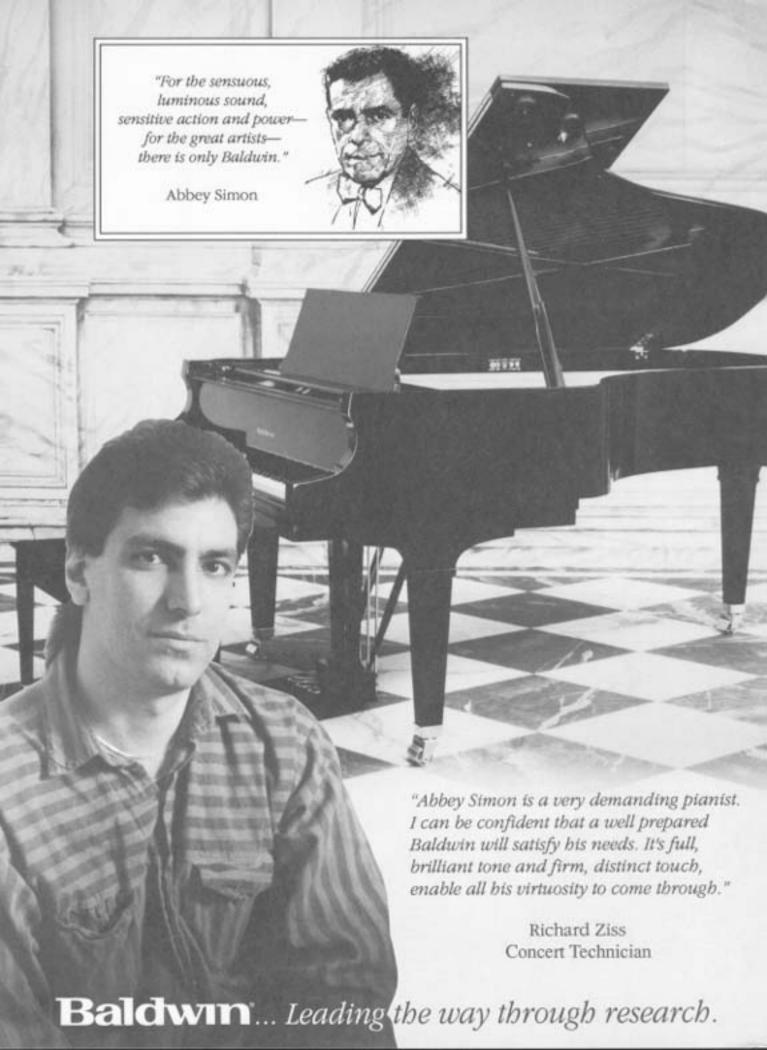
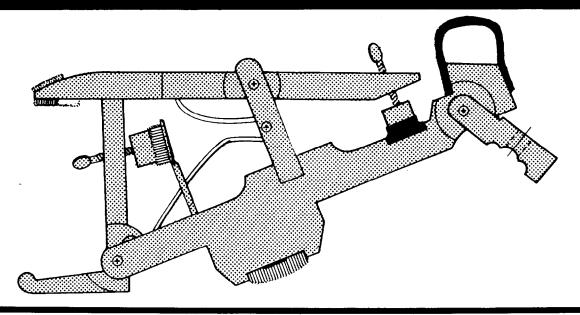
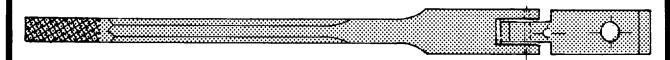
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THE COVER

ABOUT Easy action cradle modifications designed to reduce frustration and increase productivity. See discussion in this month's Forum.

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Don't Delay...! Due to the Drop Date Your Dues Are Due

Plus...To Own or Not To Own

he month of January has already passed, and I'm sure all of us know that this is the month in which our PTG dues are DUE! If you haven't already done so, please pay your dues now. February will pass quickly and we will be at the March 1st drop date before you know it. If you need special consideration or have a hardship, please don't be ashamed to contact your RVP. I can assure you that your RVP will handle your needs in a caring and confidential manner. Don't hesitate to make a call and allow the drop date to pass; all of the RVPs want to be of assistance to you.

I write this as I prepare for the mid winter Board meeting in Kansas City. PTG is healthy and alive and starting a new year; one which I see can be better that nay we have had in the past.

One item which I have sent to the Board for their study and discussion at the meeting is the subject of purchasing a building for the PTG Home Office. I would like for the membership to think this one over also, and convey your opinions and views in writing to your RVP. This is a subject which I am sure will carry over to the board meeting in July.

There is probably not a more appropriate time to consider buying property since the real estate market is in much of a depressed state and surely interest rates are at the lowest point I have seen in the last 15 or 20 years. If there is interest in owning a building for the PTG Home Office, the time presents itself now certainly as a buyer's market.

The space we currently occupy has a lease which expired on December 31, 1991, and we are on a short-term extension of that lease. There was need of additional office space and additional area for office and storage space was negotiated in the extension.

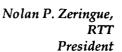
We would look for a building with enough space for future expansion and possibly with space which could be rented out to produce income for PTG. I think it would be good for PTG to have space in our building dedicated to a museum so that the history of PTG could be on display, open to membership and possibly to the public. The story of PTG and historical documents preserved for all to enjoy

in our Home Office. Space in the building would be planned for future activities in publishing as income for PTG. Space would also be planned for another project in the stages of planning at this time, the computer bulletin board for PTG.

Given space with which to work, possibilities for membership benefits are as endless as the creative minds of the good people you have coming up to serve you on the PTG Board in the future. I am excited about the talent I see coming from the ranks.

We have to consider the square footage of a lease as close as practical since the cost per square foot is still climbing even with much space unfilled. Projecting the pay out of a mortgage in a 5 to 8 year period, the cost of the mortgage payment is not a lot more than the cost of an annual lease, and at the end of the specified time, the property would be ours.

Nothing is final yet, and I bring this to you for your consideration. The possibility is good that we will have to move from the location we now occupy.





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Ben McKlveen 1992 Institute Director



Have We Got Classes For You!

or the next few months this column will be outlining the classes and instructors for the 1992 National Convention Institute in Sacramento, California. The dates for this convention are July 23 to July 26. The hotel is the Hyatt and classes will be held in the hotel and in classrooms in the neighboring convention center.

In previous articles, I have written about how these institutes are created and how our outstanding instructors were developed. Every once in a while, I will hear someone ask why we do institutes. There are several answers to this question. First, in our business, there are always changes taking place that need to be explored. New products come on the market, new techniques are developed to solve problems, and new people keep entering the field who need all the help they can get to become competent and do good work. Also, the learning process is not as simple as: see a class, absorb the material, go home and do the procedure. The truth is: one sees the classes, absorbs the material, tries the procedure at home, with varying degrees of success, sees the class again, polishes the skills taught over a period of time. This is the reason that we repeat classes from year to year and why we try to present classes on all phases of our craft.

Let us begin this month with new products being introduced at this

year's institute. Del Fandrich has designed a new vertical piano incorporating the action that his brother, Darryl, invented and introduced at the Portland convention in 1989. They will exhibit the piano and present classes on how it was developed and how to regulate and service it. Kimball is introducing a new action developed by Langer, and their staff will be in Sacramento to "show and tell." This action is so new that my information about it is minimal at this time. I will keep you informed as I learn more about it. Another new product being introduced this year is a retro-fit player action by Gulbransen. I have a friend who has been involved in the sale and installation of these units and he gives them rave reviews. The Gulbransen company will have their representative there to exhibit, and to explain about the product and guide you through the installation process.

The very basis of our craft is tuning. We will have a number of classes taught by experts that will cover the topic from top to bottom. Virgil Smith will repeat his very successful class on aural tuning from last year. Ray Chandler, from Kawai, will introduce a new tuning class this year which will feature "hands-on" participation. Jim Johnson will bring his outstanding class from the California State Convention to the national institute and teach about the tuning of problem pianos. Rick Baldassin and Al

Sanderson will be teaching about tuning, also, but their topics have not been decided upon at this writing. More about them later. Randy Potter will repeat his class called "Temperaments of the Masters" which was so successful last year in Philadelphia.

Concert preparation of pianos is always a topic of interest at every convention. We will present two classes on this subject this year. These classes will represent different viewpoints. One class will be by the Baldwin team, giving you the perspective of the manufacturer. The other class will be presented by Steve Davis, an independent technician who services for the Steinway dealer in Portland. Steve taught a similar class that was very well received at the Institute in 1989. If you aspire to do concert work, or are involved in it already, I think that you will find that these classes will cover the subject in depth for you.

We have only just begun to describe all of the fine class instruction and other features that we have planned for you at Sacramento in July. In the coming months, we will have much more to write about. We, the Institute Staff, are looking forward to seeing all of you in the classrooms and corridors during the convention this summer, so please make plans to be with us! I will be back with more for you next month.

Sacramento

Early Years

James Bryant, RTT Host Chapter Chairman

he City of Sacramento,
California's capitol, is
located at the confluence of
the Sacramento and the
American Rivers, at the
heart of the world's most fertile valley.
Mark Twain described it most cloquently in Roughing It when he wrote
"...and some of us have looked down

upon the deathless summer of the Sacramento Valley, with it fruitful fields, its feathery foliage, its silver streams, all slumbering in the mellow haze of its enchanted atmosphere, ...a dreamy exquisite glimpse of fairyland."

It wasn't always

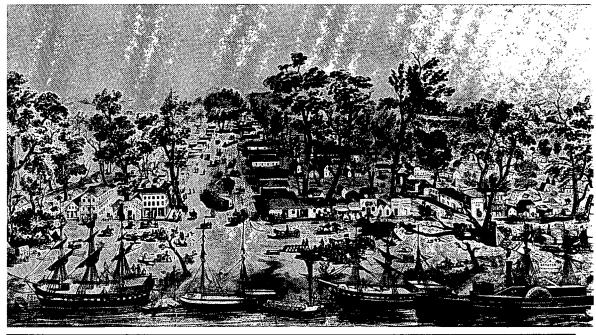
thus. Two hundred million vears ago the ocean floor bedrock began to jam under the North American continent thereby creating the towering, craggy Sierra Nevada Mountains, and in its wake came the Ione Sea covering all of what is now known as the Sacramento Valley. Sediment flowing from the Sierras into the Ione Sea gradually filled it leaving only the two great rivers and their tributaries. At that point in time the Sacramento flowed to the Pacific and as it cascaded to the sea, its swirling waters eroded an opening in the coastline range that came to be known as "The Golden Gate."

The melting after the Ice Age raised the Pacific Ocean 300 feet creating the San Francisco Bay and history is now repeating itself as

sediment from the rivers is rapidly filling it. In only a few thousand years, man, if he hasn't blown himself into extinction, will be able to cross the bay on foot.

This lush pristine land that stretched for hundreds of miles in the interior of California lay untouched by the ravages of the site man until almost 1840. There were some earlier efforts to find the mouth of what was known to be a great river, but it wasn't until 1808, when Spanish sea Captain Gabriel Moraga sailed up the big river, that it even had a name. Canopies of oaks and cottonwoods lined the riverbanks with blossom laden vines growing high up into them to tumble down over the river in a stunning, miraculous blaze of color. As the Spainard absorbed the majestic beauty surrounding him he remarked "Es

Historians treated Sutter with far more respect than did his peers, but his peers knew him better and the known and provable facts seem to side with them. Sutter was born of Swiss, working class parents in Germany in 1803. He tried his hand as a printers devil and grocery clerk hardly the stuff world class adventurers are made of. Sutter married Annette Dubeld on October 25, 1826 and their first child, John A. Jr., was born the following morning. His new wife's widowed mother, who was reputed to have had some wealth, set Sutter up in business as the chief partner in a dry good business. Four years later he was deeply in debt personally, and his business faced bankruptcy. When Mrs. Dubeld refused further financial support, he manipulated as much money as he



Foot of J & K Streets, City of Sacramento, 1849

como el sagrado Sacramento" ("It is like the holy Sacrament") and so the river, and the city that was to rise from its banks, got their names.

John Augustus Sutter, on August 12, 1839, with a body of three white men, an Indian and ten Hawaiians stepped ashore on the American river, two-and-one-half miles upstream from its confluence with the Sacramento, to found the first interior settlement in California. could out of the business and slipped away in the night, one step ahead of the law. Left in the lurch were his wife, four children and his business partners.

Historical apologists termed the above action an act of charity presuming his family were cared for by Mrs. Dubeld. They saw the happygo-lucky adventurer and look no further. Many legends of the early west have been glamorized and their

...Sacramento - The Early Years ...continued

exploits greatly exaggerated. Adventurers sold newspapers and magazines and when gold was discovered on Sutter's property, the world eagerly devoured every printed work they could find on the man and writers wrote what their readers wanted.

When John Sutter disembarked in New York City he became a self-appointed captain, formerly of the Swiss Guards of Charles X of France, a pretense he kept up for most of his life until he was commissioned a Colonel in the California National Guard and could use the title honestly.

Fearful of remaining in New York where the long arm of the Swiss law might reach him, he took off almost immediately for St. Louis, where he hooked up with an expedition going to Santa Fe to sell merchandise. They set out with \$14,000 (borrowed) in goods and the venture proved highly successful. A second expedition, set up by Sutter himself, proved to be a disaster as the economy in Santa Fe had taken a severe turn for the worse. Sutter again sold off everything he could and slipped away in the night, leaving his partners marooned and penniless. He turned

up in Westport, later to become Kansas City, with some money and a strong desire to get to California.

While in Santa Fe he was befriended by Carlos Beaubien, alcalde of San Fernando de Taos, who entertained Sutter with stirring tales of his travels in California. Sutter set off over the Oregon Trail to Fort Vancover where he was sure he could get a boat to San Francisco. When no boat for San Francisco was available he took one bound for the Sandwich Islands (Hawaii) hoping to catch one there for San Francisco. It turned out he had to wait five months, but used the time wisely to cultivate the royal family who, along with others in the Islands, completely financed, on credit, the costs of setting up the intended settlement.

Again refinanced, Sutter hired three white mechanics and eight native Kanucks, two of whom brought their wives. That group, along with an Indian Sutter had picked up along the Oregon Trail, constituted the body that disembarked about a mile from the hotel at which visitors to this summer's convention will be staying. The majority of Sacramento's first

settlers were Hawaiian and that number was increased when Sutter had children by both women.

Almost from the beginning Sutter's Fort became known throughout North America, as military explorer John C. Fremont, who was destined to become the first Republican candidate for President of the United States, wrote extensively about Sutter in his widely read journals. Fremont became lost in the Sierras when winter set in and straggled into Sutter's Fort on foot nearly dead and recuperated there for many months.

During the early years, Sutter was constantly being badgered by his creditors for some return on their money but by the time 1848 arrived, Sutter was the most prosperous he had ever been and, as it turned out, ever would be. He decided to open a sawmill at Coloma and hired a man named John Marshall to run it for him. Next month, Caroline Fox, a descendant of those who lived through those most exciting times, will have some comments on —The Gold Rush!

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The Back

ast month's column mentioned that we are implementing a process of "rotational" contributing editors for the "Tuning Corner" column, along with some of the rationale supporting this decision. This month we present the first of those editors. To keep you from being in suspense, feel free to skip over to that column if you'd like to know his identity. I'll mark your spot for your return:

Χ

In the event you did not read the column (yet), the author uses a quote from one of my classes as a vehicle for setting up his column. Still another Harveyism is: "I've yet to see a piano that *just* needs tuning". I'm always anxious to get inside the instrument; to improve the tone or performance characteristics of same. I'll even settle for finding an elusive buzz or rattle, or simply repairing something that's obviously broken!

Back in the "old days", before self-service gasoline stations, the owners of those service stations often referred to their "back room" work. Some of those back rooms were so profitable that gasoline sales were at least coincidental; at most a necessary evil: a means to an end. Note the word necessary. For my analogy, consider tuning as the equivalent of gasoline (not tuneups) to a vehicle, and with the same relative needs in terms of frequency. Then consider repairs, regulation and voicing (again in relative terms) to tires, batteries, oil changes and yes, tuneups. Just as with cars, with rare exceptions, we're called upon to tune pianos, not to repair, regulate or voice them.

Cars have a way of telling you that something is imminent, and possibly dangerous if they continue to be driven after certain signs or sounds are evident. So do pianos. Cars have a slow deterioration process. Everyone has experienced having their car tuned up after it was long overdue. "Wow, I forgot that it would perform like that!" Clients have said those same words to me following an action reconditioning and/or regulation. So pianos experience the same, slow deterioration process. Just like those service station owners, many times it does not require "selling" a job; rather merely pointing out that the need exists and/ or is long overdue. Before I learned to curb the tendency to mention everything wrong with the piano to the client, I used to find myself "pointing out" more back room work that I could reasonably accommodate.

I suspect that many of us are doing more back room work now than before. I further believe that, depending on the economic situation, geography, and other factors, it will be required of many more of us now, at least for short haul. But unlike the service stations, and until we can persuade clients to bring their pianos to us, our back rooms are elsewhere. Therefore, we must arrange for the safe transport of the piano, action, or whatever goes to the back room. A small part of that transportation and safety will be the focus this month, along with some items on efficiency and other, including a plea for assistance on a situation I have yet to experience.

LOAD 'EM UP MOVE 'EM OUT

I have a Schaff action cradle which is a handy tool. But, there is an annoying problem which is: when the clamp wing nut is loosened, in order to

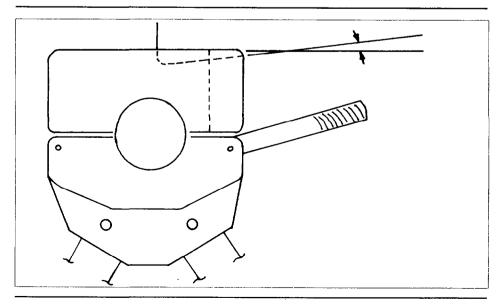


Figure 1 - Grind Angle

Room

Jin Harvey, RTT Editor

rotate the action, the clamp flips open and the shaft drops out of place. I solved this by grinding an angle where the nut seats so the pressure, even when loosened slightly, is inward, preventing the bolt from jumping out. (See Figure 1, below/left) I also added a washer under the wing nut. I don't need my name attached. Anon is fine with me!

We're grateful to Anon for this tip. Actually, the source of this information was Gerald Foye. There were a number of bite-sized pieces of information from Foye in Susan's "care package". We'll use a couple of his offerings this month.

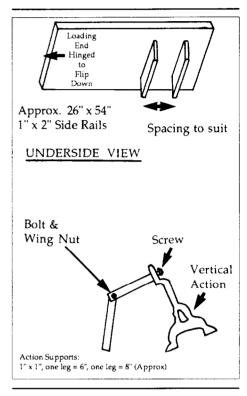
The action cradle was once called the "Edwards Action Cradle", after its inventor, who is in real life our own esteemed colleague, LaRoy Edwards. And while we're doing trivial pursuit, notice that his name is spelled "LaRoy", as in the fundamental (not partial) of "do-re-mi-fa-so-LA-", etc., and ROY. It is not "Leroy", and is *not* pronounced "Leeee-Roey", or any other permutation of the spelling. Now, where were we?

Notice my action cradle on the cover. Although Foye's modification is not indicated in this photograph, those of us who have used the action cradle have experienced the same thing he describes. My "fix" for the same problem was to use some spray adhesive to mount strips of understring cloth (cut from bulk) on the bottom half of each jaw. This way there is less tendency for the rotating steel portion to chafe inside the aluminum channel, and the results are quite effective. I find that on the bench, I can leave the wing nut fairly loose on one of the clamps, and on all but the heaviest actions, lock the action in any position by tightening

only one side. You may want to use some of that adhesive (or electrician's tape to build up the diameter of the legs), on the rubber feet while you're at it, to help keep them from disappearing. After that, using a grinder, thin out the outer side of the U-shaped piece that surrounds the action bracket. You'll find the additional clearance makes it much easier to accommodate the tighter spacing between the #1 and #88 hammer butts, found on many newer, smaller actions. The paint? That was left over from another project, but it does make the tool look less homemade, and prevents the "cooties" that somehow grow on aluminum, steel, and galvanized parts. More on the mysteries of metal later.

I almost forgot. The long skids that come with the cradle. Mine came in two sections per skid, and were equipped with conduit couplings that usually didn't; especially when trying to slide the action in or out of the service vehicle. But with some additional conduit, appropriate 2x4 support bases with holes drilled in them to accommodate the conduit. and some plastic sheeting, they made excellent "tent" eaves for a temporary, portable, dust-free and very inexpensive varnishing booth. The expensive part was the oxygen and mask required to work in that little room!

Seriously, I don't make up these things on the fly. But some of the methods I have used and share in this column are not the most appropriate. Many one-shot processes were done situationally, while working in illequipped shops. If I found a need to repeat a particular project, I would create a better system (as well as environment) for doing a particular process.



Figures 2 & 3 - Action Support

Foye tells us how to handle the action from here:

Compact cars often present problems when it comes to carrying tools and equipment, plus and action or two. My compact station wagon can handle the job, but only after spending considerable time relocating tools, storage boxes, etc.

I made a simple tray (see figures 2 & 3 above) that solves the problem nicely. Now, when I am going to transport actions, I place the tray across the backs of the front passenger seat and the rear seat, leaving the equipment underneath fully accessible. It will handle one grand action or two console actions.

For vertical actions, I use a pair of action supports as described in an earlier issue of the Journal which allows the actions to ride in a tipped position, which keeps them from toppling. The lead

edge of the tray has a hinged, flip-down rail to make it easier to slide the action in, then flip up and lock with a pair of cabinet clasps. Pad the seat back, naturally, to avoid damage.

Although the vertical action support is illustrated here, refer to Foye's article in the January '85 Journal, page 23, for additional information and reading. You may also want to check out the October '86 "Forum", page 15, for still another variation of an action support.

STICKING KEYS **DUE TO JACK**

And while on Foye's correspondence, we'll add these next two items:

Sometimes the ball gets rolling on a topic which is hard to stop. But, back to the sticking key problem on Asian pianos and the issue of the jack contacting

FOR PIANO

the letoff rail as brought up by Jack Caskey. (First of all I entered some comments in a previous issue but since the Editor omitted the brand name, the comment was thrown off, since it became a generalization which no longer fitted the statement, since some brands come from the factory with proper key dip, some not enough, some too much.) [Editor's note: This editor will also exercise the same restraints if the topic suggests a generic situation, or if seeds of criticism toward a particular manufacturer or product are sensed. Our industry is much too small, and currently too precarious for rock-throwing contests.]

Back to the issue of sticking keys and Jack Caskey's statement regarding the jack connecting with the letoff rail, which causes a sticking key condition. Jack is absolutely correct. And, on a properly regulated instrument, the rail would have to be moved away from the jack. But, not all brands of pianos come from the factory properly regulated. A specific brand of

piano comes with excessive key dip (travel) which often causes the jack to connect with the letoff rail and cause a sticking key condition. But, on these pianos, correcting (reducing) the dip to proper specifications will generally stop the jack from traveling far enough to connect with the letoff rail, in which case the rail should not be relocated. In short, correct the key dip first, then determine if the rail must be moved.

Another interesting problem that is often overlooked relates not to sticking keys, but heavy or mushy touch which is caused by the back of the balance rail notch (mortise) contacting the balance rail pin just before the key is fully depressed. At that point, the key is literally pushing against the balance rail pin and often you can observe the pin being moved forward. Consider the effort required and you can quickly determine that the resistance can certainly add up to a heavy feel. (Again, this often relates to specific brand names and certain years of construction).

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Although probably not the vintage of instruments that Gerald was referring, I have noticed this latter condition on very old pianos as well; old, as in the early American uprights and grands. And like Foye, my initial clue to this condition was the mushy feel that he describes. Heretofore, I have just remembered to look for this possibility during an action reconditioning job, and/or after any key work has been performed. But lately I've seen it so much that it has been added as a separate line item to my regulating checklist. Whether these pianos left the factory with the balance rail pins favoring the rear of the key button mortise, or whether the pins were moved or perhaps traumatized (moving, objects falling into key area, etc.) is unknown. And while it usually doesn't effect touch weight as determined by gram weights (the key is normally past the point of escapement and into aftertouch when the effect "kicks in"), it sure makes a

difference in the tactile feel of the keys in the playing mode.

FALLBOARD MODIFICATION

I did it and I'm glad! I service a number of pianos at a local college, including (12) Baldwin Hamilton series vertical pianos used for practice.

For years I have requested permission to modify the key covers to avoid the hassle of removing and installing those floppy hinge brackets. Since no one wanted to commit themselves, and since no one closes the key covers on practice room pianos, I did it on my own. I eliminated the hinge system. Now I can quickly remove the key cover by removing (2) short screws.

- Remove and eliminate the (2) felted key cover upstop brackets;
- Remove and eliminate the entire hinge assembly;
 - With cover in full open position, add

angle bracket to each side approximately in position where upstop bracket was located:

• Remove [fallboard] pull knobs. Materials: (2) 1" \times 1" hardware store angle brackets and #8 \times 5/8" screws. With a cordless tool the entire twelve pianos took one hour.

KEY LEADS AND TERMITES?

Having recently moved to the Caribbean, I am now experiencing new problems: termites and key leads that literally expand. They push out both sides at once and when they meet their neighboring keys they spread to double diameter. At some point they seem to crystalize and disintegrate.

Although the key lead problem is easy to rectify—what causes it, and can it be prevented?

Termites I've never dealt with before and would love to find information

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P.O. Box 700 Elizabethton, Tennessee 37644 Office (615) 543-3195 Wire Mill (615) 543-3196 Fax (615) 543-7738 on treatment and eradication. Can you direct me to a source? This would be greatly appreciated.

Although I couldn't attend the last convention I know termites were discussed. Did the instructor give the names of any service material I could order?

Thanks in advance, Michael Lipnicki As Michael indicates, he's not concerned about the how so much as the why of the key lead problem. Everything reacts to its surrounding environment. Think of those items in the piano: plain wire (steel) is perhaps most obvious; the copper wrapping on bass strings, and all those parts made of brass. The point is that all the materials go through a corrosion phenomenon; only the words change

to describe that phenomenon: rust, tarnish, corrode, oxidize, crystallize, and so on. Stainless steel isn't; and think about what happens to aluminum lawn furniture and window screens. Science and technology has tried to prevent, or at least retard these characteristics. But to date there is no way to make piano wire rust-proof; the best we can hope for is rust-resistant.

What about center pins? Are they brass, bronze, or German silver? One accounting I recall of German silver (as applies to piano work), is that of an alloy consisting of 14 percent nickel, the remainder being brass; whereas the non-piano description of German silver is supposedly an alloy of copper, zinc, and nickel. Who knows, at least as applies to a certain manufacturer at a certain moment in time? (I have often wondered whether the Chickering Brothers stayed up nights trying to figure out something different to try on their pianos the next day. Talk about never doing the same thing twice!) And while it may be interesting to pursue, even as an exercise in futility, we are still faced with the more important aspect, that of dealing with what we find.

This incident suggests a phenomenon that many of our readers have apparently never seen, based on their reactions in my seminar classes: that of "growing" action brackets. These action brackets were made of what must be an alloy of something—a "something" which resembles lead (pot metal?). We could suppose that this material was used because it reduced weight, or perhaps because it tooled easier, or maybe the brackets were on sale that week. While I don't believe that any of these suppositions are accurate, the fact is that over time, the brackets would literally expand to the point that regulation becomes impossible. The indicators are the many stress lines on the brackets; the same lines that are sometimes seen on growing key leads. Again, while I'm curious as to what this material is, the greater concern is that of regulating the action. In this case, replacing the action brackets with cast iron is the

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Renner USA P.O. Box 1223 Weston, CT 06883 Phone: 203/221-7500 Fax: 203/454-7866 **Baldassin Pianoworks** 70 **S.** Orchard Drive North Salt Lake, UT 84054 Phone: 801/292-4441 "ticket". Likewise, although Michael seems comfortable with this, I would recommend *replacing* the key leads, instead of removing the "growing" portion of the existing leads. Several reasons come to mind:

- whether the old leads will withstand swedging in their weakened condition;
- any process of removing lead (sawing, filing, and so forth) would involve increased handling and thus increased exposure to lead fragments;
- we can not be assured that the growth process of this material is finished: it may continue over time;
- any existing key weighing (balance) is already wrong;
- due to the reasons above, it's ultimately easier, faster, and less expensive to just start over.

As to the termites, I, like Michael, have never "dealt with" this: moths, carpet beetles, mice (meese?), and even one obstinate field rat who was reluctant to change homes, having built it on top of the keys using every shard of cloth and felt from that 3-month old grand piano that could be found; but never termites. And since your editor was incapacitated during the last convention, I don't know the name of the instructor who covered this subject.

The eradication of some types of vermin require placing the piano in a "closed" environment, i.e., sealed in a box along with the exterminating agent (the chemical, not the person). By virtue of *how* they accomplish destruction, termites leave me guessing where pianos are concerned. In homes, it involves spraying, and sometimes a termite barrier (copper sheeting if I recall) to prevent re-entry. Whether the spray would affect the various components of the piano, I just don't know. It may even cause key leads to crystallize and grow!

This then becomes a general plea to the readers, to help Michael on *either* of these questions. If you wish to help him in a *hurry*, his new address is PO Box 134, Castries, St. Lucia, West Indies. But please send a copy of your suggestions to me for inclusion in the Journal.

RECYCLING TIP: FABRIC SOFTENER CLOTH

Based on the size of the mailer I'm sending to the home office, I have the instinctive feeling that this month's Journal is going to be page "heavy", so we'll close the Forum for now. But first, an excerpt from Bob Bartnik's "Sticks and Stones" column of The Richmond Update. Although "lifted" from the newsletter, it qualifies in our recycling campaign:

While working in the shop with various power tools you may notice your glasses getting covered with a most tenacious dust that just refuses to go away, even with repeated wipings with a cloth. The culprit may not be dust but static electricity! Get a fabric softener clothes dryer cloth and clean those glasses.

Tip: use a used cloth. It is softer and works almost as well as a fresh one!

2'x3' 3-Color Counter or Wall

Display with Brochure Holder Hmmm... wonder how this would work on computer monitor screens, instead of the overpriced "special" formula cloths that are available?

!SPOOHW

In the December '91 article, "Humidity Within the Home", graphs 2 and 3 are switched. If the graph called Graph 3 were placed on page 29 and entitled Graph 2, and Graph 2 switched to page 30 and entitled Graph 3, everything would work out nicely. Also, the third paragraph on page 29 should start out "Graphs 1 and 2 show this effect".

Our apologies for any confusion resulting from getting these graphs juxtaposed. -jh-



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Practically Speaking

Building A Glass

n last month's article I described the process of glass bead blasting and its applications in cleaning and restoration of piano parts. To summarize, glass bead blasting is an abrasive cleaning process similar to sand blasting, except that tiny glass spheres are used as the blasting medium. A sandblasting "gun" or nozzle, fed by compressed air, siphons the glass beads up from a container and blows them toward the part being cleaned. The blasting must be done in a closed chamber to contain the flying beads. By varying the pressure of the compressed air supply, the abrasive action can be adjusted to clean a wide variety of materials including metal, wood, felt and leather. See last month's article for specific instructions on cleaning piano actions and various parts.

Blasting cabinets can be built from sheet metal, wood, or even canvas over a metal frame. Here I present plans for a plywood and metal unit that I built several years ago. The accompanying photos and drawings provide the basic dimensions and most construction details. I will point out the essential design features as I go; individual builders should feel free to vary the construction to suit their own preferences.

Note: The drawings mentioned in this article can be found on pages 19-21. They are placed together for ease of reference and give most of the basic dimensions and construction details needed to create the bead blasting booth. The drawings are labeled as figures 1,2, & 3 in the article.

BUILDING THE BLASTING BOOTH

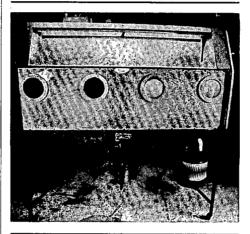


Photo 1 - The Blasting Booth

Photo 1 - My booth consists of a 1/4" plywood cabinet with 1" X 1" X 1/8" angle iron end frames and a glass window in front (Plexiglass would *not* be suitable for a window since it would quickly become scratched, and dust would cling to it due to static electricity). The cabinet is big enough to hold a grand or upright action; (dimensions are given in figures 1, 2, and 3). A caster socket is welded to the bottom of each leg, allowing the unit to be rolled around easily; this can be important where shop space is limited.

The only angle iron is in the end frames - none goes lengthwise through the cabinet. 3/4" flat stock braces the legs to the hopper. The glass beads are contained in a 3# coffee can hung on the bottom of the hopper. They are siphoned up to the nozzle and, after use, are funnelled back down into the can through a hole in the bottom of the hopper. A small shop-vac is suspended on the bottom of the cabinet and piped inside, where

it provides a slight negative pressure to prevent dust leakage by evacuating the compressed air that is blown into the cabinet from the nozzle. The vacuum also pulls a lot of dust out of the air, keeping the glass beads cleaner. This is important since glass beads containing a lot of dirt, felt and wood fibers are less effective and siphon poorly. You don't want to be blowing dirt back at the wood you are trying to clean.

Photo 2 - The right end of the cabinet is a door, made of 1/4" plywood reinforced with a hardwood frame. The door seals directly against the angle iron frame. I used magnetic refrigerator door gasket material here, which works well and eliminates the need for a door latch. However, ordinary foam weather stripping and a door latch would work fine.

The angled plywood piece across the lower inside edge of the door helps to prevent glass beads from piling up on the door seal and falling out when the door is opened. Some still fall out though, and are caught by the plastic gutter below the door.

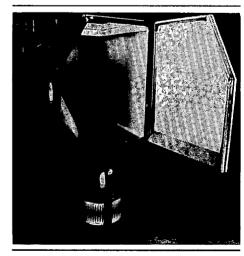


Photo 2 - Hinged door at the right end of cabinet.

Bead Blasting Booth

Bill Spurlock, RTT Sacramento Valley Chapter

Photo 3 - The arm holes are fitted with inexpensive thrift store windbreaker sleeves, with elastic cuffs. Thus you can put your arms through any two holes for best access to the work.

The actions or parts to be blasted rest on an angle iron grate. Five pieces of angle iron have pins welded to each end that fit into holes in the angle iron of the right end frame as shown, and into the wooden cleat at the left end. A board can be slid over the grate to set small parts on. Perforated sheet metal or peg board is handy for holding screws to be blasted.

Photo 4 - (Sleeves and angle iron pieces removed to show interior construction.) The plywood is reinforced with 3/4" hardwood at all corners; all wood joints are glued and screwed. Corner details are shown in the drawings.

Good visibility is essential. Painting the interior white helps; also a 4' fluorescent fixture (not shown here) should be mounted to the inside top of the cabinet.



Photo 3 - The arm holes & angle iron grate

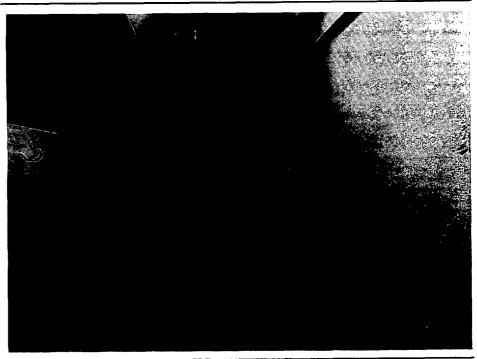


Photo 4 - Sleeves and angle iron removed to show interior construction

Photo 5 - This view shows the inside of the hopper, with the drain hole for the beads and the hardwood reinforcements where the pieces of the hopper join. Figure 3 shows the dimensions of the plywood panels and the reinforcement that make up the hopper. To build it, just draw two of each triangle on a plywood sheet, cut the pieces out, and bevel the edges with a hand plane to the angle shown. Saw up the reinforcing wood and assemble the pieces with duct tape. Check to make sure that the length and width match the top part of the cabinet or trim as necessary. Drill for screws, then remove the tape, apply glue and screw together. Using a hole saw, drill a drain hole at the bottom of the hopper large enough to accept a short length of 1" ID plastic pipe. (Note: in my original design the sides of the hopper did not slope enough, so that beads

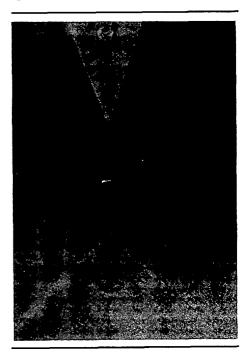


Photo 5 - The inside of the hopper showing the drain hole for the beads

tended to pile up and not drain back into the can reliably. All dimensions given in the drawings here are for an improved design with more slope to the hopper. a 2" ABS plastic fitting which passes through the hopper to the inside. Photo 3 shows the vacuum pipe inside the cabinet; it runs just below the angle iron grate, ending in a down-

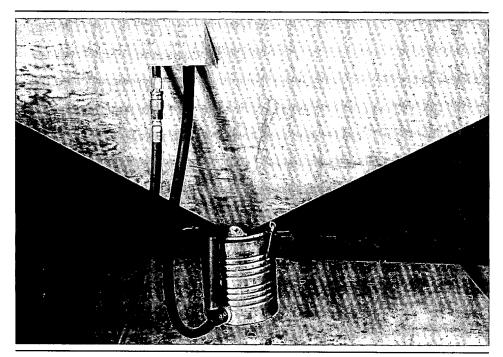


Photo 6 - Suspended from the bottom of the hopper, a large coffee can serves as the reservoir for the galss beads

Photo 6 - A large coffee can serves as the reservoir for the glass beads, and is suspended from the bottom of the hopper by screw eyes & hooks. A kitchen strainer catches felt, wood splinters etc. and any small parts like screws that might be dropped. The bead siphon hose connects to a fitting at the bottom of the can; alternatively, the hose could just be run directly into the top of the can and down into the beads (ignore the vertical metal pipe attached to the side of the can in the photo).

The compressed air line and bead siphon tube pass through the bottom of the hopper. The air pipe is a 3/8" iron pipe with a quick connect fitting on the outside and a short air hose on the inside leading to the nozzle. The bead siphon hose connects to a piece of metal tubing that passes through the cabinet, with rubber hose leading to the nozzle inside.

Photo 7 - A five gallon shop vacuum hangs by metal brackets from the bottom of the cabinet, and connects to

turned elbow in the center of the cabinet. An alternate system would be to have the vacuum hose enter through the top of the cabinet. This might be necessary if you use a more powerful shop vacuum, to prevent too many beads from being sucked up.

Conclusion

This is obviously more than just a simple afternoon project. And, construction requires the builder to "fill in the blanks" in the preceding plans. However, if you do a lot of action work (especially player rebuilding) and if you enjoy building things yourself, a glass bead blaster can be both an enjoyable project and a tool for improving quality and efficiency on future shop jobs. One caution though: you will soon find that you have a steady stream of technicians, dirty actions in hand, showing up to use your blaster. (Maybe a coin slot could be added...75 cents for three minutes?)

The materials cost of this project would run around \$250.00 to

\$300.00 if everything is purchased new. However, some materials can be found used without too much trouble. For instance, five gallon shop-vacs are usually available for around \$25.00 or less at garage sales, and scrap wood can be used for the reinforcement. A basic materials and source list follows.

Materials And Source List

- 2 sheets plus 1/2 sheet of 1/4" plywood.
- 55' of 1/8" x 1" angle iron
- 6' of 1/8" x 1" flat steel
- 12' of 1/8" x 3/4" flat steel
- Double-strength window glass, approx. 11" x 55"
- 5 gal. shop-vac
- Misc. hardware, air fittings, etc.
- Small sandblasting gun requiring approx. 3cfm air supply

(sources: item #63749, \$9.99 from Post Tool (714)447-9520; item #002654-1CLB, \$19.99 from Harbor Freight 800-423-2567; Blast-It-All Inc., 800-438-3854; also check Sears)

• Glass beads, 100 mesh from Blast-It

All Inc. or look in Yellow Pages under "Sandblasting Equipment &

"Sandblasting Equipment & Supplies".

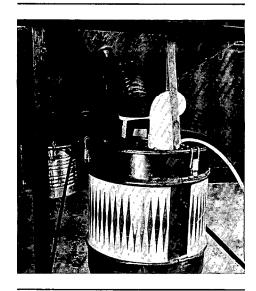
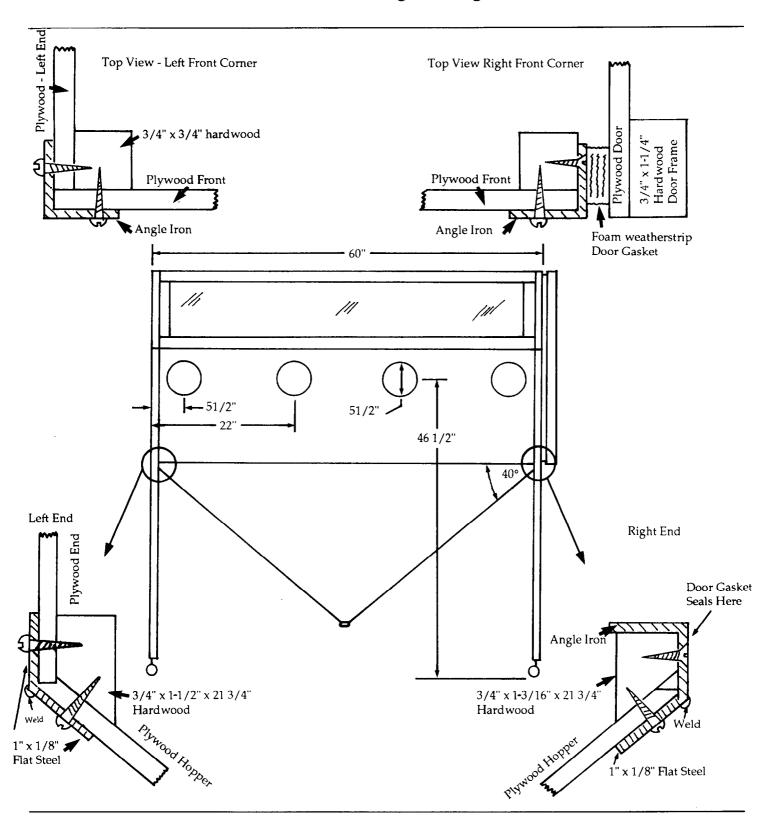
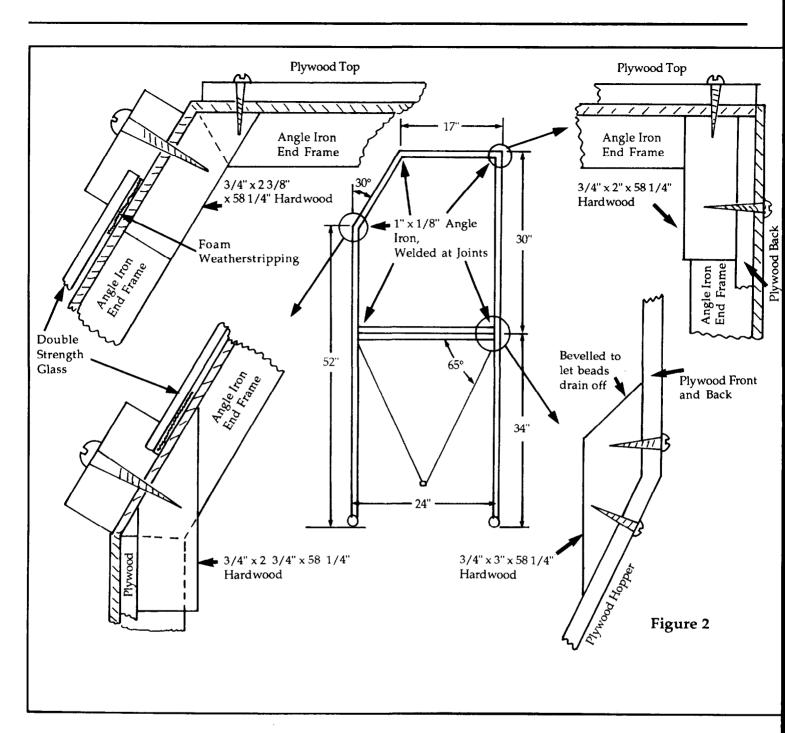
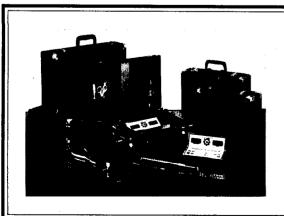


Photo 7 - A five gallon shop vacuum used to draw the beads back into the hopper

Construction Diagram - Figure 1







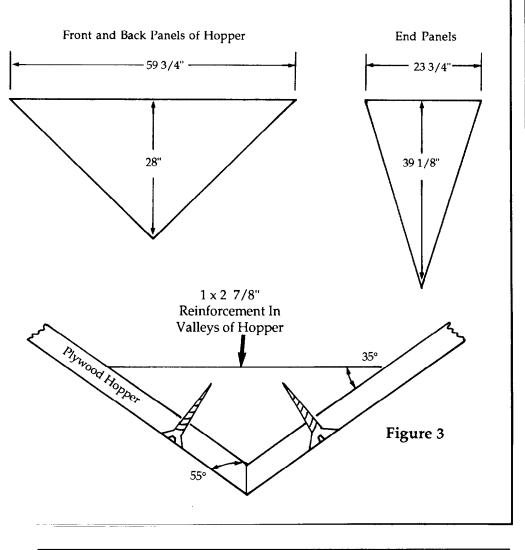
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A New Face On The Scene

Ben McKlveen Contributing Editor Cincinnati Chapter

am sure that you must be as surprised as I am to see my name at the top of this article, in which I am writing about tuning. To follow Rick Baldassin as a writer about tuning in the *Journal* is a little frightening. After all, Rick and his contributors have put together five years worth of articles containing a formidable array of information on almost every phase of tuning a piano. To follow him is a daunting task, indeed. So, perhaps my first act is to salute Rick and say, "Well done, my friend!"

How did I come to find myself in this job? I am not sure that I can tell you. I went to the North Carolina State Conference in November last year to do some work as the 1992 Institute Director. I was there to speak to a number of instructors that I wanted to teach in Sacramento this summer. Jim Harvey was there as Editor Designate, and he was also teaching a class. In his class he stated, "Tuning is the most boring thing that I have ever done in my life... but then I haven't tried golf yet." He went on to say that he considered tuning to be a means to an end, and not an end in itself.

During the weekend, Jim and I talked about his new job as editor and he asked me if I would be interested in writing, for a time, about tuning. Since I had played golf for a number of years, and could actually watch it on TV for ten or fifteen minutes at a time, I seemed to be qualified and I agreed to Jim's request. So I have gathered my Webster's New Collegiate Dictionary and my Webster's New World Thesaurus together with some paper and we are off and running.

There are a number of random thoughts that I would like to share

with you that might give you a clue as to the directions that I might take in writing these articles. To me, tuning is a lot of things; it is a science with a mathematical base. It is an art and a craft because variations in the instruments that we work on present endless variations in the responses to what we attempt to do while tuning. We must deal with our ears' hearing and our brain's processing and our arms and hands; making changes in what is really a very complicated scheme of adjusting a large number of strings to very exacting standards of accuracy. Above all, what we do has to be musical.

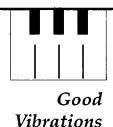
During my career, which extends from 1948, I have seen the growth and development of electronic tuning aids from the early Conn Chromatic Stroboscope, through endless mutations and improvements, to the modern Sanderson Accu-tuner. These devices have had their champions and there have been many articles written about them, complete with charts, graphs and diagrams. While I have great respect for these machines, and the body of literature that they have engendered, and I appreciate their invaluable contributions to our testing program, I have not used them in my work. I am (gasp) an oldfashioned aural tuner. Having said this I may lose the readership of those who were hoping for more of what I would say was a definitive body of literature on electronic tuning. This is not to say that there were not many excellent articles on general tuning technique and aural tuning as well. Perhaps my salvation as a writer about tuning will hinge on the fact that no one ever learns everything there is to know from one article, and a restatement of an idea, scheme, or

technique by another writer will sometimes make a difference to someone who has been struggling with a problem and a restatement will light the way to understanding.

The contemporary piano, in spite of all improvements accomplished during the twentieth century, is still tuned by a mechanism that is absolutely primitive. The principle of tuning pegs held in place by the force of a block of wood around these pegs is as old-fashioned as the violin peg, except that the piano has many more strings and a lot more tension. Even the guitar has a more modern gear driven tuning system. The only excursion into an attempt to use the screw-train as a tuning device was made by Mason & Hamlin in the early part of this century. It worked, but it was expensive to produce, and it never caught on. Pleyel, the French manufacturer, used a rocker-screw tuning device on harpsichords. Purists blanched at the thought. So, we still have to bump, twist, squeeze, pull, push, and wrestle tuning pins to hold strings on pianos in some state of consonance with their neighbors. This fact alone should give me material for an article or two to explore various ways of doing this physical labor.

Having spent five years of my life teaching tuning at the old Conservatory of Music in Cincinnati, I have come to the conclusion that temperaments have been devised for the convenience of the instructor and generally reflect a prejudice or predilection about some phase of setting a temperament. For example, I was taught to tune a temperament of fourths and fifths which progressed in the exact reverse of the temperament

story continues—page 36





Nick Gravagne New Mexico Chapter

or the time being this article will be the last in this series dealing with the business and philosophic nature of piano technology. What does the future hold? What attitudes are we likely to adopt in an ever dynamic world? And what attitudes should be naturally evident in the well-rounded piano technician? This article will briefly explore some observations and present interpretations of facts. Note that the sidebar is a call for your involvement in these ongoing discussions regarding shop set-ups, pet peeves, and the like.

HAVE YOU NOTICED

Things have changed. What's more, they will continue to change. In fact, change is about the only certain thing anyone can accurately predict. A funny thing about change—it is always good for someone, while bad for someone else. Figure it out: A quarter of a million people lose their jobs but that's good for the bond market since a curb of inflation is indicated. In business and industry demographers are losing sleep in the rush to assemble, summarize, and present as useful information ponderous and prodigious amounts of data the like this world has never known. But the data keeps coming, and the kilo watt meters crackle day and night. Books and articles on the subject are everywhere; but of all the info spewing our way two key observations and interpretations seem common to all reports. First, that quality products and services of a unique nature always have been and always will be sought out by certain consumers, and that those who offer these should stay busy. Notice the words "unique products and services." I know two cabinet makers, and both are excellent craftsmen. One makes typical looking kitchen cabinets, well made but boring. The other makes artistic furniture, also well made, but beautiful and interesting. Who do you think is busier and charging more? We will return to this presently. But first a look at the evolving and dedicated piano technician—something ironic is afoot.

THE UPWARD SPIRAL

Talk to anyone who has been rebuilding pianos for 20 years and you will learn that the craft has changed considerably. In the "early" days it was a big deal to replace a Steinway pinblock, to install a set of hammers (on the original shanks), or to replace a soundboard. Yet all of this, and much more, has become standard fare today in many shops, or is available through farm-out arrangements. As modern technicians we are now looking and re-looking at all sorts of techniques, mechanical investigations, and products which, to some past practitioners, were either unavailable, ignored, misunderstood or poohpoohed as overkill. Yet the rushing and upward evolution of the craft could not be held back. The reasons are many but high on the list must be counted the influx into the profession of young and motivated men and women, many with college educations or experience, during the early '70s. They came asking questions and demanding useful answers; they came seeking a challenging and rewarding

career, they came from the other professions of paper and circuitry and mind-games hoping to find something concrete and timeless. Many "oldtimers" were surprised and confused, and some even frightened at the swelling ranks of these galloping hotshots, youngsters from outside the fold of father-to-son businesses. But some of those old-timers smiled and opened their tool kits; and more than a few of the best showed the youngsters amazing things about tuning, touch and tone; and they revealed other, darker secrets about the mystical piano. The young soaked it up, ran with the ball, grew older and steadier, and in some ways are now teaching their elders. They have taken their rightful place.

When expectations of practitioners rise, so do those of the customer. Today's bi-yearly tuning customer who has been trained either overtly or unwittingly to expect solid tunings will never be satisfied with the reckless and shoddy work of bad tuners. Owners of fine grand pianos who are used to fine tone and touch, and have found a technician who can consistently deliver, are not about to let their fingers do the walking in search of cheaper work. Prospective rebuilding customers, after having had a session with a competent rebuilder about what is wrong with their piano and what is necessary to make it right, very rarely seek the services of less knowledgable and less skilled technicians who promise quality at half the cost. All that has been said thus far indicates positive directions and industry successes for piano technicians. Still, the sun but shines brightly on some object and a shadow is cast. There are some shadows.

THE

"SAMENESS"

SYNDROME

Let us suppose for a moment that through intense training, industry involvement, and even a kind of association "screening", the natural talents and skill levels along with the professionalism and people skills of all tuner-technicians became fine-tuned in the extreme? That is, apart from the natural differences between people that cannot be changed, all technicians became indistinguishable from one another, clones if you will, Given this, the piano customer has but to seek technical services by price only, and lowest price wins, Strange as it seems, and after all our talk about how quality breeds quality which in turn commands the highest incomes, a price war must ensue as the natural and logical end. This scenerio has been played out countless times in the worlds of industry, politics and education. To a degree this must be called competition, albeit a specialcase sort. And it has become noticeable in the world of piano technology as tunings more and more resemble

each other than not, as techniques and beliefs regarding tone, touch, and restorative procedures are agreed upon and duplicated by craftsman of the fold. This trend is inexorable and encompassing, yet it is necessary; those technicians who wish to stay in the communal groove will continue to hold meetings, read the Journal, read woodworking mags and anything else that will help them to be the best they can be. But as all grow toward a sort of crowning ideal, the challenge will be how to retain an artistic individuality in a realm moving towards a splendid sameness.

THE ARTISTIC FACTOR

There are several responses here, but first a look at one specific component of the concept of art. Art and the artist are not clearly defined terms; the realities or perceptions of both are highly subjective and exist at every strata of human experience. But there exists something else too, something inherent that cannot be seriously argued against, and that is, no matter what else can be said about

the inscrutable artistic process, it is uniquely a personal and human and usually sensuous expression of an idea. In its extreme, artistic expression enjoys the widest possible latitude from one artist to another, though they labor in the same field. Hence painters, writers, actors, composers, musicians and the like are able to attain in the perception of the public a unique standing which is virtually unassailable by anyone else. "Nobody played the broad and sweeping romantic pieces with the soul of Horowitz," they say; or plays jazz with the elegance of George Shearing, or brings such a pristine and uncomplicated voice to folk-pop as does Judy Collins. "Give me these people," they holler. And ditto for products; "Theres nothing like a Harley-Davidson" (even the Japanese agree), or like an IBM computer, or like a Steinway. But when, either in reality or perception only something else is like a Harley, IBM or Steinway, these companies lose some market share and it may be considerable.

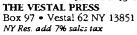
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But if the Horowitzes and Shearings and Collinses were to become worth, even in their excellence, a dime a dozen—that is, interchangeable with any number of others in their fields—individual popularity would plummet along with earnings. And all this is part of a comprehensive economic concept called supply and demand: When the supply (even quality supply) is high, the demand might also be high, but the selling price must necessarily fall. What would the value of gold be if huge chunks of it could be found in everyone's back yard?

Moreover, where sameness rules-and again, even quality sameness-certain advertising gimmicks and claims, along with cunning forces of personality are brought to bear in order to persuade the customer that one product service, or performer actually does have an edge over another even if not so. That is, the industry begins moving in directions of psychological conditioning, perception alteration, and powers of personality to make sales rather than relying on uniqueness or innovation and true product enhancement. Hence cars and jeans and nutritional foods must be sold through appeals to sexual superiority, or yuppie identification, or sensible senior-citizenship.

Now as to these two concepts—the tendency toward wide-spread sameness of product or service, and the resultant tendency to sell these products or services primarily through persuasion—we in the fields of piano manufacturing, selling, and servicing are hardly immune. So how does one stand out from the crowd in unique artistry? Good question.

One thing is sure; seeking a unique competitive edge through phoniness is not the answer. The tuner who tells his customer that he has hit on the one and only scientific tuning, and no one else knows of it. The rebuilder boasting that she has redesigned the Steinway scale, belly and action to perform the way Steinway never even dreamed of. The technician-voicer who has thrilled the great players with his uncanny, God-gifted sense of tone. But he never met these

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pianists, nor can he voice a piano. Enough. We have all run into these quasi-scientists and *artistes*.

WHERE THE EDGE IS

Before we get into the positive things that one can do to retain or develop individuality, let's first look briefly at the state of the art of tunertechnicians. Presently we are not even close to offering similar if not exact services and products of highest quality, although, as mentioned earlier, there is movement in that direction. The samplings, of course, vary in certain regions of the country, but there exist broad differences in the talents, knowledge, skills, and professionalism from one practitioner to another. Relatively, there can be found only a handful of truly capable grand piano technicians in any locale who can tune solidly. To be able to tune a firm unison is the most important skill a tuner can have, and relatively few have it. Next, to understand the essence of fine tone and how to bring it out in the grand piano is the great backup to solid tuning. With these two arts in operation the grand piano technician will easily cover minor deficiencies which might exist in temperament setting or action regulation. Those who excel at this work bring a sense of relief and joy to their clients, and they are in demand and able to charge well for their work. Hence, they are considered unique and artistic—they have an edge. And until (and if) "sameness" one day rules, they will continue to have an edge.

THE TALENT FACTOR

Secondly, art and artistry imply the existences of a foundational talent—the raw stuff, the cards one is dealt in life some might say. Skills are merely the structures built upon that foundation. Although the latitude for

artistic expression through piano technology is not as wide as in "purer" art forms, it is nonetheless present; and to the extent it exists only those with native talent will be able to hone the skills required to master the grand piano. Any view that suggests that this craft is simply a trade, as is bricklaying, has missed the point entirely. This is not difficult to see—pianists require raw talent first, the skills follow with practice and dedication. Ditto for piano technicians.

PIANO SALES: A FUNCTION OF TALENT AND OPPORTUNITY

And while on this subject of innate and wired talent, another idea regarding the sales of grand pianos logically follows. Pianists, like all real musicians, are born everyday—they emerge from the womb tiny and helpless but with latent tendencies for making music. They are not manufactured by society or education, although it is critical that they be guided by these outside forces to discover themselves. And someday they must own grand pianos. They must. Thus, short of wrenching upheavals in economies, politics, and national culture, the existence of the grand piano is naturally assured. That the industry is experiencing a shakeout seems unquestionable, probably because in the past grand piano sales were inordinately and unnaturally high; that is, not based on the true demand of real and turned-on pianists. Moreover, as the population growth slows to zero-growth, fewer pianists, or painters, or singers are born everyday.

But one of the inimical reasons for declining or flat sales lies in the unavailable or poor guidance given to budding artists of all kinds. For piano students the road to achievement is uphill, narrow and rough, and receives scant applause from American society at large; but for those young

people interested in sports or other high profile extracurricular activities more easily and inexpensively attainable, the road is wide, smooth, downhill, and lined with cheering throngs. Anyone, old or young, who has had his or her innate musical or artistic leanings ignored, misunderstood, counted as meaningless, or allowed to wither on the vine due to lack of guidance, opportunity or resources must be counted as a tragic victim of our system. It is not too strong to suggest that a natural and vibrant part of such a victim's personality has been murdered. There is no question that such spiritual carnage exists, and equally no question that such artistic disease and death means lost sales. At any rate, there is operating a sort of "natural selection" in the population as a whole in which can always be found real musicians, real pianists, and real technicians.

THE PROFESSIONALISM FACTOR

So, for the time being, those technicians with more native talent and sharper skills stand out from the crowd. But knowing what to do with a piano is only half the battle: convincing clients of that fact is the other half. Professionalism is an all encompassing concept, but here again, like talent, it too rests on a foundation. There are two critical personality components which are the bedrock of professionalism: confidence and command. If you haven't already noticed this, stay alert and you will. When a piano rebuilder walks into a person's home and asks for several thousand dollars in exchange for a restored piano, what do you think sells the job? Whether the client knows it or not (and most of the time they know it), he is searching that rebuilder, scrutinized his face, eyes, body language, use of the spoken language, and more. He looks for a sense of something under the surface. He must perceive that that rebuilder has not only great confidence in

himself, but that he is in command of the multifarious technical aspects of the job.

Now confidence and command must come through subtlety and in the power of the presentation. Many go wrong here in thinking that these characteristics can be acted out, or put on as a suit of clothes as the situation calls for. No, they are natural fruits grown on a healthy tree which has been nurtured in the fertile soils of technical training and experience, and people training and experience. Individual styles are fine (unavoidable, actually), but whether one looks like an aging hippie or a trim MBA, the steadiness of rock-solid confidence and authority must be perceived as a generating force. Clients love to feel the power of this force, and if they don't, you simply don't get the job.

THE PIANO-TECHNOLOGY-

AS-ART FACTOR

The artistic and unique nature of this work must be stressed. Clients want to hear that the final rebuild or action overhaul exceeds the sum of its parts; that in the restorative process the hammers, boards and blocks are but a means to a larger end. They want to hear tone and touch verbalized in poetic form, about warm and round tones, and fluid actions. They want to be convinced of something which already pulls at their hearts that this piano work is essentially philosophic rather than mechanistic in nature. All of us have had dealings with flat-faceted mechanics and repair persons and digital mentalities—they continue to be useful or hurtful as the case might be, but they also tend to be uninspired and unplugged from the currents of artistic expression. Piano clients, especially grand piano clients, generally do not pay large sums of money to flat-faceted personalities. Having a piano restored in part or full is an emotional experience for the customer, but they don't want to be alone in this. They want to enter into

an emotional relationship with "their" technician.

So then, when these ingredients—high technical proficiency, confidence, authority, and artistic inspiration come together, the client will be mentally and emotionally sold. They may not have the money, but they cannot say that you didn't have the goods.

WHAT DO YOU HAVE TO ADD?

With all that has been said in this series, I am amazed at how much is yet to say. But even if I could, I don't intend to say it all. You have something to add regarding shop economics, shop set-ups, and artistic philosophy. Why not tell us about it. For starters, consider the subject of shop set-ups:

- Large or small, how do you think the shop should be most efficiently arranged, stocked, and run?
- •Workbenches. Some of you love your benches. Why?
- How about storage, both tool and parts? Cabinets are neater and open shelves sometimes a disaster.

We are not necessarily looking for comprehensive articles here, just bite-size contributions, preferably with photos or drawings. Send contributions to Jim Harvey. Jim may forward some of the stuff on to me, or we may discuss it via Ma Bell. Let's hear from you! This is your Journal.

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on-the-job training at the Aspen Music
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EVENTS COMIN



The Tuner Technician:

Business Sales Person

Wally Meissner, RTT Twin Cities Chapter

ave you ever wondered why some technicians are so much more successful than others? Or have you been puzzled by the fact that some are always busy while you have to scrounge around to keep afloat? And why in some cases these "successful" technicians may not even be as good "technically" as you are, and yet they remain very busy?

The answer to these questions is that being a successful piano tuner/technician is much more than being a good tuner/technician. You must be an equally good business person and sales person as well as a technician. Realizing that the servicing and caring for pianos is a business and that people must be sold on the importance of regular maintenance is a beginning step toward developing a successful business.

You must like people and get along well with them to conduct such a business. You should sell the customer on regular servicing of their instrument and, before you leave, you should agree on a future month when it should be serviced again. Make them aware that you will be contacting them at that time to schedule another appointment. In order to do this, you should keep very good records of each customer and their piano so you can follow up on rescheduling. Record keeping is an extremely important part of your service business. If you plan to wait for the customer to contact you, you may starve to death first!

Along with keeping records, you must have a price list for the many various jobs that may need to be done. When a customer asks, "How much will that job cost?" they do not

want to hear hesitation and indecision. That indicates lack or organization and you may lose the job right there.

When you set up your price list, keep in mind that you are a professional. You must keep up with inflation. A good business must make a *profit*—that means more than just staying even with inflation. A business cannot be of service to people if in a few years it goes out of business because it charged too little for its service. This writer's experience has been that most tuner/technicians charge too little for their services. They have many excuses for this such as, "I'm trying to hold down inflation"; or "I don't need that much money now because my spouse works and our kids are grown up"; or "I just do it part-time." Remember that many people are doing this full-time and many do not have spouses who get benefits, so their benefits must be paid out of the gross income. This writer has never had a plumber, electrician or auto mechanic, doctor or dentist give him a discount because they didn't need the money. When you sell items (pianos, humidity control systems) you must mark the price up the normal amount plus installation and other costs. To do less is unfair business practice. You must feel comfortable with what you charge and make sure that you're worth every dime. Make your customer know that, too. This writer has often told customers that he may not be the cheapest—if fact he may be the most expensive but he tries to be the best in the business. Is that being egotistical? Not when you back it up with your work and your reputation.

This writer has done some, research on tuning prices over the years. If you want to check up on

yourself to see if you're keeping up or lagging behind, check with your public library and find out the inflation rate over the years. This writer took the year 1972 and the tuning price and computed the figures to the present time. This helps you to at least keep the tuning price up with inflation. Generally speaking, it is more than three times what it was in 1972. How do you stack up?

It stands to reason that a good tuner/technician must know pianos well. Becoming a member of the Piano Technician's Guild and attending local chapter meetings are certainly great ways to stay abreast of the new developments in the field as well as learning new techniques. However, how many of you have taken courses and seminars in business training, techniques, record keeping and phone etiquette? These skills are equally important and yet are oftentimes neglected. There are many good books on the market on these subjects, and nearly every community college or technical college has courses and seminars for people in small business to help them with every subject mentioned above. The Small Business Administration (SBA) also has counseling available and you can get free counseling from a group of SBA retired executives called SCORE.

A good tuner/technician must also be a great sales person. YOU MUST SELL YOURSELF TO YOUR CUSTOMERS AND THEN SELL YOUR SERVICE. You should gain their confidence and trust in you by being honest and straightforward in your dealings with them. Be sure they know you want to make their piano be "all that it can be" — if they are

story continues —page 36



Ron Berry, RTT Chairman, International Relations Committee

SPEECH FROM OLIVER CHANG PRESIDENT TAIPEI PIANO TUNER ASSOCIATION

t is a pleasure to participate in this great international piano technicians symposium. On this wonderful occasion not only can we make friends who are from many places in the world, but we learn from and imitate one another, so that our friendship and piano tuning techniques may be therefore enhanced. I am deeply convinced it is because of our commitment to maintain pianos that the high quality of piano music may be continuously performed by musicians, and the beautiful sound of pianos will keep ringing in the universe forever.

It is also a great privilege and honor to assume the Presidency of the Taipei Piano Technician's Association this year.

Hopefully, you may gain some ideas about our condition in Taiwan and be encouraged to give us insightful suggestions and input so that we may improve in the future

THE PAST & PRESENT TECHNICIAN'S SITUATION IN TAIWAN

Our technicians' association was organized in 1976. Although the history is not long, to recruit new members is one of the major tasks in our association. Because of our effort, each month we have new members join. Currently, our association has 439 members. The organization of our association is as follows: the annual assembly meeting elects the Board of Trustees (three year term), and the Board of Trustees elects three members from the board to form the executive committee, which carries out the tasks assigned by the board. These three executives take turns as president of the association.

Since we have no specific technicians' school in Taiwan to provide a training program, technicians will serve as an apprentice taught by a master. The association will provide different workshops and levels of discipline for members to demonstrate and imitate their techniques.

Plans are beginning to come together for the 8th IAPBT meeting in France in 1993. We are trying to work out a meeting with the British Pianoforte Tuners Association on the same trip. We would join the Europiano conference and add a day of strictly IAPBT activities. The French Association is planning 6 days for the Europiano conference and will include visits to research facilities in Paris and Le Mans and a piano factory in Ales. They are planning ample time for sightseeing as well. This will take place in the middle of May 1993, so start saving now. We will keep you informed as the details firm up.

This month we have the next installment of the speeches from Seoul. It is from Oliver Chang, President of the Taipei Piano Tuner Association. We also have a letter from V. Chastnikh, Vice President of the Russian Association of Piano Craftsmen, which explains a little about their association and the situation in Russia (which I am sure is changing daily).

Each program sets up a training target and a theme for each participant to sharpen his or her skill. Beginning this year, the association has organized several short-term training programs to meet the needs of different levels. The training program is ten hours per unit. Each participant is individually instructed by a senior experienced technician. Since 1979, our association has been commissioned by the government to hold an annual license examination for the learning apprentice. Those who pass the exam will be officially recognized in this field, by the government. This is a very important issue to our association, as it provides: 1) self recognition and esteem for a licensed technician, 2) a learner with an objective goal to study and learn, 3) a high public service standard for the society.

In order to increase the service opportunities for our members, our association has to educate and remind the public to keep their pianos tuned at least twice a year. Through the mass media, we advocate to piano owners the importance of regular tuning maintenance. That's another job our association does for the members.

Today, the population of Taiwan is about twenty million. Monthly, piano sales average three thousand and make up the annual sales to be more than thirty thousand. Imported piano sales share half of the total sales with those made in Taiwan. This kind of purchasing capability is

because the musical phenomena is built up due to the living standards increasing. Letting children learn music now has become fashionable.

About three years ago, because of the openness of the Taiwan government which allows all kinds of pianos to be imported to Taiwan, (including those from Communist countries) the import tariff duty was decreased from 50% to 10%. You can now find all kinds of imported pianos in Taiwan. Unfortunately, due to the humid weather in Taiwan many imported pianos suffer. Even the tuning pins tighten after a few months of use. Therefore, piano technicians have another new challenge which is to keep those imported pianos in good shape. For this reason, the importance of piano technicians is significantly increased and their position is widely ascertained and acknowledged. The producer of a piano creates only the product, but we, the technicians must maintain it.

In the present situation each individual technician can tune two to three pianos daily. The length of working hours for tuning one piano is about two hours, which includes the traveling time. In the city, because of heavy traffic, it take longer to travel, causing inefficiency. However, generally speaking, this profession produces a reasonably fair income.

THE FUTURE PERSPECTIVES

As a piano technician, I have two perspectives to share. To my own association, I have a vision: I'd like to see more people, especially the handicapped, be trained and take this profession. The first reason is personal. My original master who taught me this tuning skill, was my uncle, my mother's younger brother, Rev. Sien-Tser Shin. He is blind but he is a very patient and skillful man. I will always be grateful to him. The second reason is the practical need of the handicapped. Many of them do not have any skills to survive as there is little opportunity provided. Therefore, they are always despised by society. Why not train someone who is handicapped, if they have good listening skills, so he/she can be independent financially and a benefit to society.

Another matter I would like to mention here is about the increasing popularity of the electronic music and the so-called "computer music" in Taiwan society. I have been asked the same question many times: "Is it possible that the piano will be replaced by the electronic music instrument in the future?"

Since the early 1950s, because of electronic inventions, improvement and development, musical instruments likewise have been improved, developed and even computerized. From the Western to the Eastern world, from music academic studies to music teaching and creation, the electronic musical instruments are more popular and tentatively dominating a major part in the field of music

performance. Particularly the computer which not only helps create a variety of music but also accomplishes "Repertoire International de la Literature Musicale" (RILM) which tremendously increases the speed of exchanging musical information and widens the musical spectrum. It also helps music teaching in many ways, from the primary to the professional.

The electronic or computer music has become part of the curriculum for college students majoring in music. We shall not have to wait too long for the entire music teaching system including the high school and primary school levels and the music writing method to be renovated. Now, do we have to worry about the future of the traditional piano? My answer is: "NO!" The reason is simple.

If I make a comparison between the electronic music and the piano music, they are just like wine and water. They may look alike but are totally different and equally important. Piano music is like water, which is a gift of God, pure and natural, that is irreplaceable by electronic music, which is like wine.

To the international level, I have three proposals to make. First of all, a cultural exchange program which has been addressed by Mr. Ed Hilbert in the last (May 1991) IAPBT Newsletter is necessary. He suggested, "We could collect names of those people in each country who are willing to house someone at their homes for a two or threeweek visit. Then we would compile a list of those who would like to visit another country on such an exchange program. Such a program could make visits to other countries far less expensive by saving on hotel bills, while creating a situation where the person visiting would get a much truer picture of the culture in the country he/she is visiting. It would also give the hosts an insight into another culture by having the visitor stay with them. This program could let us see how people in other countries operate their piano business."

I personally would echo this idea to the council meeting for future study. Another proposal which I wouldmake is to establish a "Used-stamp Collection Center". When the effort of collecting the used stamps is successfully carried out, a big funding project can be built We then may appropriate this fund to support some of the world's best piano technicians to visit every member country in order to help and sharpen our skills.

The last proposal is the possibility of enhancing our international organization. Let's increase our support to the International Association of Piano Builders and Technicians. I mean, let the IAPBT be organized as other international organizations, such as the International Association of Y's Men's Clubs, Rotary Club International or Kiwanis Club International. We set up our own by-laws to function with the international affairs so that our professional relationship will be strengthened thereafter. Furthermore, the IAPBT may seek the possibility to establish "an international licensing system" providing quality exams every other year for technicians to improve their skills.

===...Chang Speech...continued

Anyone who passes the exams will be given an international honor licence certificate. This system can also be the model for the new member country to build up its system.

MY CONCLUSION

As a piano technician for years, I have a deep conviction which teaches me how to be a successful technician: that is, respect your job as a profession with decency. Not only do we need a high technique in order to provide good service for our customers, we need to improve our knowledge which includes the ability to absorb new ideas and enjoy piano music. More importantly, we need to be more assertive with what we are doing. In other words, we have to have positive thinking and the right attitude. If we look down upon ourselves, whom do we expect will respect us.

Robert Schuler, a very famous preacher in California, USA, once created a very famous slogan derived from the Book of Proverbs in the Bible. He says, "The me I see is the me I will be." It is very true. As piano technicians we have to respect our job first. When we have that kind of confidence then we can earn other's respect. We believe that whenever and wherever there is a piano recital or performance, we always play an important role. For without us, and our maintenance, no proper sound of music will be possible and or accurately brought out by the musician's hands.

Finally, let me present you a proverb: "Life is like a piano. What you get out of it depends on how you play it." For the future is in our own hands. May God bless all of us and this international conference. Let's have great success.

he Association of Piano Craftsmen was formed under unusual circumstances. In August 1990 there was a seminar in Moscow for specialists, servicing pianos and grand pianos. This seminar was organized with the help of Steinway and Sons (Hamburg) Company.

During that seminar there was a meeting and an agreement was reached to form this Associa-

tion.

Famous pianist, professor of Moscow Conservatory, Rudolf Richardovich Kerer was elected the president of this newly formed association.

The majority of the members of this association are doing tuning, voicing, repairs and restoration work on verticals and grands. Some members are doing other piano service related work.

As of today there are approximately 100 members, but their geography is very impressive. There are members from different regions: Baltic Republic; Caucasus (Armenia, Azerbajan, Georgia); Moldavia, Ural; Siberia and Middle Asia.

There are many more people waiting to join the association, but the "Politburo" doesn't want to try to force this process, because we are concerned about quality of their work, not the quantity.

The association started to work actively in music schools and concert halls. Our slogan — "to work where pianos are in need of professional service." but to achieve such a

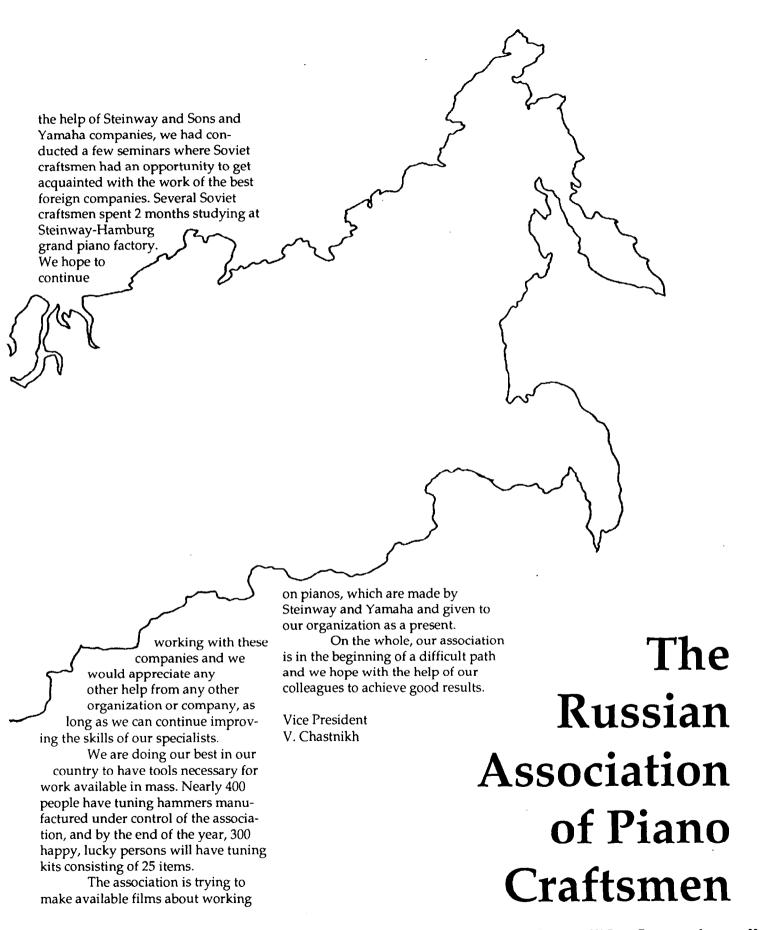
goal is no an easy task, because work conditions for a piano serviceman in our country are not that simple. We have lots of problems. There are no places to buy piano tools. Replacement parts and supplies are hard to obtain and are not available on the open (legal) market. The monthly salary of a piano technician, like the income of many workers in the cultural sector, is not very

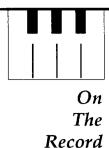
high. With to-day's inflation. I

day's inflation, I can say it's miserable:

200-300 rubles, equal to \$10 a month. To all these problems there is another one: in the USSR there is no professional piano technology school.

Because of all these problems we had decided on some directions for our association. In the past year, with





Brenda Dillon

The ABC's of

hat is the
National
Piano Foundation, why
does it exist, and

what does it do?

These are commonly asked questions about any organization, but one with piano in its name raises even more curiosity. Does NPF sell, play, service or recommend pianos to purchasers? A negative response to these queries raises even more puzzlement. If a piano foundation doesn't sell, play, service or promote pianos, what else is there?

Actually, NPF has a mission which it takes quite seriously. It also has a history which dates back to the early 1960s, when the piano manufacturers commissioned a study by the Harvard School of Business. Completed in September, 1961, the "Harvard Report" recommended that a piano foundation be formed to coordinate research and to stimulate new developments in piano instruction.

After reviewing these recommendations, the piano manufacturers established NPF as its educational arm and retained the services of Dr. Robert Pace from Columbia University as its

Educational Director. During Dr. Pace's tenure, NPF sponsored seminars, pedagogy sessions, musicianship and ensemble festivals and pre-school programs throughout the U.S.

When Dr. Pace resigned in June, 1977, to become director of the International Piano Teaching Foundation, Dr. Robert Steinbauer was appointed chairman of an Education Advisory Board for NPF. During Dr. Steinbauer's tenure (1977 to 1985), NPF expanded its program to include collegiate and private instruction, as well as a continuation of group piano seminars.

A long-range planning committee of piano manufacturers met in 1985 to revise NPF's mission. As a result of this revision, NPF chose a variety of different avenues and activities in order to fulfill its revised mission. This four-part mission statement clearly defines the role of NPF and its relationship to pianos.

TO EDUCATE THE
GENERAL PUBLIC OF THE
VALUE, BENEFIT &
ENJOYMENT OF
PLAYING THE PIANO

NPF capitalizes on every opportunity to publicize the benefits of playing piano to the general public. In addition to printed materials, we produce both radio and television public service announcements. We also distribute videos urging people of all ages to play the piano.

"The Possible Dream: Make It Come True" encourages adults to play the piano or to play again if they have stopped. It features adult students expressing their personal experiences and stressing that it's never too late to begin.

NPF's newest video. "A Friend For Life," features celebrities describing the impact playing the piano has had on their lives. Hosted by Dudley Moore, the video includes Oscar-winning actor Jack Lemmon, football star Marcus Allen, Senator Richard Lugar, actress Helen Slater (who recently appeared in the movie "City Slickers"), columnist William F. Buckley, Jr., rap star Young M.C., new commentator Charles Osgood, New York Times art critic Michael Kimmelman, entertainment reporter Army Archerd and Schroeder & Lucy from the "Peanuts" comic strip.

United Media Corporation, licensing agent for the "Peanuts"

characters, designed a delightful poster for National Piano Month, featuring Schroeder playing the piano and Snoopy dancing. The colorful poster stresses that playing the piano is fun.

A variety of brochures advise consumers on subjects like buying and caring for a piano, how to help children be successful with piano lessons and encouraging families to incorporate active music-making into their homes.

TO CONTRIBUTE TO THE PROFESSIONAL WELL-BEING OF THE TEACHING COMMUNITY

NPF introduces traveling libraries, available for rental at teacher's meetings. The libraries consist of overhead transparencies of selected pieces and a narrated audio cassette with performance highlights of each piece. Two recent libraries are "Music for the Adult Piano Student" and "Pupil Savers."

Videos and brochures are also available to teachers (and technicians and retailers) to use when speaking to local community groups about the importance of music. Titles include "Don't Miss The Magic," "The Importance of Piano Lessons in a Child's Development" and "Make a Home with Music."

TO SUPPORT THE MUSIC STUDY SUCCESS OF PIANO USERS

Although NPF does not serve as a teacher referral organization, we do distribute an MTNA brochure entitled "Choosing a Music Teacher." We also encourage callers to contact the president of their local piano teacher's association.

Two NPF brochures, "Piano and Your Preschooler" and "Piano in the Education of the Handicapped Child" offer information on music instruction for these children. We also distribute the "Circus Fun Folder"

which reinforces the fun of making music.

TO PROMOTE THE PRODUCTIVE INTERACTION AND COOPERATION OF ALL SEGMENTS OF THE MUSIC INDUSTRY

NPF actively supports networking by meeting several times a year with the executive directors of PTG, NAMM, MTNA, RSMDA, MPA and NCPP. In addition to each organization having an opportunity to communicate its latest goals and projects, the organizations reciprocally publicize each other's events, publications, etc.

An NPF product actively endorsed by all the networking organizations is the Piano Marketing Essentials Kit. This how-to kit is designed to help promote the piano and the benefits of music study. It contains dozens of creative and practical ideas for special events, community programs and media relations. It also includes advertising slicks, public service announcements and story ideas for both print and broadcast media.

WHAT IS THE NATIONAL PIANO FOUNDATION, WHY DOES IT EXIST AND WHAT DOES IT DO?

The dictionary defines foundation as "The basis on which a thing stands, is founded or is supported; an underlying support." The National Piano Foundation is pleased to have the verbs educate, contribute and support in its mission statement. These are the reasons NPF exists and what it strives to do.

NPF values the support and friendship with PTG and we look forward to many years of mutual endeavors.

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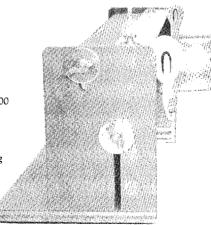
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NPF New Video Boasts some All-Star Hosts

Dudley Moore, Jack Lemmon, Charles Osgood, Marcus Allen, William F. Buckley, Jr., Senator Richard Lugar, Young M. C., PEANUTS' Schroeder, Army Archerd, Helen Slater and art critic Michael Kimmelman make up the all-star cast of "A Friend For Life," a new video release by the National Piano Foundation (NPF).

To find out more about "A Friend For Life," contact the National Piano Foundation, 4020 McEwen, Suite 105, Dallas, Texas, 75244-5019, (214) 233-9107. The NPF also publishes free brochures which are available by sending a self-

addressed, stamped number 10 envelope for each brochure to the same address. Indicate which brochures you would like. These include: "So You've Always Wanted To Play the Piano," "The Possible Dream," "How to Help Your Child Succeed at the Piano," "Piano and Your Preschooler," "Piano in the Education of the a Handicapped Child," "Consumer's Guide to Buying a Piano," "Your Piano and its Proper Care" or "Make a home with Music."

The NPF is a non-profit educational organization dedicated to promoting the benefits of piano playing and music participation.

...A New Face On The Scene... continued from page 22

taught by William Braid White in his book, Piano Tuning and Allied Arts. My teacher felt that by tuning in this fashion, all fourths were tuned up and all fifths were tuned down, and as a result, the student had to pass through a pure interval to reach the tempered one. Example: To tune F below middle C one had to pass through a pure C-F fifth to get to a narrowed fifth. My teacher cherished those pure intervals, and he wanted us to listen to them before we narrowed or expanded them. Dr. White, on the other hand, wanted the student to temper the interval in the process of "stetting the pin". Tune G below C; bring up the G to pure, then settle it as you temper it wide.

George Defebaugh taught a temperament for years that was designed to allow tuners to make a transition from fourths and fifths to tuning with sixths and thirds. My friend Norman Neblett showed me the first real sixth and thirds temperament that I had ever seen. In my student days, the idea of tuning by any other means than fourths and fifths was unthinkable. I lived in this blissful ignorance for about ten years. When I

began to move about the country as I got involved in Guild activities, I met other very successful tuners who used other methods and tuning techniques. It was a revelation. My opinion now is that one should learn more than one way to set a temperament. If you tune with fourths and fifths, then learn to set a sixth and thirds temperament, and vice versa. Also, there are many others out there that you can look up and try. To do so is very liberating. Learning another temperament forces you to listen to and estimate the speed of intervals that you formerly used only as "check" intervals. It is a different ball game for a while, but it does produce the ability to be flexible and it does worlds of good for your confidence. If you bore easily at the piano, as Jim Harvey does, a change of temperament can make it interesting for a while.

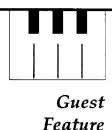
I look forward to writing for these pages for a time. If you would like to challenge me on an opinion, make a correction or offer some help, please write. I'm in the directory.

Economic— Affairs... continued from page 29

willing to pay for it. Let them know that pianos need regulation and adjustments from time to time and that you will be making recommendations to continue to help their piano reach its potential. This writer believes that one of the best ways to get more business is to evaluate every piano and give a copy of the evaluation to the customer listing all the things that could be done to make it be a better instrument. This will definitely increase your business and make people realize that you really do care about their piano.

Be sure to treat your customers well. Compliment them on their home or piano (if you can) — but be truthful and honest about it. Assure them that you will contact them when the piano should be serviced again.

If you have the skills of a good technician but are lacking in the business and sales end of this service, by all means seek some help through your local colleges, book stores, etc. Go to seminars and become active in the local Chamber of Commerce. Go to some positive mental attitude meetings and be with other successful people. That winning attitude can rub off on you. Every day before this writer goes out to tune, he asks God to make him the very best tuner, business person and sales person he can be that day, and to be fair and honest in all his dealings, and to make every piano be a little bit better when he leaves than it was when he came. If you have a good balance of tuner/ technician skills, business skills and sales skills, there is no doubt that with a loving and caring attitude toward your customers and their pianos that you, too, will be a successful tuner/ technician.



Putting the "Grand" Back Into the Piano

Sam Powell, RTT Washington D.C. Chapter

t often amazes me to see what I perceived as my greatest failures come back later in some positive way. Such was the case with an old 6'2' Knabe grand piano, purchased wholesale from Wendell Eaton back in 1978 and rebuilt by me in 1979. Dating back to 1885, it had a gorgeous rosewood case with a 3/4 plate and an exposed pinblock. It also had an old decrepit action with breaking parts and stickers instead of capstan screws. I was not new to the piano business then. I had enough experience and courage (or foolishness) to re-block. restring, and refinish the piano; then install a new Clemson action in it. When I finished, the sound of the piano was very pretty but very, very weak. The impact tone died too soon and the resonant tone was too soft in comparison to the impact tone. If I kept the hammers voiced down, it had a very pleasant tone, but accomplished pianists complained that they had to work too hard to play it. The action weighed off at roughly 50 grams downweight, so the action was,

I moved the piano into my living room rather than sell it, as I didn't feel truly proud of the piano the way it was and didn't feel I could honestly promote it to prospective customers. My wife was horrified at the size of the piano, but very quickly fell in love with the gorgeous furniture and began redecorating the house around the Victorian case. The kids, who were just beginning piano students at the time, grew to like it. I was trapped in a bad marriage with this piano. I couldn't get rid of it, and yet I didn't have the one thing a good piano man should have for himself: a piano he loves. I would just have to do something to improve this piano.

objectively speaking, not hard to play.

I need to point out that the soundboard was a good board from all objective tests. There was plenty of crown, and only a moderate amount of cracking in the board when it was repaired. In fact, the bearing was acceptable without lowering the plate. Over the next ten years the piano became my experimental mule. Everything new I learned at seminars got tried out on my Knabe. Little by little the piano did improve to where it was a very tolerable instrument. Then recently I tried something new, which yielded such dramatic results that I feel compelled to share the information.

A DISCOVERY IS MADE

One day, while servicing the piano (yes piano tuners do tune their own pianos), I discovered that one of the plate bolts was stripped out. I put a longer one in, and it stripped too. Now this piano has seventeen plate rim bolts, and the lack of one shouldn't be too big a concern. But I was annoyed at this and finally drilled all the way down through the case, counter-bored the bottom edge, and installed a 3/8" x 10" long cap screw with a nut and washer on the bottom. The problem with this set-up of course, is that the nut tends to work loose with expansion and contraction of the wood. For my purposes, I was willing to watch this on my own piano. I would not choose to leave this in a customer's piano, however. What surprised me was a perceived improvement in the tone and response of the piano.

One day I called my daughter to the piano and had her play the last

movement of Beethoven's "Moonlight Sonata" (a loud, aggressive piece that goes all over the piano), while I felt the rim of the case. While the piano was being played, the rim where the long bolt was installed vibrated in my hand, while the stock arrangement felt lifeless to the touch. Something significant had happened here. I jumped under the piano and stared up at the underside while my daughter played on. The piano sounded truly beautiful from directly below it.

The soundboard ribs on this piano are very large with a very short taper, just like a Mason and Hamlin. Why didn't it sound like a Mason and Hamlin? My eye moved to the inner rim. I was astonished that I had never seen this in detail before. While the outer rim is what we would call modern construction, the inner rim was built up of a number of individual blocks layered horizontally like building blocks or like a layer cake. What's more, the inner rim was not continuous, but broken, with many back beams in a criss-cross configuration. Where had I seen this before? It looked very similar to the spider under the Mason and Hamlin. It all fit now: the heavy ribs, and the needed bracing under the piano to resist the extra energy that these ribs will try to transfer to the case. Closer inspection revealed that all the joints on my Knabe were shrunk and no longer really tight. Obviously, this design was a forerunner to the Mason and Hamlin design, and Mason and Hamlin solved the weakness of the Knabe design by making it metal instead of wood. Of course the bent, continuous solid maple inner rim on the Mason and Hamlin helps too. That was nice for Mason and Hamlin and all those who owned this fine piano, but I had an old Knabe in my living

room, and the focus had to shift back to that. The problem of poor response and power might lie in this piano case's inability to resist the transfer of movement into it, thus sapping the soundboard of its acoustical energy.

THE REAL WORK BEGINS

The first thing I did was drill down through the case for every plate bolt and replace the 3" lag screw with a cap screw and nut. This cap screw arrangement was intended to be temporary from the start. For now I was investigating the effects of pulling the inner rim blocks back together vertically. By the time I got 15 of the 17 rim screws replaced with 10" cap screws, the personality of the piano had been altered drastically. Instead of a "booming" style of bass tone, the bass had a clear, focused tone, with a very long and steady decay. The treble, all the way to note 88, had a clear ring, with a decay to equal many modern pianos. I was very, very surprised and happy with the results. But I wasn't done yet. I began drilling up through the inner rim of the case from below and dowelling all the individual case blocks together with 1/2' dowels. Each time I added a dowel, I perceived an improvement in tone. By the time I was finished I had placed a dowel between each case screw.

Next I tackled back beams and cross braces. It was clear that there had been some movement in the case over the years, as there was separation between the end of the back beams and where they butted against the outer rim at their ends. I decided to squeeze together the separations between back beam and outer rim somewhat before stabilizing the joint. I put large pipe clamps on the rim to apply pressure while doweling the inner rim back together.

To stabilize the joints between the back posts and the inner rim I again used dowels. In the few places I could, I pinned the two parts together with dowels run in 90 degrees to the joint in the wood. I packed the hole with yellow glue and watched with satisfaction as glue squeezed out from joints all around the area as the dowel was driven home. For those joints that did not lend themselves to a normal doweling process, I made the dowel function as a spline going up the joint itself between the two parts. The trick here was to keep the drill bit following the joint and not to wander fully into one part or the other. Of course I have no way to prove that I did keep the hole in the seam, but I tried my best by eye to keep the bit perfectly vertical as it entered the seam. Before driving the dowel in, I worked glue into all the separated surfaces around the joint, and then filled the hole with yellow glue. The pressure of driving the dowel into the joint forced glue into all the openings around the joint and then forced the separations on the other side of the beam closed, which in effect clamped all the looseness together while the glue set. The result was a joint that was far tighter than the original.

THE RESULTS

Each time I made one of these joints tight between the inner rim and the back posts, the tone improved. It sounded more quickly; it resonated longer on the resonant tone, and the difference between the resonant tone and the attack tone was not as great. As a further experiment, I brightened up the hammers with Super Tone(TM) applied to the strike point, and discovered that the piano could now handle the hard hammers in a way that it couldn't before. In fact, with hard hammers, it had a tone much like a concert instrument. It was actually too powerful for my living room. I then voiced it back down somewhat to suit my taste.

LESSONS LEARNED

This work on the case joints has made the piano not merely acceptable but a true joy to play and listen to. The point in sharing this with you is not to get you to run out and dowel together the back of each old piano you have in your clientele: rather to increase your understanding of the importance of a rigid case structure to the effective functioning of the soundboard. What can we conclude here?

• First and most obvious is that if the joints in the back of a piano are loose, the soundboard cannot function properly, no matter how good the board is and no matter how well the action is working. It will do no good to replace the board in a piano if the back structure is not sound. In fact, I would guess that more than one piano has had a new board installed when what it really needed was tighter back bracing.

 Second is that rib size and the case rigidity are directly related by design, and that you cannot change one without changing the other. Simply putting a Mason and Hamlin style board in a Steinway would not make it sound like a Mason and Hamlin. The larger rib on the soundboard produces a larger, darker tone only if the case has a stiffness to resist the energy that this large rib will try to transmit to the case. The case must reflect that energy back into the soundboard and not absorb it. This helps explain why longer pianos have fatter rims. There is not really much more tension on a 9' piano than on a 6' one, and yet the rims are always considerably thicker. Obviously the greater mass of the board needs a greater stiffness to reflect the greater energy back into the board and resist vibrating with the ribs.

•Third, the horizontal stiffness of the case is just as important as the vertical stiffness. The attack tone dies in a piano because the sound board is free to move up and down slightly and in doing so it absorbs the energy of the large vertical oscillations of the string, set up by the initial impact of the hammer. When the rib tries to flex up and down, the case sides try to move in and out at the bottom edge. The stiffer the case is in the horizontal plane, the longer will be the decay of the attack tone.

•Fourth, Mason and Hamlin's name for the spider under the case, "Occipital Tension Resonator", describes what it does. I always thought its function was just to keep the crown on the soundboard (which it does indeed do), but also see now its function as to stiffen the case and thus increase soundboard resonance.

• Fifth, the plate bolts around the rim of a grand piano do far *more* than just hold the string tension. They are an integral part of the piano's resonant structure, and need to be maintained by the technician. If you are not tightening the plate bolts on the pianos you service, you are not getting the best from them. If you find one stripped out (which will occur more often on modern imported instruments), then the customer needs to be

informed of this and arrangements made to fix it, at their cost. It is my belief that the tension created between the plate screws, the plate and the rim dowels (or soundboard caul in some pianos) is vital to the way the entire structure works together, and when the plate bolts are not forcing contact with the rim something is lost from the piano.

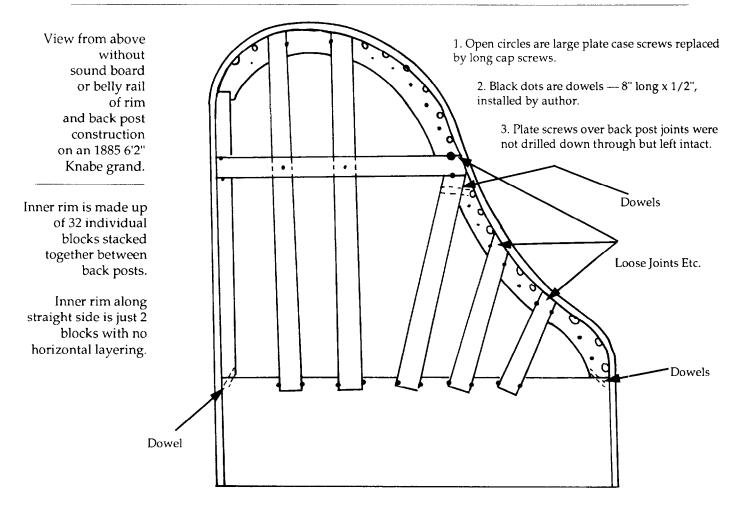
•The final conclusion I drew from this experience is that most of us have never heard the older instruments the way they sounded when they were new. I remember as a kid hearing old piano tuners say "they don't build them like they used to." At the time I just chalked this up to an old timer thinking nostalgically. Now I realize that he was probably right. If an old upright were to improve as dramatically with a tightened back structure as my old Knabe grand did, that would be some powerful old upright.

I am not finished with my old

piano yet. I am in the process of replacing the long cap screws around the rim of the plate with ten inch long, hardened steel lag screws. One at a time I am removing a cap screw, doweling the bottom of the hole with a 1" diameter hard maple dowel 3" long and drilling the dowel for the lag screw. The goal here is to reduce the loosening of the screws with seasonal changes. The reason for starting with cap screws was to pull the horizontal layers of the inner rim as tightly together as possible while I did all the other dowelling.

AN OPINION

At a class at the 1991 convention a well known seminar teacher said he would not rebuild these older style grands because of the problems with the cases coming apart. I respect his opinion and his right to make that



statement, but I think these old instruments are worth saving if the work is done to fix them correctly. They represent an important part of our musical heritage, and should not be thrown away or left to rot in some church basement or historical association waiting room. I think they have a beautiful tone all their own that is worth hearing once again.

Of course my next convention or seminar will yield some new idea that I will have to try out on my old Knabe, and my vision of what is possible will broaden further yet. One of the real benefits of having this instrument to play with has been the opportunity to watch my work age over time, and to see what was effective long term, and what was not.

I now think I'll never sell this piano. The wife loves it; the kids like it; I am growing very fond of it myself, and it has taught me a great deal about the piano over the years. Besides, how many people can say they have in their home a piano 106 years old that makes beautiful music like it did when it was new in 1885?



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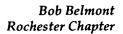


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[Editor's note: The author indicated in his cover letter that he was motivated to write this article after reading "Economics and the Piano Technician" by Nick Gravagne.

He has a different view of why the dual American economy exists, and wishes to share those views with the readership.-jh-]

he businessman carries scientific discoveries from the laboratory of the inventor to industrial plants, and transforms them into physical products that fill men's physical needs. By creating a mass market, he makes these products available to every income level. By using machines he increases the productivity of labor. By organizing human effort, he creates employment for countless professions.

All big businesses were once small or combinations of smaller businesses:

- •When Apple computer started in 1977 in a garage, the company's receipts were kept in a desk drawer. By 1980, when Apple went public, it had sales of 139 million¹.
- •If you are concerned that the "merger" (in reality a technology exchange) between Apple and IBM will monopolize the computer industry consider that personal computers account for only 14% of IBM's 69 billion dollars in revenues². (This can be akin to a piano technician pondering his market share of guitar repairs).
- •If you think that Ford Motor Company's chairman is overpaid consider his 1988 total compensation of 9.9 million³ against the 511 million shares of stock outstanding. That is less than a two cent "management fee"

per share or .05% (.00055) at the then \$36.44 price per share. He works cheap considering the three hundred and fifty thousand employees world wide he is also responsible for.

- •What does all this have to do with the piano technician's place in the economy? Plenty. A piano service business is local by its nature. How big is your marketplace? A 60 mile radius, with a thousand customers. Imagine your business with a customer list of 240 million people or the entire world, for that matter. What is the size of the industry you are in? The entire music industry's annual sales in the U.S. in 1989 was 3.7 billion of which 623.4 million of those sales were in acoustic pianos. (Can you buy two Boeing 747's for that?)
- •Where in time is the life cycle of your business? Businesses are born, grow, peak, decline, and yes, die. Look at a list of Dow Jones industrials from 1896 and you will see American Cotton Oil, Laclede gas, and U.S. Leather Preferred. Where are they now? Out there grazing with the dinosaurs. Music product as a percent age of American personal consump tion accounted for .104 percent⁴—an all-time low since 1950 when the American Music Conference started tabulating statistics.

Keeping some of these ideas in mind let us go to Mr. Gravagne's example of the two brothers, the engineer and the woodworker. First let us not underestimate the work involved in graduating from engineering, law, or finance school and the accompanying licensing, CPA, bar or medical exams. Then let's go to how much product volume the person will

affect. The engineer may affect tens of millions of dollars of product; the piano tuner servicing 400 pianos a year, each at a value of \$3000, will be responsible for 1.2 million dollars worth of product per year. How much innovation comes of all this? Is this maintenance work or new developments? Wendal Castle is a woodworker in a broad sense (commissioned to implement Steinway's #500,000 piano), but he is really a designer of art furniture.

What kind of business are we in? Piano technicians are in the fix-it business. By its nature it is a slow steady business in a *very small industry*.

THE DUAL ECONOMIC SYSTEM

We are not a capitalistic system any longer; we are a mixed economy. A mixed economy is ruled by pressure groups to extort some special privilege at one another's expense by an act of government. A businessman cannot force you to buy his product; his success depends on voluntary agreement of all those he deals with. A bureaucrat's success depends on political pull. A bureaucrat forces you to obey his decisions. You are part of the "free-market economy" in that your customers can buy your services, go somewhere else, or go without.

Yes, there is a dual economic system with two pay scales. This system however, is not "big" business vs. "small" business; it is business employment vs. state employment. Look at the post office or government employment, etc., and its pay scale

ratio to skill levels. Then look at the small-time self-employed or the bigtime self-employed and the taxes they pay for all of this. At 14% FICA and 28% federal taxes, plus sales, use and many others, it's no wonder any of us can survive the 40%-plus burden. American business has demonstrated the most spectacular achievements in the economic history of mankind and the reward they have received from our culture is the position of scapegoat for the evils of bureaucrats.

WHAT CAN THE SELF-EMPLOYED CRAFTSMAN DO ABOUT ALL THIS?

Start practicing self-responsibility. Don't give up your freedom for socalled "security" by looking to government to solve your problems. Wage a personal battle against any envy that you may hold for others. Dispense with the thought that your neighbor's material success is somehow a loss to you. Start producing for your own use: grow a garden, make presents for your family in your shop, repair your own car. There are many things you can do to enhance the quality of your life with your time and talents. Make a commitment to become independent and individualistic, if you are honest with your customers and do quality work it will be recognized and respected.

Piano technicians are in the fix-it business. By its nature it is a slow steady business in a very small industry.

- ¹Machine of the year: TIME magazine, January 3, 1983
- ² IBM annual report, 1990
- ³ Ford Motor Company annual report 1988
- ⁴ American Music Conference Report Musical Merchandise Review, July 1990

FOR FURTHER READING

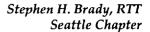
Economics In One Lesson by Henry Hazlitt

The Wealth Creators: An Entrepreneurial History of the United States by Gerald Gunderson Capitalism: The Unknown Ideal

Atlas Shrugged

The New Left: The Anti-Industrial Revolution By Ayn Rand







"Tuning"

by Owen Jorgensen Michigan State University Press 1991

Hardcover 798 pages \$65.00 + \$5 shipping & handling

The release of a new book in the field of piano tuning and technology is always cause for anticipation among piano technicians (let's face it: we just don't have all that many good books available), and when the author is Owen Jorgensen, the excitement is especially great. Professor Jorgensen is one of PTG's finest natural resources, a Registered Tuner-Technician who has also distinguished himself as a performer, a scholar, and a teacher. Author of two previous books on historical tuning, Tuning the Historical Temperaments by Ear (Northern Michigan University Press, 1977) and The Equal-Beating Temperaments (The Sunbury Press, 1981), Jorgensen has undoubtedly produced his finest work yet with this new volume.

The new book might better be called a "desk encyclopedia" of tuning than a mere book. Jorgensen has improved upon the readability of his first book considerably by choosing an 8 1/2" x 11" format for this one. This size, together with the book's nearly 800 pages, makes for a tome one must see and heft to appreciate. The tuning examples are printed on large, computer-generated staves, making them easy to read. For ease of use, the book lays open flat quite easily. Perhaps the most notable improvement in this

book over Jorgensen's first is the thorough documentation which accompanies the text. In most cases, he includes end notes which detail the sources of his information, and the bibliography at the end of the book is as extensive as any I've seen on the subject of piano tuning.

Tuning is arranged in 233 "sections", or short chapters, each of which treats a different topic or gives instructions for tuning a particular temperament. These sections include such diverse subjects as "Tuning Quasi-Equal Temperament in 1880 According to the Rules by C.A. Edwards", "Temperament Conditions Reported by Alexander Malcolm in 1721", and "How the Methods of Factory Tuners Changed in the Thirty-Six Years Since 1840." Jorgensen includes many temperaments not accounted for in his first two books, such as the Valotti, now popular among many fortepiano performers, and temperaments by Jean-Jacques Rousseau and George Frederick Handel, as well as a host of mid-tolate nineteenth century temperaments which approximated, but did not truly achieve, equal temperament. Acknowledging current trends in the field, Jorgensen includes electronic tuner settings for the historical temperaments. Although these may be of limited worth on modern pianos with their greater inharmonicity, they should be quite valuable to users of harpsichords and fortepianos. He concludes with instructions for an "experimental" method for aural tuning of equal temperament.

As in his first book, Jorgensen here bequests us with new, and rather startling insights. In *Tuning the Historical Temperaments by Ear*, he revealed that Bach's "Well-Tempered Clavier", dating from the early 18th

century, was probably not written for or performed in equal temperament, as generations of scholars and musicians had assumed. In Tuning, his thesis argument is that equal temperament was not commonly practiced or achieved even in the nineteenth century. He states: "After 1917, tempering became a skilled science based on universally accepted mathematical principles, and [different] professional tuners could temper with similar results", whereas "before 1917, tempering was an art based on a keen sense of color awareness for each individual chord on the piano." Jorgensen chooses 1917 as the advent of true scientific equal temperament because that was the year in which William Braid White published Modern Piano Tuning and Allied Arts, which for the first time instructed tuners to listen to the beats of the thirds and sixths, thus checking the accuracy and uniformity of their tempered fifths. Hence, in his first book Jorgensen coined the term "well temperament", for a certain class of early unrestricted temperaments, while in the present volume he introduces "Victorian temperament", to describe the results achieved by nineteenth century tuners who intended to tune—and believed they were tuning—equal temperament. "Victorian temperament" is defined as a class of well temperament which is closer to the ideals of equal temperament than were the early well temperaments.

One of the most enjoyable features of this book is the information it gives about our "heritage", so to speak, as tuners. Lesser-known historical figures of our profession from the nineteenth and early twentieth century such as Howard Willet Pyle, Edward Quincy Norton, and

W.A. Butterfield now assume their rightful place alongside more familiar names like Oliver Faust, J. Cree Fischer, and William Braid White. Especially engaging is the almost anecdotal quality of some sections, such as number 139, "A Special Warning in 1869" from John Geib's Tuning the Piano-Forte, which reads:

"Beware of itinerant pretenders in the art and mystery of tuning and repairing Piano-fortes. If a Pianoforte is much out of order... have it carefully packed in a Piano-box... and send it to a good Piano-maker to be thoroughly examined and repaired. The legs and pedal need not be sent."

Readers will also get a kick out of section 179, which includes the following quotation from a book by Daniel Spillane dating from 1893:

"The most expert and rapid tuners are men possessed of a highly excitable, nervous, and emotional temperament, verging on the border of insanity at times."

Any work as ambitious as *Tuning* would seem to be a large target for criticism; in fact, it is inconceivable that a book of this size and scope should contain no errors or weaknesses, but I find very little to complain about in this volume. The few "nits" I will attempt to pick here are insignificant when compared to the magnitude of what Jorgensen has accomplished.

First, although the bibliography is extensive, I was surprised to find no references to important modern works such as Mark Lindley's writings on historical temperaments, William Blood's "Well-tempering the Clavier: Five Methods" published in Early Music in 1979, and C.G. Klop's book, Harpsichord Tuning, all of which have been valuable to me in tuning harpsichords and fortepianos. On closer examination though, it seems that Jorgensen is emphasizing primary source materials rather than modern secondary sources (such as those just mentioned) in this bibliography, and

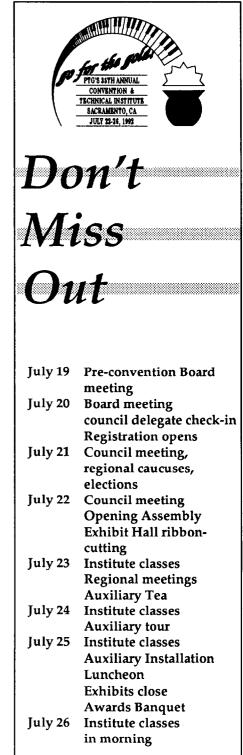
since you have to draw the line somewhere, I really can't argue with that decision.

My second minor point is that Jorgensen's tuning instructions tend to start with "C" rather than "A". I suspect that the original tuning instructions he quotes must have been based on "C", but today's musicians are much more inclined to use "A" as a tuning reference. In my experience with early music groups, most harpsichordists ask for A=415, and fortepianists often request A=430, A=432, or A=415, and I use "A" forks to establish the pitch. I have never had a harpsichordist or fortepianist ask for C=494 or for any "C" referenced pitch. It would be helpful from this standpoint to have tuning instructions converted to the "A" standard, although I realize it would be less work for me to calculate the "C" pitch equivalents and modify some "C" forks for these pitches than for Jorgensen to calculate and print "A" standard instructions for all these temperaments!

Finally, in Section 229 of the appendix, Jorgensen gives admirably clear, concise explanations of two important topics, namely inharmonicity and octave tuning. While his explanations are wellphrased and clear, his belief that inharmonicity is caused by string nodes having measurable length equal at least to the diameter of the string, is at odds with the theory held by most physicists today. The current theory as explained in virtually all modern acoustics texts-relates inharmonicity to the stiffness of the string (a function of not only diameter but also length) as a restoring force tending to make the vibrating string go back to a straight condition. The relationship between this stiffness and the tension on the string is also a factor. Since Jorgensen offers no documentation on this point, I think the theory must be considered questionable, even though it is a fairly common view among piano technicians.

Notwithstanding these few objections, I only wish I could convey in words what a fascinating, informa-

tive, and exhaustive book this is. It is by far the most complete and engaging history of piano tuning ever available, and a volume which belongs in the library of every serious tuner. At \$65, it's a bargain.



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PTC AUXILIARY EXCHANGE

Valentine's Day is still remembered as the day for love kisses! We all send them forth to those most deserving and to some most in need of warmth and affection. In a world which for me has been spinning faster and faster lately, I am truly grateful for a day set aside, so long ago, to demonstrate love and appreciation to those wonderful people we meet and work with. They help us cross the rough spots, haul us out of trouble and just make it easier to keep plodding on.

Our PTGA Board really deserves fields of flowers, to say nothing of Valentine bouquets. The are all working for the best interests of the Auxiliary and its membership. You can be proud of them and the many members who chair and labor on our various committees from bylaws to Fund Raising. Our two fabulous editors are also not to be forgotten. Our Auxiliary chapters and their officers and members deserve an arrow from Cupid, too. We need them and would be lost without all their effort and support.

Remember to send items to the Auxiliary Exchange Editor, Jennifer Reiter, and to Sue Speir, Newsletter Editor. Historic items or memorabilia go to Ginny Russell. Ginger Bryant can best be remembered by your support of the PTGA Scholarship Fund. I thought our dues notice from Barbara Fandrich, Treasurer, was a masterful piece in reminding us of our membership obligations. To show we still care we should please send our dues to Phyllis Tremper, our Vice President and Membership Chairman. None of us want to lose touch with one another and if some of us haven't sent our membership dues in yet, time is running perilously short.

Winter is still nipping toes and noses here in the East. We were working today in a church sanctuary that was icy cold, but by the time we reached the choir room, it had been warmed up for us and we did find that a kindness. Fuel oil is expensive and sanctuaries usually have high ceilings that eat up the BTUs so we understand but, Oh, how cozy is that choir room!

See you in wonderful, warm Sacramento in July!

Arlene M. Paetow, President

A LITTLE ABOUT VALENTINE'S DAY

The following was taken from "The New Book of Knowledge" (which goes to show you that the money forked out for encyclopedias for the kids DOES come in handy sometimes!)

February 14th is a special day for sweethearts. It was once thought to be the time of year when birds began to mate and a chubby little love god named Cupid aimed his arrows at the hearts of young men and women. Many people believed that their future happiness was connected with valentine festivities.

Valentine's Day is believed to have had its beginnings in a Roman

festival called the Lupercalia. The early Roman men often wore the names of the girls pinned on their sleeves, who were to be their partners during the Lupercalia. Even today we say that a man wears his heart on his sleeve when he shows his interest in a young lady. Sometimes, the couple exchanged presents. Ladies often received perfumed gloves or fine jewels. After the Lupercalia became a saint's day honoring Saint Valentine, some of the old customs were kept. It remained an important time for anyone looking for a mate. In the 17th century a hopeful maiden ate a hardboiled egg and pinned five bay leaves to her pillow before going to sleep on Valentine's Eve. She believed that this would make her dream of her future husband.

Later, people began to exchange valentine cards instead of presents. The Duke of Orleans is believed to have made the first valentine card. Imprisoned in the Tower of London in 1415 he wrote love poems or "valentines" to his wife in France. Sweethearts exchanged handmade cards during the 17th and 18th centuries. The French trimmed huge paper hearts with yards of real lace.

Valentine cards became popular in the United States during the Civil War. Elaborate cards trimmed with satin ribbons, mother-of-pearls ornaments and spun glass were sold. Within a few years Valentine's Day received as much attention as Christmas.

"ALL ABOARD" TO SACRAMENTO

The Reiter family boasts a couple of certifiable train nuts (one is only 11 years old so he's just a train nut apprentice). The other one is a few decades older and is a card carrying member. He spends every available lunch hour parked along side the tracks on the off chance that the Amtrak Coast Starlight or a really long freight will zoom past.

The fact that the 1992 PTG Institute will be held in Sacramento has them both counting the days. It goes without saying that we will be going to Sacramento on the Amtrak. The depot in Sacramento is only 12 blocks or so from the convention hotel. The purchase of sleeping accommodations on the train (other than standard coach) includes all meals in the dining car and the kids (big and small) can roam up and down the length of the train from Tacoma to Central California without getting cramped into the automobile!

Even if you don't know a "cab forward" from a caboose you will find the California State Railroad Museum to be outstanding. The centerpieces of the museum are the beautifully restored engines and cars from the 1860s to the 1960s. Many of the cars are displayed as if they were working today. For instance, the Pullman car is made up for sleeping and jiggles and wiggles as if it were rolling down the tracks. The mail car shows how the various articles of mail were sorted between stops and mechanic's bays in the engine area allow people to go down under the engines and examine the undercarriages.

On the weekends there are excursion steam train rides departing from the museum. The museum itself is open daily 10:00 am to 5:00 pm.

The following note was received from Janet Blees, the wife of Willem Blees from the St. Louis area.

It accompanied the gag menu that they put together and lets us in on the idea that got them rolling. Here is a little silliness we thought up on our way back to St. Louis last spring after picking up son Chris from his first year of college. Chris is also a technician. We were returning from Colorado and were staying in a motel one night last May. Johnny Carson was on TV and had Michael Landon as a guest. He was dying of cancer at this point but still maintained a great sense of humor. He was telling of how he "got" Johnny with a practical joke.

It seems that Michael and Johnny met one night in a restaurant for dinner. As they were leaving, Johnny backed his car out on to the street and they heard a loud "Meow". It was the owner's cat, but it was alright. After getting home, Michael called Johnny and said "You know, you ran over the owner's cat, he'll really be sad. He loved that cat. You'd better apologize." So Johnny did call the owner and apologize, thinking that would be the end of it. The next time Johnny and Michael were to meet for dinner, Michael suggested the same restaurant, saying that the owner had no hard feelings about the cat. When they were seated at the table the waiter gave Johnny a menu that Michael had specially prepared. It was "bogus" of course, but when Johnny looked over the items he saw such things as "Filet of Feline", "Claws in White Sauce", "Whisker Soup", etc.

After hearing this story we decided to pass the time in the car thinking up piano puns that might work as a gag menu for technicians. Hope you enjoy it.

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C-FOOD

Lobster Tail Bass Strings Fish Prop Sticks Jack Salmon Fillet of Sol

DESSERTS

Key Lime Pie with Whippen Cream Plate Horn O' Plenty

> The above menu was thought up by Jan and Wim Blees and son Chris in memory of Michael Landon

> > 2C

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1/4 page	180	195	227
1/6 page	120	132	155
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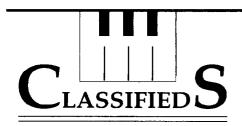
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BUMPER STICKER. "Piano Tuners Still Make House Calls." Two-color, graphics. \$3.50 to B.S.E.; P.O. Box 93297, Rochester, NY 14692. MC/ VISA orders, (716)-473-0300. NEW PRODUCTS: JAPANESE pullstroke saws out like no other handsaws for the shop and unique 2 in 1 CUTTERSAW saw & knife combo for the tool kit. DAMPER FELT CUTTING BLOCK for a perfect job when cutting damper felt to length, uses razor blade or Cuttersaw knife. Carbide SOUNDBOARD ROUTER BIT, turns cracks into perfectly machined grooves for precise fitting of shims, includes 13-page manual. Free brochure of all items, Spurlock Specialty Tools.



HIGHEST FINDER'S FEE paid for successful purchase of STEINWAY OR MASON & HAMLIN EX-PLAYER GRAND. Please call me collect at (612)824-6722 anytime. Grant Leonard, 401 W. Lake Street, Minneapolis, MN 55408.

"I WILL PAY from \$100.00 to \$5,000 finders fee for the following pianos and related items: A. Steinway Ex Duo-Art player, art carved case; B. Mason & Hamlin Ex Duo-Art player in any case; C. Art carved case of Mason & Hamlin, Chickering or Knabe, player or regular grands; Ampico or Duo-Art player mechanism or parts; E. Ampico or Duo-Art player rolls. Please call Jim Brady COLLECT. (317)259-4307."

STEINWAY UPRIGHTS AND GRANDS, any condition. Call Karen Bean, Piano Finders. (510)676-3355.

PIANOS! PIANOS!PIANOS! Free phone appraisal. Buying all types of usable pianos. Cash or bank check on pick up. Won't hesitate on price. Call us first for fast professional service. "Steinway, Mason & Hamlin command specialty prices." Jay-Mart Wholesale, P.O. Box 21148, Cleveland, OH 44121. Call Irv Jacoby collect (216) 382-7600.

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ACCORDIONS REPAIRED/TUNED. Full-service accordion speciality shop. Sale of new/used instruments, parts, straps, cases, music, accessories. MID-AMERICA ACCORDIONS; 303 Highland Drive, Richmond, IN 47374. (317)966-2711.

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VIDEOS

VERTICAL PIANO REGULATION Step-by-step, professionally produced, video instruction in how to regulate the direct blow, vertical piano actionwritten and presented by Doug Neal, Instructor of Piano Technology, W.I.T.C.C. \$79.95 per copy, VHS or Beta-printed transcript sold separately at \$10 per copy-Send order to: Piano Technology Educational Materials, 3133 Summit, Sioux City, IA 51104. Orders must be prepaid. VICTOR VIDEO TAPES: 1). Piano Tuning-\$175.75; 2.) Rebuilding the Grand Piano-\$225.75; 3.) Grand Regulating-\$175.75; 4.) Keymaking-\$124.75; 5.) Soundboard Replacement System-\$94.75. The Piano Shoppe, Inc.; 6825 Germantown Avenue, Philadelphia, PA 19119. (215)438-7038.

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"LET'S TUNE UP"-Hardback 1st Edition only \$17.50 per copy. Paperback, 2nd Edition still available per copy \$17.50. No immediate plans for another printing. Make checks payable to John Travis, 8012 Carroll Avenue, Takoma Park, MD 20912.

THE GUIDE, a source of information; procedural, technical and hourly. Fits a shirt pocket. \$10.00 postage paid. Newton J. Hunt, Piano Tuner-Technician, 74 Tunison Road, New Brunswick, NJ 08901. (908)545-9084.

"A GUIDE TO RESTRINGING"-Paperbacks \$16.50 plus \$1.50 for postage and handling. Hardbacks \$21.50 plus \$2.00 for postage and handling. Order today. Sorry, no COD's. Make check or money order payable to: John Travis, 8012 Carroll Avenue, Takoma Park, MD 20912.

ment.



PIANO TECHNICIAN POSITION: Miami University invites applications for the position of Piano Technician. Responsibilities: Maintenance and inventory control of approximately 140 pianos, including eight concert grands, and two harpsicords. Duties include tuning, voicing, action regulation and repair, and supervision and scheduling of all Univesity-owned keyboard instruments, including their preparation for frequent performances by guest artists of the highest international stature. Major rebuilding and refinishing of pianos will not be a part of the duties for this position. The technician will have a workshop in the Center for Performing Art on the Oxford Campus, but will also maintain a small number of instruments on the two branch campuses of Miami University. An additional responsibility will be minor repair of Universityowned wind and string instruments, as well as maintenance of inventory control of these instruments. Required Qualifications: Bachelor's Degree and/or certification from an accredited piano technology program and at least 5 years experience as a technician, with concert tuning experience required. Appropriate length of experience in lieu of degree/ certificate will be considered. Willingness and capability to learn minor repair of wind and string instruments. Desired Qualifications: Membership in the Piano Technicians Guild. Deadline date for application: February 19, 1992. Date of Appointment: May 1, 1992. Salary: \$25,000 plus full fringe benefits. Send resume and letter of application to: Dr. Robert Thomas, Chair—Piano Technician Position Search Committee, Music Department, Miami University, Oxford, Ohio, 45056. Phone: (513) 529-3014. Women and minorities are encouraged to apply. Miami University offers equal opportunity in education and employPIANO TUNER-TECHNICIAN. Phoenix area. Must have varifiable experience. Send salary requirements and resume to: PO Box 23865, Phoenix, Arizona 85063-3865

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February 1992

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1992 Department of Music

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From The Guild

PIANO TECHNICIANS GUILD is proud to offer a selection of technical books published by the Piano Technicians Guild and the Piano Technicians Guild Foundation Press. Currently available are: "The Calculating Technician", by David Roberts-Key to string scale design (\$13); "The Piano Action Handbook", by Randy Potter-Regulating specs for 132 pianos and more (\$8-members/ \$10-nonmembers); "Piano Parts & Their Functions", by Merle Mason-The complete piano

nomenclature book (\$10.50-members/ \$15.50-nonmembers); Journal Indexes: "Classified Index", compiled by Merle Mason and covers prior to 1979 (\$50members/\$60-nonmembers); "Classified Index Supplement", compiled by Merle Mason and covers 1979-1983 (\$12.50-members/\$15.50nonmembers); "Cumulative Index Supplement", compiled By Danny Boone and covers 1984-1989 (\$5). Piano Technicians Guild; 4510 Belleview, Suite 100, Kansas City, MO 64111. (816)753-7747. Mastercard and Visa accepted.

The Piano Action Handbook



Completely Revised • Compiled by Randy Potter



The Calculating Technician

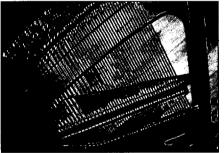
By David Roberts



Establishing New Standards of Excellence!

New Yamaha Upright Pianos.

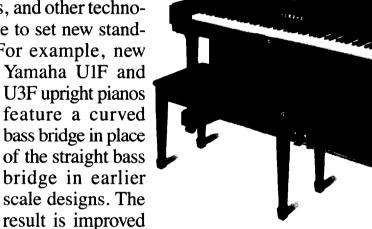
The design improvements in the new line of Yamaha upright pianos represent years of painstaking research and engineering expertise. New scales, improved back designs, and other technological advancements promise to set new standards for upright pianos. • For example, new





New scale with curved bass bridge.

fler rail while retaining a true sostenuto function from the center pedal. • See new standards of upright piano excellence being established. See the new line of Yamaha upright pianos—only at your local authorized Yamaha piano dealer!



• Another example—our new WX-Series uprights feature an improved radial back design with an additional backpost for greater strength and stability. And all new Yamaha upright pianos continue our tradition for distinctive cabinet styling.
• Of notable mention also is the new, top-of-the-line Yamaha WX7F upright which rivals the performance capabilities of many smaller grand pianos. It features a hand-operated muf-





New radial back design with additional backpost.

SERVICE: (800) 854-1569 PARTS: (800) 521-9477 FAX: (714) 527-5782

February, 1992

Tech Gazette

Yamaha Piano Service

February, 1992

Pianos Engineered with the Technician in Mind

Sometimes, we take the design of Yamaha Pianos for granted, but our engineers are aware that the piano will need to be serviced. So, they keep the technician in mind when they are designing a piano.

Well, they came up with a design change on both the MIE console and the MX80 Disklavier that makes them easier to service. Quite frankly, we thought everybody knew about it. But apparently not.

If you're at all familiar with our piano line, you'll know that both of these models have the European-style top lid that opens from the treble end, and is hinged at the bass end—something similar to a grand piano. Obviously, the lid must be removed before the piano can be tuned.

Of course, the piano is usually located close to a wall, and the hinge pin is inserted from the rear of the piano. To further complicate the picture, these two models are designed with no casters. And every once in a while, we get a call from a technician who is upset over having to move the piano in order to pull the hinge pin out.

Well, you don't have to do that. The long hinge pin is designed with two offsets in it that allow for easy removal of the lid. Simply turn the hinge pin toward the inside of the piano, until it becomes parallel with the surface of the top. Then, you can lift up on the entire case top and remove it. There's no need to pull the pin.

To reinstall the top, keep the pin in the same spot it was when you removed the top, and replace the top to its original position. Once the top is positioned, turn the hinge pin down to lock it in place.

MORE UPRIGHT DESIGN FEATURES

- On the U1 and larger pianos, the topboard is hinged in the middle, so the lid doesn't have to rest on the wall when you tune the piano. The smaller console case top hinges are built with stops to keep the lid from going back too far.
- The upper front boards are released by simply turning the locking blocks that capture the support pins.
- The fallboard lifts out, and sets on mitered slots and wooden keyways when in place.
- The lower panels are held in place by spring clips.

As you can see, easy access is the key point when working on a Yamaha Piano. Not only do the engineers work on scale design, but they are also aware of the demands of the technician.

YAMAHA GRAND PIANOS

To begin with, you don't need any tools, except for the Disklavier pianos, to gain access to the action for normal service:

- The fallboard rests in the case mounted hinge brackets, and can be lifted out without loosening any screws.
- The screws holding the check blocks have wing type handles that can be loosened by hand. (Disklavier

grands have Phillips-type screws in the key blocks—a UL requirement.)
• The keyslip is positioned by dowel pins and held down in place by the key blocks.

With the case parts aside, working

on the Yamaha grand action is made easy. Here are a couple of examples:
• To remove the action, place your fingers on the metal plates that reinforce the keyframe guide pins on either side of the action. The metal plate is covered with a fuzzy material, put there for *one purpose only*: to keep your fingers from slipping while pulling out the action!

• Another great help for the technician is the action positioner screws. These large, smooth headed screws are placed in the dag blocks, and are adjusted to stop the action in the precise position for the hammer to strike at the correct spot on the string. This is very helpful during the voicing procedure, because it is not necessary to replace the key blocks every time you wish to check the tonal quality of a note.

Yamaha will Participate in

LITTLE RED SCHOOLHOUSE

February 3 - 7

May 18 - 22

June 22 - 26

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SEMINARS:

March 9 - 13

April 6 - 10

May 4 - 8

PTG CONVENTIONS:

February 21 - 23, California State

March 27 - 29, Central W. Regional

April 3 - 5, Pennsylvania State

April 23 - 26, New England

May 1 - 3, Florida State

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FAX: (714) 527-5782

World Blind Tuners March Together

Stanley Oliver Chairman, Visually Impaired Concerns Committee

The modern blind piano tuner commands one of the highest earning fields among employed visually impaired. Thorough training and some mechanical skills are necessary. In 1988, a group of

successful, determined tuners got together with a purpose in mind; to preserve and enhance the long established field for newcomers. The Visually Impaired Piano Tuners International was accepted early this year as an active participant within World Blind Union. Today it has some 80 members and correstory continues-page 2



Among those representing PTG at the recent National Association of Music Merchants trade show in Anaheim, CA, were, from left, Paul Monroe, Orange County Chapter; Leon J. Speir, South Central Regional Vice President; Fern Henry, PTG Vice President; Jim Coleman Jr., Western Regional Vice President; and M.B. Hawkins, Trade Relations Committee Chair. Marketing Committee Chair Keith Bowman, committee member Steve Schell, and others met with representatives from the Phelps Group, PTG's marketing firm to plan strategy for upcoming activities. PTG representatives also attended a marketing presentation by the National Piano Foundation and a networking meeting of staff executives and elected officers from industry organizations. Journal Editor Jim Harvey is preparing an article on new technical developments for a future issue of the Journal. Others representing PTG included Pam Consoli, Kathy Gilkey, John Grutzmacher and John Voss, Pomona Valley Chapter; Diane Cottrell, South Bay Chapter; and William Norrington and Charles Sanders, Orange County Chapter.



Meet Your Board Members: Jim Coleman Jr., RTT

Jami L. Henry Director of Communications

Although it has not been scientifically proven, all facts indicate that being a piano technician is in Jim Coleman's blood. Passed down from his grandfather, to his father, then to him, Jim has long been associated with the skills and knowledge of what makes a piano tick.

"It all started for me in the second grade when I began taking apart uprights and grands. By the time I was in the 7th grade, I was required to know the names of the action parts before I could participate in "extra curricular activities."

At age 15, Jim was learning how to tune and recalls the hours he spent doing unisons.

"Anyone who has ever spent any instruction time with my father will know exactly what I mean!"

It would seem that the discipline instilled so early in Jim's life has proven a useful tool for him. His drive and enthusiastic attitude seem to have given him

Blind Tuners...

spondents scattered among several nations. Contacts range from Australia, New Zealand, Thailand, Korea, Japan, Canada, England, Spain and the Soviet Republics. Differences in language have not been an insurmountable problem.

An increasing number of tuners use computer equipment to keep track of clients, send out reminder cards, etc. Voice synthesizers and screen readers are very much in the picture. A sizable number of colleges across the U.S. and Canada employ blind tuners for total care of large inventories of expensive instruments. The calledfor skills of restringing, new hammer installation, regulation, voicing and tuning to artists' standards are being done currently to the expressed satisfaction of many educational institutions, dealers and concert halls. Learning the field well and being continuously updated is an absolute must. The finest school encompassing the technical and business areas needed to earn an excellent living is the Fries Piano Hospital and Training Center, Vancouver, Washington. Of some 200 graduates, some 85 percent are very successfully employed. This is a far cry from what regrettably often occurs; terminal rehabilitation, study without the dollar reward at the end. The recommended courses could run some 18 months. Much depends on the learning ability of the applicant. For full particulars including a print and cassette catalog, contact the school at 2510 E. Evergreen Blvd., Vancouver, WA, 98661, (206) 693-

The Piano Technicians Guild, the 3,700 member professional body covering the piano field has around one hundred blind craftsmen and includes all the world's major piano makers. The technical standards for membership are identical for every entrant. In its history, it has had a

blind national president, executive director, regional vice presidents and innumerable local chapter officers. The blind tuner is thoroughly accepted as a competitive equal. A monthly technical journal replete with detailed "how-to" articles is available from the PTG home office; 4510 Belleview, Suite 100, Kansas City, MO 64111, (816) 753-7747. The periodical is also available on cassette (15/16 ips format) and worth its weight in gold for its practical value.

The 1992 convention of the Piano Technicians Guild takes place, July 22 - 26, at the Hyatt Regency Hotel in Sacramento, California. We expect Bo Jung Lee, director of a tuning school in Seoul, Korea and Enrique Perez Bazan, Madrid, Spain. Aids Unlimited managed by Hal Bleakley, will have a large exhibit of some of their 300 devices useful for the blind homemaker. This month, Aids unlimited became the distributor for O.N.C.E., a Spanish blind people's organization having the world's wealthiest research and development program for the blind. O.N.C.E. has the exclusive monopoly of the state lottery with the result that literally billions of dollars are now under the direction of this powerful group. For a cassette catalog of Aids Unlimited items, contact them at 1101 N. Calvert, Suite 405, Baltimore, MD 21202, (301) 659-0232. The cassette catalog is \$1.35, updated annually without further change.

VIPTI is presently involved in updating the data on tuning, past and present, carried in the U.S. Department of Labor publication, "Occupational Handbook." The PTG is the source closest to the rapidly changing economics in the field. VIPTI issues a cassette newsletter. If you are interested in entering the field, wish to correspond with tuners in foreign countries or wish to become a member or exchange technical data, contact VIPTI, 1965 E. Outer Drive, Detroit, MI, 48234, (313) 891-9226.

DATES & DEADLINES

February 3, 1992

1992-93 officer nominations to Nominating Committee Chair.

Amendments proposed for 1992 Council due to Bylaws Committee Chair.

March 2, 1992

Members delinquent in 1992 dues to be dropped.

March 27 & 28, 1992

RTT Tuning and Technical Exams Seattle Chapter-University of Washington. Tuning Contact: Jim Farris, (206) 367-6335. Technical Contact: Randy Rush, (206) 525-7601.

April 13, 1992

RTT Tuning and Technical Exams Northern California, San Bruno Skyline College. Application Deadline: March 13, 1992. Contact: Neal Panton, (415) 854-8038.

April 17, 1992

Good Friday. Home Office closed.

May 25, 1992

Memorial Day. Home Office closed.

June 13, 1992

RTT Tuning and Technical Exams
Puget Sound Chapter Test Center,
Tocoma, WA. Application with
test must be received by June 6,
1992. Contact: Jim Snyder, 6809
Locust Dr., Bonney Lake, WA
98390, (206) 863-0068.

June 24, 1992

Convention early registration deadline.

July 22-26, 1992

35th Annual Convention and Institute, Sacramento, CA.

Jim Coleman...

several lifetimes of opportunities, including door-to-door furniture polish sales, a printing enterprise and a long time family piano business.

"When I turned 19, I became the only technician for a dealer in Phoenix. A year later I joined my dad—selling Knight and Yamaha Pianos and doing printing in the back room to keep food on the table."

During the late 60's, Jim Coleman Sr. went to work for Conn Corporation in Elkhart, Indiana. Six months later Jim Jr. joined the company at the Clarksville, Indiana plant as a Quality Control Engineer. Eventually, he would return to Arizona to pick up the pieces of the family business.

By 1983, Jim and his family were ready for a change. The following 5 years would find him working as a piano technician at Penn State University in Penn-

sylvania. And once again, in 1988, Arizona and the family business he had left behind seemed to pull him back, where he has remained. It would seem that in the world of pianos, Arizona and the name Coleman are synonymous.

"I love the rebuilding side of this business the most — but one of the biggest projects I have ever undertaken was simultaneously tuning (with the help of five other technicians) 28 pianos for a concert at my church. Now that was a challenge!"

But, by-and-large, it's the "baby" steps that surpass the giant ones and Jim explains that "consistency is the best step for success."

"Honesty, a good personal attitude, quality of work, availability for service and a general love of the business have kept our family business going for a long time. To me, these things are the most important aspects of being an entrepreneur."

Although Jim began to get involved in PTG activities early on in his career, he did not become an official member until 1974. Since

then he has been involved with an unlimited number of projects as well as teaching and local chapter activities. And most recently, a seat on the board has proven to be a rewarding opportunity.

"I am extremely excited to see us take on the marketing program. This has been a long time dream of mine. I believe that educating the public is one of the best things we could do. Watching and participating in this new direction is really a great experience and once again I believe that it will be our "baby" steps that will take us the furthest."

Finally, speaking from his 3rd generational point of view, it is easy to see that Jim values a diversity in The Guild.

"It is nice to see more young people becoming involved. The older folks have a huge supply of knowledge and wisdom to pass on and the young folks bring new ideas and a certain amount of vitality to the organization. As with anything, there is a need for this balance to help us keep from becoming stagnant."

In Respectful Memory...

Jim Hopperstadt Feb. 14, 1913 - Dec. 11, 1991

On December 11, 1991, Jim Hopperstadt of the Sacramento Valley Chapter passed away, ending an uncommonly rich life. Musician, tuner, law school graduate, union official; he was all that and more.

Jim was born in Racine, Wisconsin. He got his first symphony job in nearby Kenosha. He played in the Navy Band during World War II and was aboard the U.S.S. Missouri when Japan surrendered.

After graduating from the University of Georgia with a music degree, he played tuba in the Atlanta Symphony. At the same time, he attended George Marshall Law School. Though he finished, he never practiced law.

He and his family moved to Sacramento in 1965. While working at McClellan Air Force Base, he became president of the American Federation of Government Employees. He played string bass in the Sacramento Symphony for six years.

Jim was a professional piano tuner for fifty years and a Piano Technicians Guild member for twenty-six. He was a member of the Sacramento Traditional Jazz Society for fourteen years, playing in the Riverbank Blues Band, and was the official piano tuner for the Dixieland Jazz Festival every year. He was in the American Legion, was an Elk, and played in the Shriner's Band for fifteen years. He was in the musician's union for sixty years.

Mr. Hopperstadt is survivied by Elinor, his wife of 48 years; a sister, Margaret; two sons; and a daughter. He was 78.

Mark Stivers

Mini-Tech Instructors Needed For '92 Institute

Would you like to share an interesting business or technical subject of piano repair or tuning in a 25-minute class period?

The annual PTG convention will be held in Sacramento, CA July 22-26, 1992.

We are making up the schedule, and if you want to be considered for a Mini-Technical class, please be prompt in your response to this notice. Here are the qualifications and the information we need:

- You must be a member of
- You must definitely be planning to attend the PTG annual convention and intitute.

- You must not be scheduled to teach another institute or a committee class and not be a test examiner.
- Please provide your name, address, phone number and your chapter affiliation.

Thank you! Please send your information to:

Dick Bittinger,

Mini-Technical Coordinator P.O. Box 51, Brownstown, PA 17508-0051.

Dick Bittinger

Membership Status				
Northeast Region	864			
Northeast RTTs	531			
Southeast Region	641			
Southeast RTTs	391			
South Central Region	333			
South Central RTTs	212			
Central East Region	649			
Central East RTTs	398			
Central West Region	394			
Central West RTTs	250			
Western Region	617			
Western RTTs	388			
Pacific NW Region	388			
Pacific NW RTTs	233			
Total Membership	3,886			
Total RTTs	2,403			

There's Gold In Them Than **Photos**

The contest is still open to all PTG members and non-member registrants at PTG's 35th Annual Convention and Institute, July 22-26, 1992 in Sacramento, CA.

The prize will be awarded to the correct entry with the earliest postmark so HURRY, take a shot! It can't hurt to try....

Remember, these eight folks are all prominently involved in Piano Technicians Guild activities in one way or another. Send your contest entries to: Gold Contest

Piano Technicians Guild 4510 Belleview, Suite 100 Kansas City, MO 64111

My Eight Lucky Choices Are...

2. _____

5. _____

Name _____ Address_____

City State, Zip_____

> Don't Delay -Mail Today!

PTG Board Members, staff and Convention Planning Committee members are not eligible to win.















