild. Can we not transfer this feeling to the Auxiliary which grew out of the Guild? This Auxiliary which seems to have as many different personalities as it has members? This Auxiliary which seems to have no common background among its members except a loose connection with the piano tuning and repair business?

Of course we can! We can do it by changing this February's subject to "cooperation!" The purpose of our organization is "...to become better acquainted with our associates in membership; to enlarge and strengthen our organization; to promote friendship, education, understanding and goodwill in the world of music; and to provide for annual Auxiliary convention entertainment."

Let us with loving cooperation do our best to make these things come true by setting aside our small differences and by working together for the good of all of us in the Auxiliary. This might include making some changes which some of us would rather not have to make... And, have you invited anyone to join the Auxiliary lately?

Happy Valentine's Day!

Louise Strong

Meet Your Officers: Norma Lamb Vice President

Norma is the wife of **D. Elwyn Lamb,** RTT. She was born in Lakeland, Fla., and grew up in and near the Twin Cities in Minnesota. She is a graduate of St. Cloud Teachers College. She was reared in a musical atmosphere as both parents were music teachers, her father being a composer of classical music and children's songs. This background prepared her for the years to come as the wife of a piano technician... better understanding the love and devotion every technician has for his or her profession!

Norma Lamb

The D.E. Lambs are charter members of the Guild and recall with fond memories the earliest convention in 1950 held in the city of Los Angeles. If only space allowed me to relate all of them... what fascinating reading!

Norma has been president of the Los Angeles Chapter for two years and is currently corresponding secretary. She is most enthusiastic about participating in national Auxiliary activities and has served a number of times as delegate for the Los Angeles Chapter; twice on the National Auxiliary Nominating Committee and has just completed two years as second vice president.

Norma's hobbies are teaching, Bible study and writing poetry... not necessarily in that order! She looks forward each year to the state and national conventions; to seeing old friends, new places and new faces.

Edited by:
Ginger Bryant
1012 Dunburton Circle
Sacramento, CA 95825

Historic Piano Tour

On August 25, members of the Youngstown, Ohio Chapter and their families toured the home and workshop of Edmund Michael "Mike" Frederick, a restorer of 19th-century European grand pianos. Until recently, the workshop was located in Walhonding, Ohio. Frederick is now at P.O. Box 745 (15 Water Street), Ashburnham, Mass. 01430.

This "museum" experience is unique in that the instruments can be played, touched and observed. Most collections are shown and talked about but never demonstrated. It was highly enlightening to hear Chopin's music played on a Pleyl contemporary with the piano that Chopin preferred. Brahms' music really began to make more sense when demonstrated on a Streicher grand that was built within months of the Streicher that was in Brahms' studio for the last 25 years of his life. Those thick harmonies did not muddy as they do on modern instruments.

To hear a Clementi sonatina on a Clementi piano built in 1805 was a revelation. The harpsichord-like clarity and lack of sustain made for a very crisp and delicate tone. (Realize that this Clementi is only some 60 years later than the Cristofori pianoforte.) There were both London Erards from the time of Liszt and Paris Erards from the era of Debussy and Ravel.

Impressionistic works take on new hues when played on an instrument they were written for. There is a fascinating correlation between the veiled tonal character of the pianos and the hazy, dream-like visual character of the French impressionistic school of art.

The house contained about 30 grand pianos in various stages of restoration. Some were on their sides, some were set up and many were in playing condition. The collection also includes a Rosenberger, a Haschka, an Andre Stein square, numerous Erards, Streichers and Bosendorfers.

If your travels include New England, experiencing Mike's collection is certainly worth your time. For the technician, it is an education in voicing as well as a technological tour through piano building history. For the musician, it is an experience

in sound to hear the composer's music as the composer heard it. For the furniture lover, the pianos represent the work of some of the finest artisans of the day. Modern finishes pale in comparison to these rich, lovely surfaces that have survived over 100 years without alligatoring or clouding.

Mike seems to be in continuous research of the instruments and technology, as well as historical data on the manufacturers and composers. His background includes a friendly association with the Frank Hubbard workshop. He has served as a consultant in restoration work for the Smithsonian Institute, and has presented papers on historic pianos for the national conventions of the American Musical Instrument Society and the Music Teachers National Association.

Mike, his wife and children welcomed us into their home, just as they have done with countless others who share a special interest in historical pianos. Their daily life literally revolves around these pianos, making for a unique existence. Imagine having three grands in your kitchen (one up and two on their sides.) And, nowhere else is there a kid who can use the bent side of Dad's $9,000 Bosendorfer as a sliding board.

Helena Thomas

All This – And Classes, Too!

Spring, as defined by Webster—to arise; appear; originate; one of the four seasons of the year when plants begin to grow.

Spring, as defined by a Pennsylvanian—the Pennsylvania State Convention.

So! Arise and appear in Philadelphia in the spring of 1985 where the Pennsylvania State Convention will originate and let your mind grow along with the plants.

The 11th Annual Pennsylvania State Convention will be March 29-31 at the Philadelphia Airport Hilton Inn. A wide variety of technical classes have been scheduled to whet the appetite of all technicians interested in improving their craft.

Many interesting activities have been planned for the Auxiliary. A craft class, a business class, luncheon in the hotel with special entertainment; and an all-day guided tour of the Brandywine Valley, including Longwood Gardens with its colorful flowers and lush tropical plants which grow year 'round within three-and-a-half acres of heated, glass-enclosed gardens. Then it's on to the Brandywine Museum, which houses many works of American artists and the Wyeth family. All of the above is included in Auxiliary registration.

We are looking forward to welcoming you, one and all, to the Pennsylvania State Convention in the spring of '85.

Tidings And Tidbits

We received a note from **Ruth Palm's** daughter thanking each of you for your cards and letters. She reads every one to Ruth and says it is a joy to see her eyes light up, even in her confused state of mind.

The Guild's largest chapter jurisdiction in the continental United States, the **Montana Chapter**, had 100 percent attendance at one of their monthly meetings late last year. That is quite an accomplishment when most of the members have a round trip of hundreds of miles... **Spokane, Washington,** will host the Pacific Northwest Regional in late March. This will be a first for Spokane and the first time a convention has been held in that part of the continent since the Calgary National back in the 60s. For those of you in the Northwest, this will be a great opportunity to meet some new friends on both sides of the border.

Editorial

Regardless of what motivates a person to aspire to the highest office in an organization, a great many hours of personal sacrifice go with the job. Whether motivated by dedication to a cause, personal satisfaction, answering a call, ego or a combination of these and other things, they can look forward to many hours of planning for the future as well as dealing with the current problems that arise.

What is their thanks for all of this? Is it conflict within the organization? Divided loyalties? Let us hope not in PTGA. Our leaders deserve our full cooperation and undivided loyalty. We elected them to lead and guide us—it is essential we support them in this endeavor.

It is the ultimate goal of every leader to succeed and go forward. We should do nothing to deter that progress simply because we do not happen to agree with every decision that might be made along the way. One rarely agrees with every decision. Freedom of speech allows and encourages us to express our own opinions. There must be a blending in the decision-making process or failure will be the ultimate result more often than not. However, on those occasions when we find ourselves in the minority we should acquiesce graciously and work just as hard as we would have had our own views prevailed. How many good ideas have floundered because a strong and vocal minority did everything possible to sabotage them simply because they wanted things done their way? When this happens continuously within an organization, stagnation invariably results.

Let us all resolve to support the officers of PTGA in the months ahead in every possible way. The organization must begin moving forward. An organization cannot "mark time"—it either progresses or it begins to regress. The Guild has progressed steadily over the past 25 years. Has PTGA kept pace?

Coming Events

Date	Event	Site	Contact
Feb. 1-3, 1985	NAMM Winter Market	Anaheim Convention Center, Anaheim, CA	NAMM 5140 Avenida Encinas Carlsbad, Calif. 92008 (619) 438-8001
Feb. 15-17, 1984	California State Convention	Saint Claire Hilton, San Jose, Calif.	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 (208) 667-3393
March 28-31, 1985	Pennsylvania State Conference	Philadelphia	Walter Sierota 5201 Whitaker Ave. Philadelphia, PA 19124 (215) 533-3231
April 12-14, 1985	Michigan State Conference	Hilton Inn Lansing, Mich.	Dale Heikkinen 1914 Wayne Ann Arbor, MI 48104 (313)662-0915
April 19-21, 1985	Northern Illinois Piano Technicians Seminar	Northern Illinois University, DeKalb, IL	Jack Greenfield 259 Riverside Drive Northfield, IL 60093 (312) 446-9193
April 26-28, 1985	Central West Regional Seminar	Minneapolis, MN	Jonathan C. Nye 1515 Almond Ave. St. Paul, MN 55108 (612) 646-1622
April 27, 1985	Los Angeles Chapter Annual Seminar	El Camino College, Torrance, CA	Lindasue Darling 828 Dickson St. Marina Del Rey, CA 90292 (213) 822-9690
July 15-19, 1985	Piano Technicians Guild Annual Convention & Institute	Hyatt Regency Kansas City	Home Office 9140 Ward Parkway Kansas City, MO 64114 (816) 444-3500

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Michigan
State Conference
Lansing, Michigan
April 12-14, 1985

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Bob Russell, *Cleveland Chapter*
Kelwin Bakker, *Western Michigan*
Willem Blees, *St. Louis*
Danny Boone, *Heart of Texas*
Delwin Fandrich, *Sacramento*
Les Jorgensen, *Lansing*
Owen Jorgensen, *Lansing*
Steve Hornbeck, *Detroit*
Tom McNeil, *Lansing*
Dean Thomas, *Youngstown*
Ken Walkup, *Southern Tier, NY*
Virgil Smith, *Chicago*

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Registration information:
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Ann Arbor, Michigan 48104

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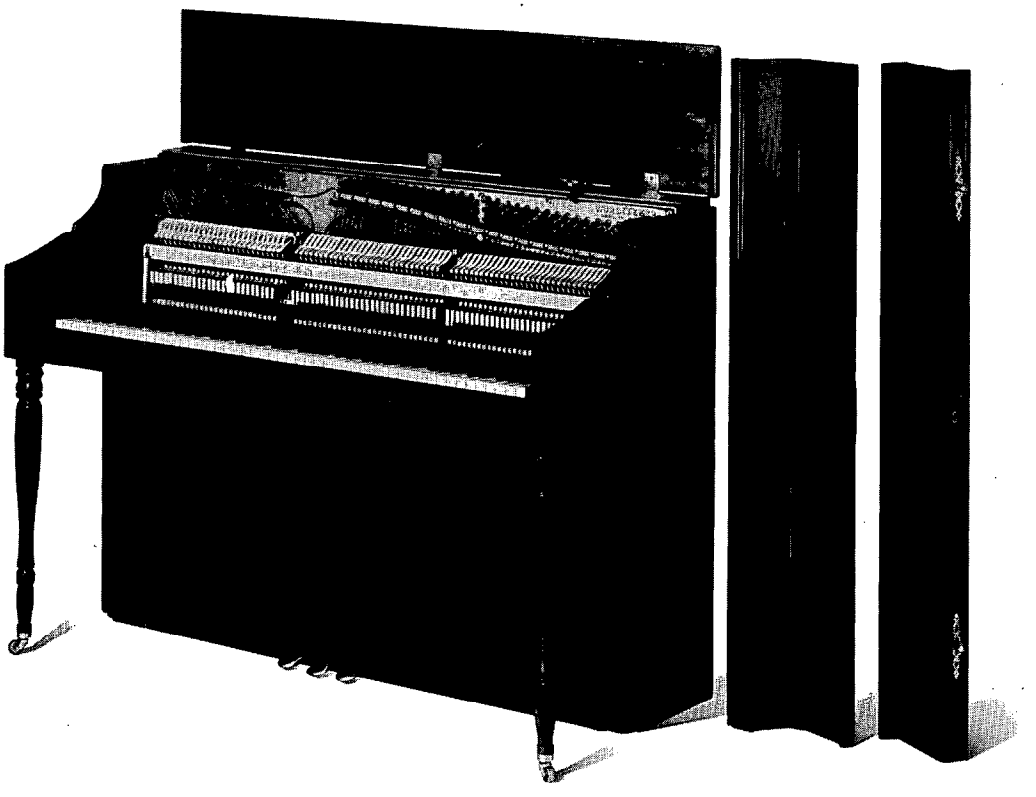

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