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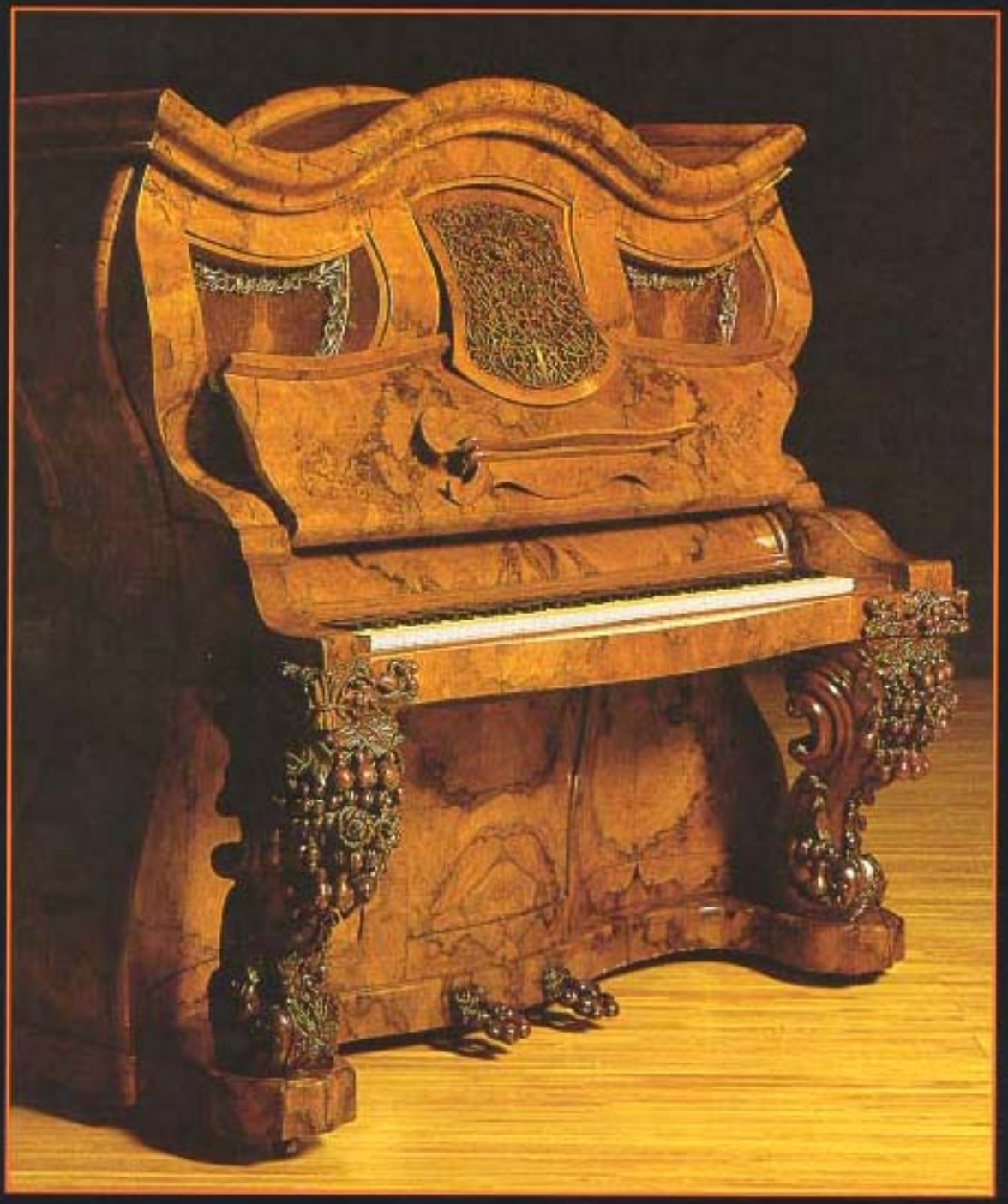


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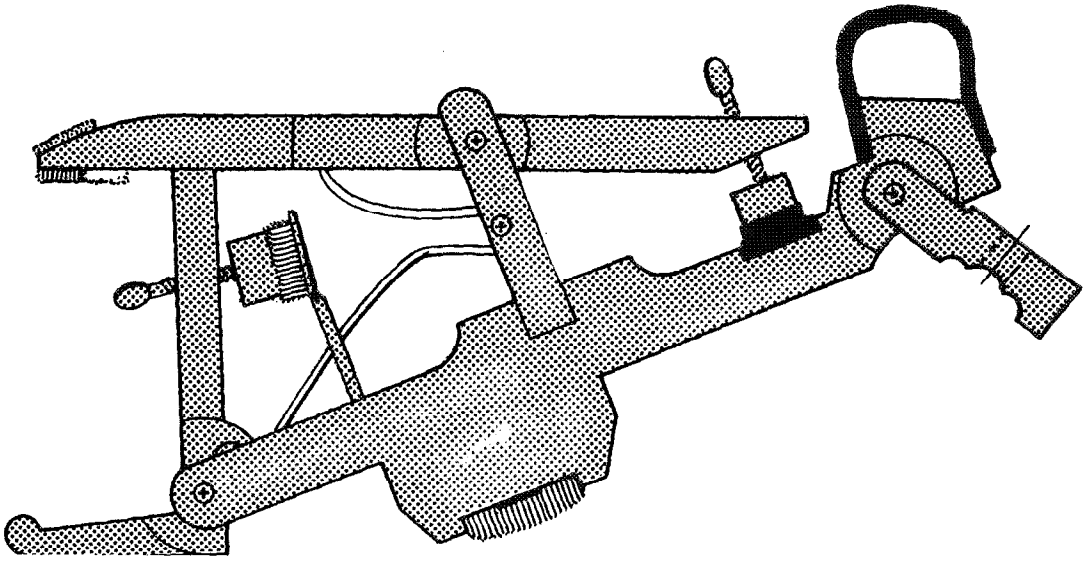

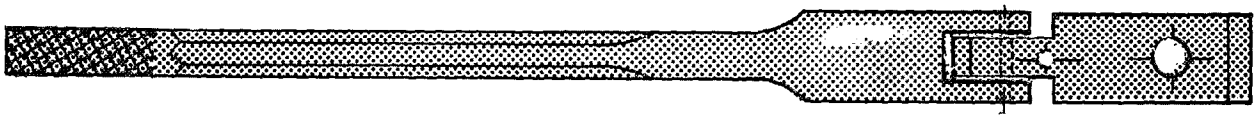

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EDITORIAL PERSPECTIVE

Looking for a Few Good Tips

TT&T Material

Astute readers of the *Journal* may have noticed that material in the "Tips, Tools, and Techniques" department has sometimes been a little thin. Indeed, your Editor often finds himself rifling through stacks of old chapter newsletters, desperately looking for something usable. Thank goodness for Bob Bartnik! (Astute readers may have have noticed that tips from Bob have appeared in almost every issue for quite some time now.) But Bob can't do it alone.

Steve Brady, RPT
Journal Editor

Finding enough suitable material for TT&T always has been a bit difficult. Newsletters have been my most consistent and reliable source, but I don't receive copies of all the chapter newsletters (newsletter editors, take note), and not all chapter newsletters contain technical tips.

I'd like to invite everyone reading this to think about some of your favorite tips, whether about technical work or tuning. Do you have a favorite tool that others may not know about? How about a favorite technique for doing an otherwise tedious job? If you're a more experienced technician, how about some "tricks of the trade?" Even if you think everyone already knows your tricks, you may find that many of the younger generation do not.

Take a few minutes to write down your tip, tool or technique ideas, and send them to me in any way that's convenient for you: e-mail, fax or snail mail. I can't guarantee that every item sent in will be published, but this is probably your easiest route to seeing your name and ideas in print. Why not give it a shot? If you have a snapshot or a line drawing to accompany your tip, so much the better.

Journal Artist

Which brings me to another topic: in addition to needing written material for TT&T, I'm also seeking a new illustrator for the *Journal*. My son, Spencer Brady, did many of the *Journal* illustrations for four years, but he recently has moved on to other things. If you, or someone you know, has artistic talent, please contact me as soon as possible. A piano technician is preferred. The position is paid, and the fee is negotiable depending on experience and expertise.

Assistant Editor

Finally, at some point in the next six or seven months, I expect to be hiring a second assistant editor. This person would be an experienced piano technician who is organized and dependable in meeting deadlines, and who, preferably, has some background in writing or publishing. If you meet these qualifications and are interested in meaningful, part-time work (it's also a paid position), please contact me as soon as possible; applications are now open.

This issue is my 50th as *Journal* Editor. I've found the job greatly satisfying and rewarding, and I hope to continue in it for at least another year or two. I hope you'll consider, in whatever role—tip or article contributor, artist, or assistant editor, joining the *Journal* team. I'm confident that together we can take the *Journal* up to the next level.

Please submit tuning and technical articles, queries, tips, etc., to me:
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COVER ART

This month's cover photo of a Napoleon hat piano is from the cover of a guide to the Museum of Musical Instruments, Musashino Academia Musicae, Tokyo, Japan, compliments of RPT Ward Guthrie.

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Volume 42 • Number 3 • March 1999

Build Your Tuning Business!

"Now that I'm installing Dampp-Chaser Systems, I'm tuning twice the number of pianos."

–Wally Meissner
Dampp-Chaser Field Expert who has installed over 800 Systems

Technicians who install Dampp-Chaser Piano Climate Control Systems report that their tuning business is thriving. By advocating climate control, they feel they are doing the best thing, the Right Thing, for the piano. In return, their clients reward them with referrals and greater receptivity to other improvements.

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After you install a Dampp-Chaser Climate Control System in your client's piano, something predictable happens: It Really Works!

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The circle of shared information about the System then widens. Your client tells her fellow choir members and symphony volunteers about the positive change in her piano (music lovers associate with *other* music lovers). Her confidence in you is greater than ever. She freely recommends you to others, knowing you will do a great job for them, too. And, as you protect more pianos with climate control, *the referrals multiply!*

Build your regulating and voicing business with Climate Control!

According to experienced Dampp-Chaser installers, your tuning client experiences a change in attitude toward the piano after the installation of a System—she begins to place more value on the piano as a source of enjoyment.

With a System, the piano sounds better which lends the perception that her playing is better. Or, she observes that her child's playing has improved. And, she is pleased that the child is willing to practice for longer periods. (Children also recognize the enhancement of tuning, touch and tone.)

Each time your client notices the System's light panel under the keyboard, she is conscious that the System is working, constantly protecting her piano. When the blinking light calls for more water in the humidifier, she reaches for the watering can immediately. As she pours in fresh water, she is aware the System has used, to good purpose, the water she added two weeks ago. Each time she "waters the piano," the emotional bond with the piano is strengthened.

Meanwhile, her regard for you as a professional has grown. In her eyes, you have taken her average-sounding piano (or highly unstable piano) and converted it to an instrument of which she is proud, an instrument that is dependable and predictable.

More than ever, she trusts and respects your opinion. So, when you suggest ways you can make even more improvements through regulation and voicing, she is more receptive to your proposal. (A written proposal is more effective. For a proposal example, buy the PTG's *Business Resource Manual,* $20.)

Remember, the Climate Control System you recommended did just what you said it would do. When you explain how voicing or regulation will make a noticeable improvement to the sound and yield greater enjoyment, *she will follow your advice again!*

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MusicLink Links Kids, Pianos

March is "Music in the School" month, and this year the celebration will have special meaning for a few special kids in public schools. If you've not heard of it before, the "MusicLink" program is one that I hope you will hear more about as time goes on.

David P. Durben, RPT
PTG President

The purpose of this program is to reach students who may not normally seek music lessons due to financial constraints. The program attempts to create a "link" between these students and a private music teacher, via a cooperative effort by school music teachers or classroom teachers and a MusicLink coordinator or teacher.

For our part, MusicLink needs help now from piano technicians to screen pianos that are offered as donations to the program, and to make repairs and offer continuing, comprehensive maintenance on those instruments. PTG also can help by offering performance opportunities and public relations via our annual and regional seminars and various chapter activities.

One thought that occurred immediately to me when I heard about MusicLink was the fact that our members already are doing much of this kind of *pro bono* work both as individuals and with chapter activities. MusicLink can provide a more targeted response to these children's needs, and it is also an opportunity to take a very visible leadership role in the industry. Indeed, this is the kind of effort that can bring us together with others in our industry, including dealers and their technicians in a non-threatening, mutually beneficial exercise. Another goal is to get new pianos into the mix, in selected cases, and this will bring piano manufacturers on board, thereby including all of the major facets of the piano industry.

The PTG Board of Directors voiced very enthusiastic support of this program at the mid-year Board meeting, and my hope is that by the time you read this, we will have developed some guidelines on what to look for in used pianos offered for donation and what our people should expect to do for those instruments. From there it will be up to the individual volunteers to help make a difference in their own communities.

So, please consider becoming a MusicLink volunteer. Let's step up and show the rest of our industry that we are ready and eager to do our part to make a difference in the life of someone less fortunate than we are.

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More In Defense of Older Pianos

In the October 1998 *Journal*, a guest editorial by Ralph Long caught my interest. Most certainly, the main idea of not encouraging customers to restore pianos which are structurally unsound (cracks in the plate, pinblock, soundboard and case structure) is generally accepted by myself and most other rebuilders I speak with. However, in my work area, 99 percent of my business is carried out on instruments which are 30 to 150 years old. Most of these customers are unwilling to exchange their beloved instruments for any reason, and the others cannot afford to.

Trying to apply Mr. Long's ideals to my own career at first seemed like a great idea but then I realized it was practically impossible. The reason being that most instruments of my customers are owned for one of two reasons: aesthetic or emotional attachment, or cheap entry into the piano world for lessons. I have indeed tried to convince some customers to scrap great grandmother's old upright and have in all cases failed, and in a couple of those cases created some hard feelings, which I don't believe is my place. The other thing I commonly hear is "Just make it play good," and " I don't want to spend a lot of money on it." If I start forcing my idealistic values on my customers it is more likely that I will lose them rather than convince them to buy a new piano. I am not willing to give up 90 percent of my business because of ideals.

Mr. Long's statement about older/newer pianos and which are better is questionable. Most lower-end new pianos that I have looked at are not worth the plywood and particle board that they are constructed with. Mr. Long didn't make reference to any makes of pianos in his article and neither will I, but in my experience I find that new pianos in the $2,000 - $4,000 range are structurally playable and musically more unfit than any other pianos I have ever seen. New pianos in the $4,000 - $8,000 range I find constructed much better but still not equivalent to the manufacturing standards of 100 years ago and the tone quality not much better than the low-end pianos. Not until I evaluate new pianos above the $8,000 range do I begin finding good quality all around. This is unfortunate because many piano buyers will not consult a technician before buying a new piano for the simple fact that if it is new, it must be good.

In regard to the work I do on pianos in the 50-150 year old range, I take pride in my workmanship as well as most other rebuilders I know. My shop is heated and I keep the humidity fairly stable at 46 percent. I do not do quick jobs at the cost of quality, although I work quickly. The pianos that leave my shop, I am confident, will last for another 50-100 years in good service. The tone quality that my work (new strings, hammers, dampers) produces is at least equivalent to many high-end pianos I've tried in show rooms. My action work (pins, strings, felts, keytops) and regulation produces a fantastic playability that is equivalent to any new piano I've played, and this type of work is my bread and butter. On the other side of this coin, I have been asked to work on 10 year old pianos that are cracked and warped, and I have refused. I have tuned for customers whose pianos' tuning pins are so loose that tuning to a lower pitch is the only way the piano will hold its tune for any length of time. After explaining the reasons to them and presenting the other options they most often choose to keep the piano and use it in its present condition.

In summation, the principles of Mr. Long's ideas are tremendous, but for practical purposes we struggling tuner-technicians cannot stand back and tell potential paying customers that we will not even attempt to tune their instrument due to its poor condition. The final analysis being that although I would like to see a fine new instrument in every customer's home, the likelihood of this happening is next to nil. Tuners can go only as far as to make recommendations and give estimates, and the decision belongs to the informed customer.

— Garry Edward Schuss
Kitimat, BC, Canada

Bridle Tape Tip: A better explanation

Regarding the tip from Andrew Margrave on improving a sluggish vertical action by adjusting the bridle straps (December, 1998 issue, p. 10):

Andrew is correct that if bridle straps are regulated too tightly (so that the wippen moves immediately when the hammer is pushed by hand toward the strings), a "sluggish" or difficult action will result. But his explanation of why this happens is completely wrong. The weight of the wippen always is present in the keystroke of the vertical piano, even when the key is at rest! The problem Andrew is describing is that of the differing lift ratios of the hammer butt and wippen, such that if the bridle strap is too taut it does not allow the hammer butt to accelerate faster than the wippen is rising. It has nothing to do with the "weight of the wippens," as he states.

— David Hughes, RPT
Baltimore, MD Chapter

The Steinway Repetition Syndrome

The Q/A Editor's Roundtable in the December issue brought a smile to my face. It's nice to know you're not alone with an unsolvable problem.

I had decided to regulate my own personal Steinway A; it had a 35-year-old action. This piano had no problems; I just needed to sharpen my regulating skills. When my work was finished the action had Don McKechnie's description of the Steinway Repetition Syndrome. I had created a monster!

The first surprising discovery I confronted when I pulled the action out and began to regulate it was that there was no repetition – spring function – zip. That explained why the hammer line was all over the place. I tried to regulate the repetition springs, but no amount of bending seemed to help. Each time I regulated them, they worked for 24 or 48 hours and then died. And so did my beautifully regulated hammer line. It wouldn't stay put without spring function.

I tried everything. I thoroughly cleaned and lubricated the slots, even polished each spring. If one worked, I tried copying the wire bends exactly on the adjacent one – no luck. I tried swapping wippens and swapping hammers, interchanging ones that worked with ones that didn't. No luck. One of my colleagues told me it was metal fatigue and advised me to replace all the repetition springs.

I decided to test the friction in the action center; holding up the balancier to see whether I could get a five-gram support at the end of the balancier with the spring disengaged. At this point I had all the wippens off the rail anyway, so I tested each one. I was shocked to find 80 of them flunked the test. So I repinned every one of them to pass the five-gram test. Suddenly I had repetition-spring function and I could begin to regulate them. I felt euphoric. I was a genius.

But before I could celebrate, I started having a really serious problem. After testing repetition on one note in the treble using hard, rapid-fire blows (one finger, two hands – machine-gun style) the hammer jammed and fell all the way to rest on the cushion. The jack had slipped completely out of alignment, unable to get back under the roller and the key didn't come all the way back up. No amount of regulating of the jack position, balancier height or backcheck angle would fix the problem.

Not only did the problem not go away – it got worse. Every time I played that note, it would jam. The key had to be pushed back up to use it again – not too cool during a performance!

I have decided that machine-gun style abusive testing for repetition is not a great idea. Could it have caused the problem? After reading all the Editor's Roundtable contributions, I have the uncomfortable feeling that this problem has no solution.

I have a question for any technician out there who can answer it: I was perfectly happy with this action before I regulated it. For 35 years it never had a repetition problem. I am a serious musician and this piano was severely tested. It never let me down. But the repetition springs were not working at all when I pulled the action out to regulate it. How do you explain that it played so well?

Without repetition spring function, I practiced several hours a day, taught and performed everything from Bach to Prokofiev, Bartok and Ginastera with nary a repetition problem. Trills sounded fine; the action felt great.

Which brings me to the sad conclusion that all that precision measuring and regulating brought me a lot of grief in the end. I know the old adage: "If it ain't broke, don't fix it." But those repetition springs weren't functioning and they sure seemed to need fixing! And the hammer line was a disgrace.

I did end up replacing the entire action with Renner shanks, flanges and Premium Blue hammers and Renner slant-heel wippens. No repetition problems. And yes, I'm ***not*** doing a whole lot of messing around with these new springs. Certainly no machine-gun rapid-fire testing.

— Marlene Marston
Los Angeles, CA

Tips, Tools & Techniques

String-seating Tool

If you've ever had a tool that just gave up and you can't throw it away because there might be something that can be made from it, then welcome to the world of owning your own shop.

I have bought, over the years, several of the knurled brass double-ended screwdrivers for regulating inside and outside screws, and in one instance, had the set screws simply strip out and make the tool useless.

At the same time, I had been looking for a tool that I would feel comfortable using as a punch for strings around the hitch pins when I'm stringing and doing the final stabilization of wire after stringing. The tool I had in mind would have to be substantial enough to take multiple taps over time, with a contact area that wouldn't damage wire or the surface of the plate, or the hitch pin itself, and of a shape that would allow the tool to fit completely over the hitch pin at an angle and dimension that would contact the wire all the way down the hitch and drive it flush to the plate. Now, where was that old regulating screwdriver with the double-ended rods and the knurled brass?

I removed the drivers (they just fall out without the set screw), chucked the piece of brass into a grinding arbor, and basically shaped the brass as it spun into the beveled dimension I needed. I then bored the original hole to go around a hitch pin and beveled the contact point to an angle approximating most hitches. I reinserted one of the drivers and now had a tool with a nice heft, the weight dropping in the direction of the job, a slim handle for control, and a perfect punch for tapping wire around the hitch pin with no damage to the system.

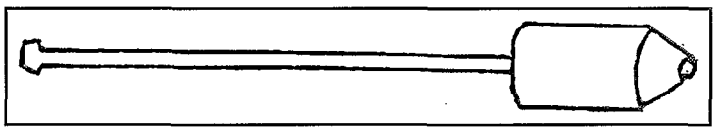


Figure 1 — Knurled-brass screwdriver modified for seating strings at hitch pin.

— Paul Revenko-Jones, RPT

Reprinted from The Wippenpost, *newsletter of the Chicago Chapter*

Voicing Tip

When voicing a vertical piano, remember that the owner will hear the instrument with the front panel on and the lid closed. Reassemble the piano frequently and check the tone. Similarly, when voicing a grand, find out whether the piano is usually played with the lid up or down and do your work with the lid in the appropriate position.

— Kent Burnside

Dayton, OH Chapter

Dealing With the Heartbreak of Verdigris

When I have to deal with an action gunked up with green slime and sluggish as my body on a frigid winter morning, I thank the gods for such modern marvels as we now have to clean and lubricate action centers – until I remember the price of these marvels. I tend to combine technologies, old and new, to do the job without breaking the bank. First treatment is a liberal spraying with Starter Fluid – the stuff you get at the automotive supply shop. It is ether, a volatile fluid that eats the green stuff up like a hungry football player. Next, I use the modern stuff, like ProTek CLP™, to lubricate and protect the newly cleaned centers. The ether does the preliminary work, the ProTek does the long-term protection. *Now,* I am in a position to judge whether any of the action centers need repinning.

Now some of you may ask, "Why not just do the swing test and re-pin as needed?" Simple: if the action isn't clean and as much gunk off the centers as possible, you don't get a clear picture or an accurate gauge of the center's motion. If you de-gunk the action and lube the centers, any sluggish center can be 1) re-treated and re-tested or 2) re-pinned or 3) ***both.***

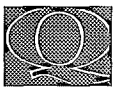
Unless you enjoy unconsciousness, use the ether ***outdoors*** or in a well-ventilated area. And unless you are fond of manned (as opposed to man in plane) flight, don't smoke or use a flame around ether either. One explosion and/or one action up in flames is the sure cure for such carelessness.

Don't forget which part the center pin moves in: the lazy technician is the one who never uses broaches or reamers. Bushing cloth does wear out. It doesn't hurt my feelings to replace the odd bushing or the odd flange.

— Bob Bartnick

Reprinted from The Richmond Update, *newsletter of the Richmond, VA Chapter*

Bridge Pin Removal Problem



A church bought a newly rebuilt Steinway A (new board, bridge caps, action, etc.). Nicely done, the piano is great except for the bridge notching in the top octave or so. The top of the bridge extends beyond the bridge pins resulting in poor termination. It sounds awful and is untunable. Without going into all the details, the end result is that if it's going to get taken care of, I will have to do it. Pulling the bridge pins is very difficult, as they are new and really tight.

Does anyone have any suggestions as to how to get these pins out without damaging the bridge top? I have tried to pull them straight out, but do not have the strength. If I were to pry them out, wouldn't I elongate, or deform the hole causing other problems? Any and all suggestions appreciated.

— Charles Farinella, RPT
Henniker, NH

Roger Jolly: Try a small set of vise-grips, giving the pin a slight twisting motion as you pull. It is important to replace the pins with new ones after you do this, as any little nicks can cause false beats and other problems.

Jon Page: I had this happen and I don't envy you. Let down all the tension and remove the strings in that section. You may find it easier to just replace the wire than to fuss with it to keep it in order and out of the way. Use vise grips and twist the pin back and forth as you pull at the angle at which they are drilled. (Not an easy task.) Then re-notch. Start with a light chisel strike across the centers of the pin holes to define a line (not deeply) into the wood. I use a chisel which has the angled side rounded over so as to produce a curve as it is carving. Lightly sand, shellac and restring.

Robert Stuart-Vail, RPT: One useful tool is a pair of carpenter's pincers, which have rounded shoulders that are made to give leverage in situations like this. If you put a flat piece of hardwood scrap under one jaw of the pincers, on top of the bridge, you get great pulling force at an angle, which is what you want.

If this isn't feasible, try vise-grips locked on the bridge pin sideways. Place a block of hardwood on the soundboard or plate so that it's just a shade lower than the level of the vise-grips and the largest screwdriver you have under the nose of the vise-grips, placing the screwdriver blade on the hardwood block. Hold the vise-grips firmly while lifting up on the screwdriver. This gives a lot of leverage and provides damage control at the same time.

Jim Coleman, Sr., RPT: I would suggest mild heat first, applied with a soldering iron. Then pull in line with the bridge pin. Power grip pliers would be in order with perhaps a slight twisting motion. A cheaper way would be to use a fine small scraper and clear the bridge back to the bridge pin centerline. It may not look as neat, but it will work.

Ron Nossaman, RPT: Roger has the idea, but didn't go far enough. Go to the nearest automotive supply store and purchase the cheapest impact dent-puller you can find. Get rid of the screw end, and possibly the shaft, and save the weight. Modify a small vise-grip by removing the adjustable screw from the back. Thread the dent puller shaft, if it's the right size or use a suitably sized replacement if it isn't, and reassemble the dent puller with the vise-grip in place of the screw (with a wing nut as a locking nut at the back end of the vise-grip). Grip the pin with the vise-grip and whack it out with the sliding weight in one stroke. Repeat as necessary. Life is sweet. By the way, for your information, this grippy little impact puller also works wonderfully for key pins.

Tom Cole, RPT: Another tool worth considering for bridge pin removal is the mating of vise-grips with a slide hammer. You remove the vise-grips' adjusting screw and screw in the threaded part of the slide hammer, assuming they are both the same size thread. The slide hammer is an auto body tool for pulling out dents from sheet metal areas which are inaccessible from behind.

Page: Possibly a use, finally, for my impact coil lifter. The thread is too large for my various pairs of vise grips, but an appropriately sized shoulder bolt from the hardware store and the metal weight should do to trick. Now, where's a bridge pin ... let me at 'em....

Jim Harvey, RPT: For your bridge pins, I suggest a puller device that I made (in desperation) years ago. I attached vise-grips (Model, 5WR) to the opposite side of my home-made impact coil lifter. In my case, it was a straight screw-on attachment, since the threading on the impact lifter just happened to match the pliers. This permitted me to successfully remove a seriously heat-seized muffler liner from my motorcycle. After this one-shot Saturday afternoon project, I realized the potential this tool had for piano work, and just left the vise-grips attached to the coil lifter. Since then, I've mentioned the device in many of my tools classes.

That said, I see there are at least two people who suggested the same thing. I should mention that this "extractor" has worked successfully on key pins, backchecks, trapwork underlevers, stripped plate lags that won't turn in or out (and still resist removal), and other instances of press-fittings where normal methods either won't cut it or require too much tooling. Whew! There's every reason to believe it will work in this application, although I've never had the need to try it for bridge pins.

Other thoughts: (1) Considering the potential velocities involved, I'd suggest over-tightening the pliers jaws to the point of biting into the pins, thus ending the useful life of same. Rationale: it's easier to install new pins than to go fishing. (2) Don't lose focus — for every action, ...etc. This includes the business end and the other end, especially if suggestion #1 is ignored. Rationale: if the tool slips... big time pain, and in my case, big time dentist bill. In some circles this chain of events is called a "rookie move." (3) Consider a blanket over the unaffected string/board area and ear plugs for anyone within 500 yards. Rationale: noise abatement. (4) Alternate methods still may be required if, or when, the rim gets in the way.

Farinella responds:

I am very grateful for all of the responses to my question. Someone asked if this was a warranty situation; it is not, both

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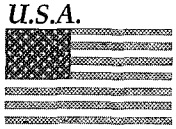

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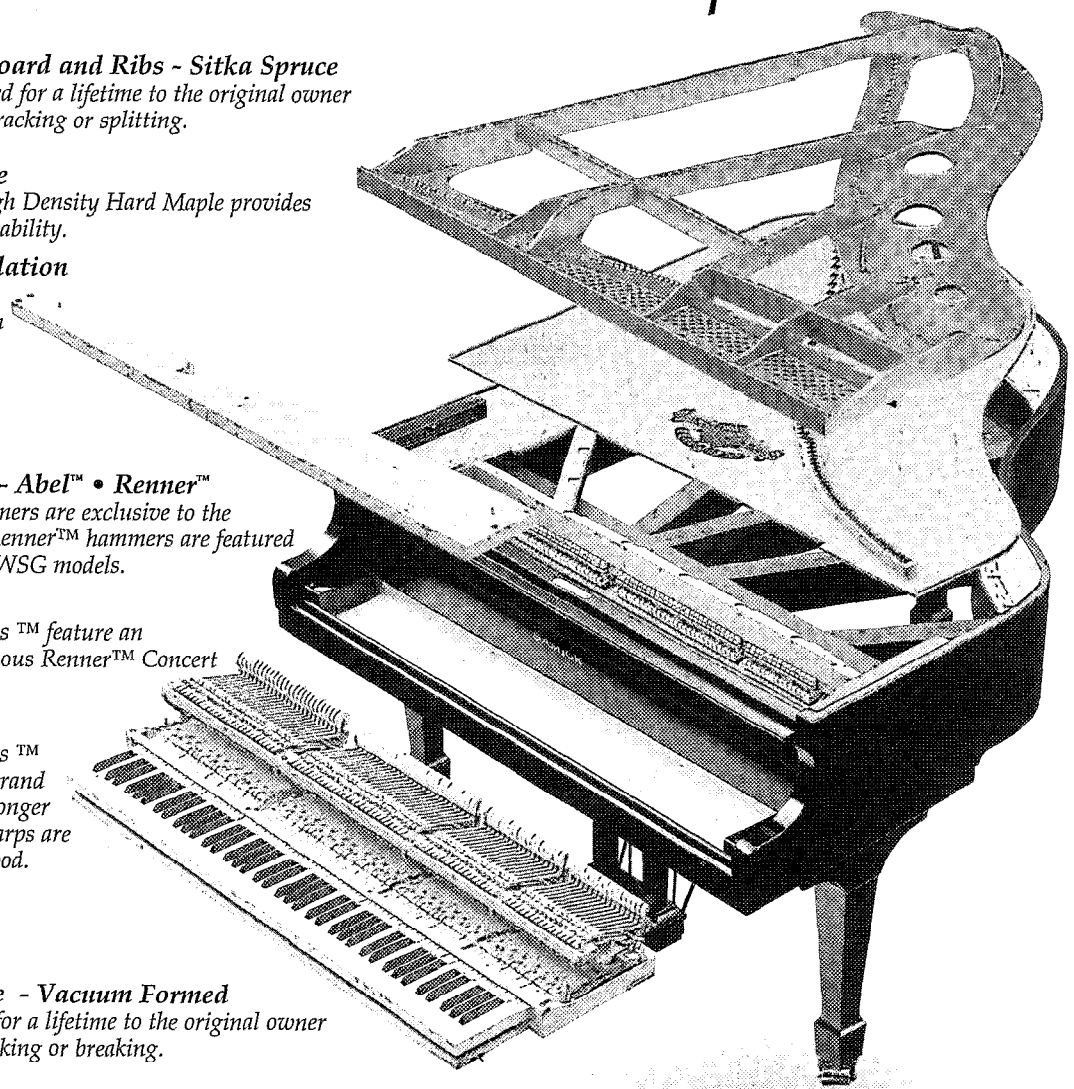

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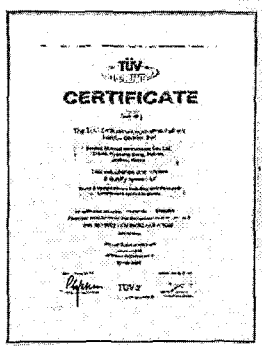

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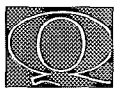
the dealer and the rebuilder were given ample opportunity to correct the problem and while promising to take care of it, chose to ignore it in the end.

Backchecking Problem



I am stumped with the backchecks on this piano. The piano is an early 1980s Steinway Model L with new Renner Premium blue hammers on Renner shanks & flanges and re-leathered original backchecks. I have closely regulated key height, dip, let-off and drop, spring tension and all the other usual suspects. The problem is that the hammers absolutely refuse to check when the note is played at the level of forte or less. They just bounce between the backcheck and the string. The angle of the backchecks is good and they check high enough, but I just can't seem to get them to work in the piano. The problem is particularly bad in the bass and tenor, where the hammers are larger.

The problem may be in the balancier. When I push the balanciers down, there seems to be much more spring resistance than normal, although the hammer rise is not particularly fast. The original wippens have been rebuilt and repinned, so I'm pretty sure that it is not a pinning problem. The slots are clean and the springs have been cleaned and polished. I'm pretty much at my wit's end and if I don't get this resolved soon, I'm going to have to take a hostage. Any and all help will be gratefully appreciated. Many thanks.

— Tom Seay, RPT
Austin, Texas

Coleman: There are two things that come to mind: 1. balancier flange resistance, and 2. hammer tail length.

If you take the rep spring out of the groove you may find that the flange resistance is too high (I have actually found this 20 grams resistance). The spring then has to be set with such high tension in order to overcome this. Even though you may get a slow rise of the hammer after releasing from check, it is just too much tension to let the hammers stay in check.

How much distance is there between the top of the backcheck and the bottom of the hammer tail when the drop screw controls the hammer? More than 1/4" would create a problem with checking. Too wide an arc on the shape of the hammer tail could be a problem, but that usually just prevents you from getting close checking, and is probably not related to your specific problem here.

Avery Todd, RPT: Maybe I overlooked someone mentioning this, but how is the height of the backcheck in relation to bottom of the hammer tail when at let-off? Couldn't that affect it? How about nap orientation on the recovered backcheck? Also, how is the new knuckle size and placement compared to the old? It sounds as though the jack is having to be forced on forward out of the way by a very hard blow. If so, why? They could be too heavy compared to the old necessitating overly strong spring tension.

Newton Hunt, RPT: The best test of the angle of the backchecks is to place one in check and then tap on the strike point with the force of *mezzo forte*. If the hammer does not move, the angle is too acute. If it passes through, then the angle is too obtuse.

Check the length of your tails. If they are less than one inch (unlikely with Blues) then that is the problem. Angle is then super critical as is the curve of the tails. Radius of the tail should be between three and four inches.

Steinway invariably sets their backchecks too high. Optimal height should be level with the top of the hammer shank when the hammer is at rest (regulated) and slightly below the tail end when at drop. Check the angle, then try the height. Recheck the angle and see how it goes.

I am assuming that when you glued on the new leather you got the grain oriented so the nap allows easy movement of the tail downward but catches on it on the way out. Backchecks should be no rougher than a clean piece of 80-grit paper will make it. If the tail has a sharp edge at the end you might round that over to help prevent early leather wear and help checking. Tails should engage the backcheck in the center and parallel to the hammer heels.

Jim Bryant, RPT: I would be willing to bet a sarsaparilla water that the jack is binding on the bumper felt in the window of the balancier. This would cause the problem you describe and not be immediately apparent. Causes would be: too large of a knuckle; knuckle placed too far toward flange; or bumper felt too thick. I have run into this last problem with some Renner shanks while using the original wippens.

Robin Hufford, RPT: It is possible that the pinning of the repetition flange is too loose, not too tight as has been suggested, even though I am sure such scenarios do occur, and the resulting too great repetition spring tension is not allowing the check to grab and hold onto the tail. The Renner hammer and shank are somewhat heavier, even when well worked, than original parts. As the hammer rebounds from the string, it is decelerated by three principal components: friction in the pinning of the hammer shank flange, the repetition flange and the spring tension. The hammer flange is of lesser concern than the rep flange. As the repetition flange friction becomes less, whether due to wear, poor design or whatever, the repetition springs must be increased substantially to compensate for the loss of friction in the rep pinning. This then produces a situation where, other factors being correct, a level will be found where the checking will occur as you have described. This is seen occasionally on older grands where the pinning is loose.

A good visual demonstration of a rep spring being too loose is to gently move the key and hammer to the beginning of the let-off sequence, and then very slowly move through let-off and then stop the motion of the key and rise of the wippen. While this is happening, watch the drop of the hammer. If pinning is too loose, as I suspect, then the hammer will be seen to fall freely, loosely and rapidly as it passes through the drop level and will continue sometimes as much as a quarter of and inch or more as the spring tension works to decelerate the hammer assembly and return it to the drop level. There is a characteristic, quick kind of motion here that is easy to perceive and distinguish from a correctly pinned flange which does not descend as far due to the effects of the friction on the center pin.

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As you know, poor pinning is a very common problem on the notoriously unstable Teflon™-bushed wippens of pianos of that period. If this piano retains the Teflon™, which your post does not indicate, then that may be the source of the problem. Or, if cloth bushings are in place, excessive drying, poor pinning from the factory, wear, etc. may account for this condition.

Don Mannino, RPT: I would look into the following things:

1. Old repetition spring was bent wrong and is pressing up on the rep lever too close to the center pin. If so, put new springs in.
2. Repetition spring slots are gummy. Clean them out and relubricate.
3. Hammer tails are too smooth / backcheck skin doesn't have good nap. Rough the tails up.
4. New knuckle location or size is not correct.
5. New shank center is in the wrong place (would be minor contributor along with something else).

Cyrillus Aerts: I read many solutions to the checking problem, but a very important one was missed. The key is one of the most important parts to influence the checking of a grand piano. Since the backcheck is part of the key, you may want to check the following:

An oversized balance rail hole, resulting in front to back play in the key, can cause bad checking. This is normally unnoticed on the bench or when the key is played soft or moderate. But when played hard or fast the looseness of the key causes the backcheck to let go of the hammer prematurely.

Bad key bushings in general, resulting in side play in the key, causing the same.

Too many paper punchings and thick felt punchings at the balance rail, causes the key to "dance" and this in turn causes bad checking when played fast or hard.

The NY Steinway, which is equipped with the loose half rounds on the balance rail is more likely to "dance," not only because of the enormous amount of paper punchings that sometimes can be found under the half rounds, but also the thick mushy felt that covers the half rounds. This in turn creates something similar to "key flexing," which not only causes poor checking, but limited tone production when played forte. The half-round system is unfortunately also a rattle producer.

If the key itself also flexes too much (Pratt-Read era for example), it becomes even more complex to regulate the checking accurately on both moderate and forte playing.

Jim Bryant describes the jack getting pressed against the balancier cushion causing too much aftertouch or just not sufficient space available for the jack to maneuver. I would look at his suggestion first before any of the others because these symptoms occur also when you play forte and not when you play moderately.

Seay: Thanks to everyone who responded. I appreciate hearing all of the suggestions and solutions ranging from the most obvious to the somewhat esoteric, all of which I had already tried with no success.

Eventually, my colleagues and I began to suspect that the geometry of the action might be problematic; however, it was only after comparing an original Teflon™ wippen with a replacement wippen from Renner that the differences became quite obvious.

It turns out that action geometry was the culprit all along. There seems to be 1 to 1.5 mm difference in the action spread between the Teflon™ and Renner wippens. Furthermore, the balancier center pin on the Teflon wippen is considerably closer to the hammer rail than is the Renner. After I regulated the new wippen and checked it in the piano, the backcheck worked perfectly on a soft blow every time. Problem solved!

By the way, the hostages have been released unharmed, the SWAT teams have left, all the crime scene tape has been taken down and the media have finally left for good. So, I guess it's back to work installing a new set of wippens.

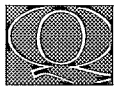
Bryant: Any change of parts in a Teflon action, without regard to vendor, is immediately a "geometry problem." A lot of the Teflon actions themselves were "geometry problems." When working with a Teflon action my rule is to replace everything or nothing ... although a properly functioning Teflon shank is very nice to work with.

Lance Lefargue, RPT: I know you are discussing a piano with some parts replaced. I have a Steinway D with the same problem. All parts are original 1960s Teflon™. I was intrigued by Jim Coleman's ideas. Any particular ideas for an all original Steinway that is not checking? I have examined the obvious. Could a low key height be part of it?

Bryant: Key height is always a suspect, but is very rarely the real problem. On this era Steinway, the tail of the hammer is, in my opinion, badly shaped, i.e., flat! Re-arcing the tails to achieve a real radius, rather than a flat spot, will accomplish wonders, sometimes. You might need to change the radius of bend in the back check angle to accommodate the re-arced tails and possibly raise the backchecks a little, but this can improve checking and the general feel of a Teflon action... sometimes. Try one or two first before doing the whole set, though.

Hunt: If the tails are short and/or have a flat spot I have used medium CA glue to add on an extra piece of wood which lengthens the tails or reshapes them without taking off a lot of wood. When too much wood is removed from the tail it will cause the felt of the lower middle hammers to hang up on the backchecks. When gluing on extra wood I like to orient the grain crossways to help checking. I then prefer to shape the tails individually at the disk sander and then check the pinning before screwing them back onto the rail. This all sounds like a lot of work but sometimes budget does not allow new hammers.

Grand Lid Removal and Replacement



Here at the university we have two primary concert pianos: a new Steinway D, and a Baldwin SD-10, about ten years old.

For some reason it has become increasingly popular here to remove the lids of the grands entirely for performances. It started with a few performances with two

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grands nested together, (not uncommon for the front piano in such situations). But then a few performers wanted to try removing it for solo performances. Even the orchestra decided to give it a go recently. It would appear that once people found out that the lid was removable everyone now wants to try it. I fear the trend may have become permanent in spite of my protests.

I am concerned about repeated lid removal, as this has caused stress on the hinges, lost and bent hinge pins, scratches on the lid, etc. If this is going to become a popular practice, what solutions might there be to make removal faster with less structural stress? Has anyone dealt with this problem before?

I thought about drilling out the hinge holes a bit oversized and inserting a custom pin – perhaps a pin with a hole drilled through the end with a removable cotter pin. Maybe even a small cable attached so that the pins don't become lost. Any thoughts?

— Rob Goodale, RPT
Northern Arizona University
Flagstaff, Arizona

Joel A. Jones, RPT: At Wisconsin it was a "long argument." Everyone wanted to remove the pins as you are describing. This topic consumed a full faculty meeting of over an hour, plus numerous private discussions and meetings. The director of the School of Music would give me no support and kept his distance on this subject. The faculty meeting mandated that I could not break off the pins, thus allowing anyone to remove the lids whenever needed. As the pins were replaced I notified everyone by memo and restated my position. This stopped when someone lifted the lid after a removal and the hinge pins had not been replaced. Nobody broke a leg or a foot, but the lid hit the floor with a convincing thud. Ultimately, I replaced 'lost pins' with the modified version. Now I break off the end of the pin so it is a straight pin in the hinge. Nothing they can grab for removal. I punch the pin out with a hammer and center punch. This also means that I know about lid removals. And it also means that we charge extra for removal. I pick my help. Recruit three people who can store the lid in a safe place with plenty of covers. Now, many years later, it is an established practice/policy and everyone cooperates with me with lid removal. Ah, bureaucracy – ya gotta love it!

Wallace Scherer: I don't have experience with this exact problem, but your idea of larger, attached, hinge pins sounds good. Hope you have discussed the situation with the department chairman.

Another thought: I used to work next to a plastics shop where they made all sorts of custom sized and fitted things. Maybe a molded plastic top about 3/16" thick would work. It would surely be lighter to lift off each time than the heavy wood lid. It would need about a 1+" edge to fit over the rim of the piano, and to reduce scratching have felt attached inside its rim. When the measurements are made for the molding, make sure the thickness of the felt is taken into consideration. Hey, crazy fads require crazy innovation.

Avery Todd, RPT: I kind of like Joel's idea about cutting off the pins. Another thought comes to mind, though. Are these pianos in fairly large halls? If so (and maybe even if they're not), what does this do to the projection of sound, especially when with an orchestra? Maybe some listening experiments could be conducted and the results could be used as an argument for not removing the lids.

Goodale: Actually yes, Avery, this is a very large hall. Probably seats at least 1,500. It is the main music hall and sees a lot of action – including guest concert pianists. As far as sound projection is concerned, it is fantastic. Many credible music/theater people have called it the greatest sounding hall in Arizona.

As far as lid removal goes, it is often the music faculty as much as anyone else who has started in on this trend. I think it's just one of those kind of new concepts to "change the sound" sort of things. Anyway, with enough people climbing aboard on this, it makes it difficult to regulate the situation. Often I am not present when the lid is removed. I just come in and suddenly find it off. Frankly I don't want to have to be there every time it is removed as it often seems to occur at inconvenient times. It looks like the main issue here is how to get the lid off and on quickly and easily without damage to anything. Any thoughts or ideas would be appreciated.

Tom Cole, RPT: Since you'd rather not be rousted out every time someone wants to remove the lid, it would probably be better to make it easy to remove. If you cut the exposed part of the hinge pins, as suggested, then it's inevitable that someone with a screwdriver will remove the hinge screws, putting same in a "safe" place and making things difficult for you.

To minimize damage, maybe a few key people could be given some fairly strict guidelines for removing and replacing the lid, including a secure storage location, a large closet or the piano "barn," if there is one. My experience with removed case parts is that they tend to wind up as student dorm furniture. The main saving grace here is that a concert grand lid would not fit well in most dorms.

Your thought — I believe it was — to ream out the hinge pin holes for an easy slip fit, is the best one. You might also drill holes for storing the pins in the top of the rim. And then, again, educating music faculty and stage people as to the importance of lid protocol might save the lid some day.

The reason I write is that I recently discovered a dining commons grand that had one pin missing and the other hinge is twisted, some screws are pulled out and the wood is damaged. It can be fixed, of course, but I hate to see that happen to a fine instrument.

Goodale: ***Excellent Idea!*** I hadn't thought of drilling "storage holes." That just might be the trick to prevent pin loss. Students come in and cop the benches and take them back to their rooms to use as night stands. Needless to say, we never see them again. Another popular thing is to steal the bottom boards off uprights. They place these up on cinder blocks and make tables out of them. Sheesh! Only in America!

John R. Fortiner: I have to replace a grand lid on a Young Chang piano that has been damaged. How do you transfer the respective hinges and lid alignment post from one lid (the damaged one) to the new one so that everything lines up correctly? BTW the lid section that is being replaced is the larger

of the two (not the rectangular piece).

Gordon Large, RPT: If the new piece is identical to the original, I would think you could treat this job like recapping a bridge. Make a paper or Mylar pattern of the old straight side hinge location, index it from the corners, then transfer that to the new piece.

A low-tech method might be to position the hinges on the rim with carpet tape on the lid portion of the hinge. Then position the lid on the case, the tape will stick to the lid, pull out the hinge pins, and that should allow you to locate the screw holes.

For the continuous hinge, I would place the rectangular portion on top of the wing-shaped piece and that should locate the screw holes. I would drill a couple screw holes (insert the two screws) and check the alignment before drilling the rest.

Goodale: Take some masking tape and place it smoothly along the bottom outer edges of the new lid. Use some helpers to place the lid on the piano in the *exact* position that you want it to be. Trace this position onto the masking tape with a pencil. Next, remove the lid and insert a pencil, marker, whatever will reliably fit into the guide pin hole in the piano. You could also use some sort of pointed awl. It must fit centered, straight and reliably. Once again place the lid on the piano, this time using your marked lines as your guide. Carefully align the marker in the guide-pin hole to the position where it should mate with the lid and allow it to mark the spot on the tape. Remove the lid and install the guide pin. Next, place the lid back onto the piano. If you did the above correctly the lid should be in the proper position with the pin now in place. Now you can mark the location of your hinges reliably. Install the mating half of the hinges with the pins installed. From there you can trace the position once again on your masking tape. Remove the lid, install the hinges as per your markings, and if all is right with the world it should line up perfectly.

John Ross: I had to replace one. It was also on a Young Chang. A forklift had driven into the lid. I put double-sided tape on the lid part of the hinge. I then centered the lid to the proper position, the tape held the hinge in place. To drill, I just removed the pins and lifted the lid off. I found it more trouble to replace the rubber bumpers. You have to be very careful in drilling, so as not to shatter the polyester. Make sure to use a spur bit and that it is sharp.

Wim Blees, RPT: It's amazing how these things come up. Would you believe I just did exactly what you are asking this morning on a new Weber grand.

The first thing you want to do is attach both front and back sections of the top lid. Next, put on the front lock. Take careful measurements from the old lid, and put it exactly where it belongs. (Make a note of where the lock was in relation to the piano with the old lid). If there is a lock on the big lid, you want to attach it also. Remove the hinges from the old lid, and attach them to the piano hinges with the hinge pins. Now put the new lid on the piano and align the lock where it is supposed to be. You need to make a mark as to where the hinge will attach to the top lid. I had a white piano to deal with, but if you have a black piano, it might be a little more difficult. I used a pen to outline where the hinge was supposed to be. You might want to use masking tape. When you have that done, take the new lid off and line up the hinge where you made your markings. To be on the safe side, drill one hole, attach the hinge to the lid, then put the lid back on the piano, put in the hinge pins, and make sure the lock is still in the right place. If you did everything right, take the lid down, drill the rest of the holes for the hinge, and put in the screws.

When this is done, put the lid back on the piano, put in the hinge pins, find out where the lid prop circles, the lid guide and the rubber buttons are supposed to be, and drill the holes accordingly.

It took me about two hours to do this. Unless you have a strong back and arms, it will be much easier to do this job with a helper. My customer was a strong man and he helped me, but the lady of the house could help by holding the treble end of the lid while you put the hinges together. I laid a blanket on the floor and did the work on the floor.

Mark Wisner: Place the old lid over the new, and use it as a template, drilling all the way through the existing holes and into the new lid, using a drill stop.

John Fortiner responds:

You might be interested in knowing that I posted that question before opening the replacement lid box from Young Chang. It turned out that they had shipped both lid sections pre-assembled. However the problems of lining up the lid to rim hinges, the locking hardware, and the lid to rim post and receiver still remained and I made good use of the above advice. Thank you to all who responded.

A Guide to Bridge Recapping

By Robert Hohf, RPT
Contributing Editor

Part 1: Introduction

It's fun to have fun
But you have to know how.
— The Cat in the Hat

For a while there, Boyd thought he was having fun, but, once again, he had cause to marvel at how quickly fun can change to disaster in the piano business. He thought he had a good handle on the process of bridge recapping. But today, in Boyd's Eastside Piano Shop, he was standing listlessly, elbows resting on the rim of his latest rebuilding project, staring blankly at the disaster that lay before him, and passively reviewing every bridge repair he had ever done.

Boyd's mind drifted to the first time, decades ago, that he had ever taken vise-grips to bridge pin and yanked; the sense that there's no turning back now was as vivid now as it was then. He thought of every successful (and unsuccessful) epoxy trick he had ever tried; none would be of any help whatsoever here. Then came the recollection of the first time he recapped the top four unisons of a split-out treble bridge years ago: that one held, and continued to hold, and was his first infusion of the idea that "Hey, I can do this." Next came the early recapping of entire sections of bridges; trickier, but still successful. However, the one important step that was missing was setting the downbearing. In these early jobs, he had simply followed the top surface of the adjacent capping. With all-new caps, there was no adjacent surface, and the downbearing had to be entirely reset from scratch.

The archetypal image of the Upright Bass Bridge loomed before him. It was the compilation of about a thousand bridge repairs of every conceivable kind. Most of these repairs had been successful—at least successful enough to return the old piano to service for a few more years. A few, however, were miserable failures and left no choice but to condemn the instrument to the Dead Piano Pile, over in the darkest corner, along with the inner tubes, the broken rake handles and the other unspeakable detritus. Yes, Boyd had many fond and poignant memories of his long association with the Upright Bass Bridge. But, as he attempted to consult it for advice in his present predicament, it vanished in the mist.

What folly had inspired Boyd to attempt completely recapping this fine grand piano, when a more conventional repair would probably have been perfectly adequate? He knew all too well the source of the folly: it was the fundamental flaw in his character, the uncontrollable reckless abandon, that caused him to jump in with both feet, again and again, and ask questions later. He cursed his weakness; he cursed his genetics; he cursed the I Ching for advising him, "Supreme good fortune, no blame."

No Blame! Boyd's head cleared. He now recalled that there were a number of indications that this piano might benefit from new bridge caps. There had been many small problems that could be addressed only by reworking the bridges — things he had noticed frequently in other pianos over the years, but he had simply ignored.

The condition of the top of the original bridge caps had been typical; nearly every pin had a small "seasoning" crack on its back side relieving some of the force of the side-bearing. Boyd thought back to his early years in the piano business when he had asked a veteran technician about these cracks. It was he who had applied the term "seasoning" to these early indications of wood failure. The old-timer apparently had believed that, since the cracks were caused by a normal process, they could be dismissed with a wave of the hand and no further repair was necessary.

As much as Boyd respected the experience of this technician, he was uneasy with this explanation of the cracks. True, nearly every piano seemed to develop them over time, but Boyd could not shake the idea that cracks implied looseness of the pins. And it was looseness right where you wanted it the least: at the termination of the speaking length of the string. When Boyd progressed to the point where he had his own piano projects, he called them plain old cracks, pulled out all the old pins and epoxied in new ones. Those new pins were tight. But epoxy was kind of messy, and he could not shake the lingering idea that new pin holes in new caps would be a better repair.

Before removing the strings from this piano, Boyd had noticed another common condition on the bridges. When he stretched a fishing line from the agraffes to the hitch pins in the tenor section, every unison was offset at least 3-5 millimeters toward the bass. In the first treble section, the offset had not been quite as severe, but there was still a 2-3 mm offset on every unison. Apparently, the templates that were used in the factory to locate the bridge-pin holes had not been perfectly aligned when the holes were marked. When he had asked other technicians about this apparent misalignment, he was envious of their ability to wave a hand and be absolved of any further concern. Perhaps he was just working off his burden for the improprieties of a previous existence, but, try as he might, Boyd could not shake his feeling that the strings should describe as straight a line as possible from the upper terminations to the hitch pins.

With the strings and bridge pins removed, Boyd had looked closely at the impressions made in the original caps by the downward force of the strings on the bridges. At the front pins they were deep enough to cause small flakes of wood to curl up on the sides of where the strings had lain. The impressions decreased to almost nothing at the rear pins. He took this to mean that the front of the bridge had been bearing nearly all of the force between the strings and the soundboard, while the force appeared to dwindle to nothing at the rear pin. He asked himself, "Can this possibly be the best arrangement for tone production?" He thought not. For years he had resurfaced the bridge caps down to the bottoms of the string impressions and then cleaned up the notch-

ing before installing the new pins. This treatment made the bridges look a whole lot better, but he had always known that the only way to really address this condition was with new caps.

Boyd had been observing all of these conditions in other pianos for many years, so why not simply proceed with the repair again as he had always done in the past? Why had he decided that this piano was the one to take the plunge into all-new caps? Then he remembered why he had made the decision: the string height had been a full centimeter lower on note 88 than at the bottom of the tenor section. Two to three millimeters he could live with; maybe even four or five. But a centimeter was too much. In addition to that, measurements he had taken from the action indicated that the function of the action could be improved by lowering the string height in the bass. He also had noticed that the plate did not line up well with the stretcher—further evidence that this plate had been mounted originally in the case tipped downward from bass to treble. Any doubt of a misfit disappeared when he pulled the plate; he saw that the plate supports in the high treble had been ground down flush with the soundboard. The sum total of all these observations became more than he could ignore. Boyd knew he was at a crossroads in his rebuilding career: was he going to become a "hand waver," or was he going to fix it? Correcting the string-height problems meant resetting the elevation of the plate. Resetting the plate meant resetting the downbearing. And resetting the downbearing meant new bridge caps.

In spite of Boyd's self-perceived reckless abandon, he did not approach this bridge recapping totally unprepared. In fact, he had already mentally recapped at least a dozen pianos. He had thought through the entire process step by step many times. He had even devised exercises to practice many of the operations that he knew he would need to perform some day. That is why, up until a few moments before, he had been having so much fun. This complex repair had been deceptively smooth, so smooth, in fact, that he was beginning to feel smug. Making the template had been easy. Planing off the old caps, filling the old pin holes, and preparing the surface of the bridge body went without a hitch. Rough-fitting the bridge with the new over-thick caps had been tricky, but he was confident that, with a few more jobs under his belt, he would be able to work out the bugs. His carefully devised system of gluing and clamping on the new caps had been as effective as he could possibly have hoped for.

Then Boyd put the plate back in and loaded the bridge to simulate the downward force of the strings in preparation for setting the downbearing. Using a fishing line to find the string height, he had carefully cut his guide grooves in the over-thick cap of the bass bridge. No problem. He started on the tenor section. The low tenor had been fine, but when he had stretched his line over the center of the tenor section, there were at least 2 millimeters of space between the line and the top of the cap. How was this possible? He had lowered the string height in the bass. And his new cap was thicker than the original. It just didn't add up. Boyd was at the point where he was ready to try anything. He closed his eyes and slowly waved his hand in front of him. Then he opened his eyes: the gap was still there.

■ ■ ■

When Boyd gets like this, it's best to leave him to his own devices. What he didn't know at the time, but was about to learn, was that his predicament was not all that serious. Of course, his nice new bridge cap would have to come off, and be replaced by a newer and thicker one. He did it once, so he ought to be able to do it again. And, if he would just take his elbows off the rim of the piano and get to work, he could be half done already. If he noticed his problem at noon on one day, he could correct it and be ready to proceed with setting the downbearing by noon the next day, with enough time left over to hang some hammers, polish some capstans and maybe even mow his lawn.

In this series of articles, we will discuss a step-by-step procedure for replacing bridge caps with the bridges on the soundboard and in the piano. This is a very complex repair which requires a high degree of tool and machine skills and a good working knowledge of the resonating system in pianos. The goal is to put the technician in control of the repair. Being in control means that every step works every time, and that the results are consistent and predictable from one job to the next.

The string heights relative to the keybed and soundboard, the upward and downward forces that the soundboard and strings exert on each other and the locations of the unisons on the bridge, are all important parameters responsible for the tonal and resonant potential of an instrument. There are certainly other parameters, such as scaling and the particulars of soundboard construction, but there has been much discussion of rescaling and soundboard work, so they will not be covered in any detail in this series. For technicians who are interested in affecting, changing, and, ultimately, improving the tone and resonance of an instrument in a significant way, mastery of bridge capping and the related operations is absolutely essential. Bridge work is the heart surgery of piano rebuilding. If the plate is in its optimum orientation, the unisons are located on the bridge for optimum alignment and the downbearing properly set, the soundboard will be free to resonate, the piano will sing, and all the mechanical systems of the piano will operate with ease and reliability. If this work is poorly or improperly done, tone of the instrument will be stifled and out of balance, and making the other systems work will be exercises in fudging and futility.

The focus of this series will be on method over theory. While some theoretical discussion will be unavoidable, and is certain to arouse some (perhaps heated) controversy, promoting particular theories and settling the controversies is not the goal of this series. The technician who masters and gains control of the recapping process will be free to use these skills to investigate any line of thought that seems appropriate. That is where the fun begins.

We will approach recapping from a distinctly low-tech and process-oriented direction. There will be machine work, but the focus will lean heavily toward performing the critical operations with hand tools. Hand tools provide better feel for the work and

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A Guide to Bridge Recapping

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better control. In steps like removing the old caps, hand tools are faster, more reliable and quieter than power tools. There will be few, if any, calculations and no spreadsheets. That is not to say that others may not want to incorporate more sophisticated analysis into their procedure. But, when venturing into major repairs on pianos, it has been my experience that the tools, the materials, the previous steps, the subsequent steps, and physical reality tend to dictate a clear direction to proceed. This is what I am referring to with the term process-oriented. When working with something as complex as a piano, it is difficult, if not impossible, to design mathematical equations that include all of the essential parameters; and there are frequently parameters that cannot be accurately quantified. This often gives higher-tech analysis the unpleasant tendency of pointing in a direction that defies physical reality. This is not to say that, at some future time, the gulf between the higher- and lower-tech approaches may not be reconciled.

What makes bridge recapping so complex is that it is related to nearly every other step in the rebuilding process. Setting the plate location and elevation, along with making and installing pinblocks is, of course, critical to establishing the alignment of the strings on the bridges. But these aspects have been covered elsewhere and will not be discussed in detail in this series. On the other hand, setting the downbearing has been discussed many times in many different contexts, and will be covered again at length. It is my opinion that the location of the unisons on the bridge is a topic that has been long ignored in discussions of bridge repair. Duplicating the original pattern of bridge pin locations often means duplicating some of the most serious problems originally built into a piano. In this series, we will discuss a method of laying out a new pattern from scratch. It seems that technicians often meticulously duplicate the old bridge pin pattern in order to avoid making new damper guide rails. Laying out the pattern from scratch requires new damper guide rails, so this series will include a step-by-step procedure for this project as well.

In my shop, every bridge on every rebuilding project gets a new cap regardless of the age of the piano or the condition of the original caps. The process of recapping solid-body bridges with no original caps differs very little from recapping bent-wood bridges. Several reasons for this policy are mentioned above, but perhaps the most important reason is practice. The theories one may wish to explore or the experiments one may wish to conduct using recapping skills are endless. Obtaining meaningful results from experiments and, ultimately, greater understanding of the resonant system of pianos depends on the ability to get consistent and predictable results from complex and difficult repairs. These will come from familiarity with the procedures, which is gained only by repetition.

Those already involved in recapping bridges probably are committed to an approach that is suited to their particular shop setup and skills. But they still may find a useful idea here and there in these articles that they can adapt to their existing procedures. Those attempting recapping for the first time will probably find that the results are not quite what they expected. Certain steps may require equipment that they do not have, or they may have special skills that can make a different procedure simpler for them. The second time through, they will have to make changes to the process that will work better for them in their shop. After several repetitions, with the necessary refinements to the procedures, the technician will find the process looks less and less like what is outlined in the articles, but it will go more quickly and smoothly, with results much closer to what was intended.

For those who may be considering their first attempt at recapping, the most difficult question may be: Which is the right piano to try this on? The instrument should be good enough to be worth the effort, but in bad enough shape that there is plenty of room for improvement. Experimenting on one's own pianos is the best way to avoid difficult explanations to a customer later. However, making progress is rarely possible without taking some risks, and bridge recapping is not inherently any riskier than many other repairs.

Next month: Preparing the capping material.

The Challenges of Modern Piano Tuning Part III:

Expanding the Temperament — Onward and Outward

By Bruce Winn, RPT
Richmond, VA Chapter

This series of articles is designed to give serious Associate Members of the PTG information and exercises they will need to tune at the RPT level. Part I dealt with establishing pitch and setting the proper octave size for each piano. Part II laid out the basic theory and directions for setting up a proper framework and tuning the temperament octave. We are now ready for:

Challenge #4

To expand the temperament across the midrange, treble, high treble and bass regions.

Expanding your temperament to make a good performance-level tuning requires several things. The octaves must sound clean and smooth and be the appropriate size for the piano you are tuning. 3rds, 4ths, 5ths and 6ths must progress evenly throughout the scale. In certain areas, larger intervals such as 10ths, 12ths and double octaves must check out properly as well. You must make all these small adjustments within the limits of clean sounding octaves, keeping in mind the overall musical sound you want for each tuning. Here are some detailed tips:

Midrange: From your initial temperament octave, tune down at least as far as C3 using several tests for each note. Octaves should be about the same as the A2-A3 octave you set at the beginning. Descending major 3rds should have slowly decreasing beat rates. Contiguous 3rds should fit in to your initial framework (C#3 already has been tuned). 4ths, 5ths and 6ths should progress smoothly down to the bottom of the tenor section.

Tuning by octaves alone in this region can be terribly misleading. You can tune a good temperament and still fall down in this area if you are not careful. Be sure to pay close attention to each note you are tuning and make sure it fits in properly.

Tuning upward from the (F3-F4) temperament octave, I like to fill in F#4, G4, and G#4 early, as if they were part of the temperament itself. This gives me three more frameworks of contiguous 3rds similar to the F-A-C#-F series that I started with. The octaves should be the same size as the A3-A4 octaves and the frameworks should be very similar to each other. You can extend this procedure on up to C5.

Treble: As you move up into the treble region, the simple 4th and 5th test is a useful guide. For example, when you are tuning D5, listen to the G4-D5 5th and the A4-D5 4th. As you raise the pitch of D5, the 5th beats slower and the 4th beats faster. Lower D5 slightly—the 5th will speed up and the 4th will slow down. In this area of most pianos, the 4th should beat at about one bps or slightly faster, the 5th should beat at about 1/2 bps or slightly slower and the D4-D5 octave should sound clean.

The 3rd-10th test for octaves is very helpful in the treble region. There is some variation from piano to piano, so you'll have to determine whether and where the 10th beats faster than the 3rd. In all cases, 10ths and 3rds should move smoothly up the scale with no abrupt shifts or sudden changes.

When you reach F5, the double octave becomes available as a test. I use it mainly as a quick check. If the double octave sounds good and clean, I'm generally on target. If there is a noticeable beat in the double octave, at least one of the single octaves is not right. I will then use other tests to correct the problem. These tests and techniques are good up to at least F6.

High Treble: From about F6 on up to the top of the piano, the only usable tone for each string is the fundamental or first partial. Higher partials are weak, hard to hear and unreliable for fine tuning tests. This means that the most

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The Challenges of Modern Piano Tuning Part III:

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useful test intervals are the single octave, the 12th and the double octave.

If you have been reading the *Piano Technicians Journal* for the past year or two, you probably realize that there is some diversity of opinion on how wide to tune the octaves in this region. On the PTG tuning exam, you are instructed to tune clean single octaves for the top 12 notes (C7-B7). This means that these highest octaves should sound clean and pure at the 2:1 level with little if any additional stretch. In many performance situations, especially if the piano is the featured instrument, a slightly wider octave will allow the upper range of the piano to cut through the sound of the orchestra and project sound further into the concert hall.

This compromise works well for me:

1. Be sure that you have tuned all the notes correctly up to the one you are now tuning.
2. Tune a pure single octave, listening carefully to the sound of both strings played at the same time.
3. Listen to the sound of the 12th and the double octave. Which interval beats most noticeably? If the 12th needs help, try raising the note you are tuning. If the 12th sounds OK, but the double octave beats too fast, try lowering the note slightly. If both intervals sound bad, something is probably wrong with step #1 or step #2.
4. Recheck the single octave and be sure that it sounds acceptably clean. There is almost always one pitch for the string where all three intervals sound good.

Bass: Tuning the bass section presents some special challenges. A little background information may help you understand how bass strings work, and some exercises may help you focus your hearing on the full spectrum of bass string sounds.

The Tenor Break

Actually, there are several sudden breaks or changes on pianos as you move down from the midrange to the bass. Most obviously, there is the shift from the main treble bridge to the bass bridge. Then there is the change from straight steel wire to wound bass strings. There are shifts from triple-string unisons to double-string unisons to single strings and sometimes to double-wound single strings. Some pianos have an extra tenor bridge to smooth out the break.

The tenor break can challenge many technical skills such as tuning, voicing, regulation and damper adjustment. In modern pianos, we strive to make this area sound as smooth as possible with each note similar to its neighbors in touch and tone. Ideally, the listener should not be able to tell by sound where the bass section ends and the treble begins. It is not too difficult to bring about this grand illusion on well designed performance instruments, but on small, poorly made pianos it can seem like Mission Impossible.

Warm Up Exercise #1

Piano strings in the bass and tenor regions put out a rich and complex sound. Learning to hear and understand this sound is essential to proper tuning in this region. A well trained ear can pick out the sound of at least six to eight partials from a single bass string.

Start with F1, the lowest F on the piano. With your left hand, press the F1 key down very slowly so the note does not sound and continue to hold the key down throughout the exercise, so the damper remains up. Now with the right hand, strike F2 an octave higher with a crisp staccato blow and release F2 immediately. You should hear the F1 string vibrating in two parts, the second partial of F1.

Repeat the process of holding down the F1 key with the left hand, but this time strike C3 quickly with the right hand. You'll hear the third partial of F1. In a similar fashion, pick out the fourth partial (F3), the fifth partial (A3), the sixth partial (C4), the seventh partial (Eb4), and the eighth partial (F4). Be aware that all these partials are present in the sound of the F1 string. Train your ear to hear them.

Exercise #2: Unison tuning in the Midrange

In Part I of this series, I mentioned unison tuning as an exercise. I hope you are continuing to improve your skills in this very important area. This exercise will help improve your bass tuning:

Tune unisons beginning at the lowest midrange note. Focus your attention on the third partial, an octave plus a 5th above the note you are tuning (for example, if you are tuning C#3, listen for G#4). As you bring the unison into tune, the beat rate of the third partial should slow down. When the unison is properly tuned, the beat rate at all levels should be zero.

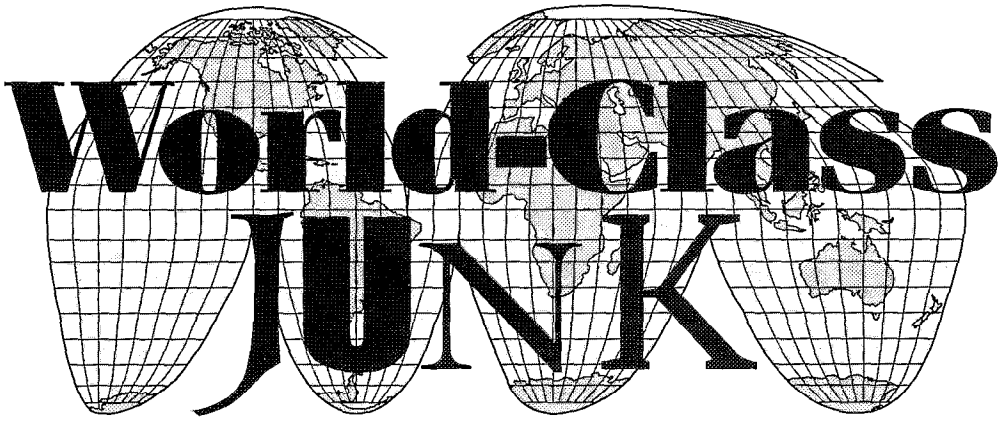
Tune unisons on up through the midrange, listening to the third partial of each string. You should be able to hear it clearly, at least as high as middle C (C4, third partial G5). On a good piano, the third partial is audible well up into the next octave.

Tuning the Bass

As you tune octaves down into the bass region, concentrate on the third partial of the upper note. For example, as you tune B2 down an octave from B3, listen to the partials at the F#4 level. Tuning these partials beatless will give you a pure 6:3 octave. Remember that octaves are not like unisons: it is not possible to line up all the partials at once, due to inharmonicity. The overall sound of the octave should be clean with the 6:3 partials as close to beatless as possible. This will get you into the ballpark.

Now listen to the beat rates of the B2-D#4 10th and the B2-F#4 12th. Lowering B2 slightly will speed up the 10th and slow down the 12th. Raising B2 will slow the 10th and speed up the 12th. The 12th should beat very slowly and the 10th should fit smoothly into the series of descending 10ths. Remember, however, that the sound of the octave is most important, so do not ruin the octaves trying to get the 10ths and 12ths perfect.

Tune octaves in this fashion down into the bass. As you move down through the bass, the 10ths will beat progressively slower and the 12ths will slow down to nearly beatless. For the lowest notes on the piano, some technicians use even larger intervals for testing such as double octaves, octave-10ths and octave-12ths.



Junk That Isn't - Part II

By Susan Kline, RPT
Eugene, OR Chapter

To sum up all that has gone before: these articles have been asserting, as well as I know how, that although many of the instruments we work on are trash, their owners are not. Our work can be excellent even when the pianos are poor. We can take enjoyment from our growing powers of improvisation, as we invent and master good repairs which still use modest means. We do not need to either starve or to cut corners, so long as we are willing to take pains to get things right, and so long as we never refuse a chance to learn. Not always, but often, we can make a real difference for the people who are depending on us, and bring hope and joy where there was only discouragement. This can be a highly satisfying profession.

Sometimes, however, I come to a job expecting one more coffin-like, worn-to-shreds, thin-toned refugee from the dump and instead find something that takes my breath away. "Oh, that old thing," the ignorant owner says, but under the neglect and the dirty face is virtue of every description. The singing tone is warm, solid and true through every register. Inside, I see technical innovations which I wish had been adopted by the industry as a whole. No doubt they were considered too costly. The spacing is perfect, with a perfection which only someone who has tried to space and travel new parts to a rigorous standard can appreciate. The regulation has survived 80 years of total neglect intact, and the touch is responsive still. Integrity shines in every line and detail. It glows. If only the indifferent public could see pianos like these with my eyes, hear them with my ears! They would never be stuffed in garages, left battered and unplayed in school libraries, or consigned to the dump to make room for one more overstuffed chair or end table.

All that I can do is to salute quality wherever I find it. I can try to persuade the people who own these pianos to preserve them. I can try to find good homes for them if they are suffering from poor conditions and neglect. I can write this article; if it saves one fine old Mason & Hamlin or Stieff or old Ivers & Pond, it will be more than worth the trouble. The piano I described above exists, by the way. It is Ivers & Pond #65272, which Pierce dates at 1918, remarkably late for such a fine and elaborate upright. It has full duplex scaling in the treble, with agraffes throughout. It has keys reinforced with bottom plates. It has the whitest, most beautifully fitted ivory I have ever seen. Some are chipped, but not one has ever come unglued. The sharps are that deep black ebony we seldom see any more. Though the hammers are deeply worn, there is no side-play in the flanges, and they are still producing a fine tone. It is in the library of Kings Valley Elementary School, way out in the Oregon woods. It has no casters. The lid hinges are ruined. I glued some of the molding back onto the lid. The case has been bashed around. I spent over an hour cleaning the petrified note name labels and filth off the keys, and giving it a little scratch remover and polish near the keyboard. I talked and talked. We'll try to get it mounted on a dolly so they can use it. Moving it to the gym over and over ruined the casters. I wish that I could just tuck it under my wing and take it home with me instead, worn hammers, battered case and all.

Sorting

There they are, all mixed together: the fantastic but battered upright, the solid old upright that was well kept in a good climate (but was nothing special to begin with), the wonderful upright ruined when people didn't protect it from a Midwestern or Southern climate, the ex-player which is worn to death, the piano that looks big and substantial (but inside is junk and always was), the heartbreaker that would have been great except for "piano technicians" who lubricated it to death or put on lousy parts or gussied it up with gold and aluminum paint over rust ... and all the endless "kind of good, kind of doing okay" old uprights. We need to sort them according to what, ideally, should be done with them.

Triage

As I was wrestling with how to describe the differences between types of pianos and how we should deal with each, I saw that Stephen Birkett of Waterloo, Ontario had just done it for me, on the "pianotech" e-mail list. (One of those happy coincidences.) He said:

In 1998 we have to distinguish between:

A. old pianos that were always crappy and should be burned when past redemption
B. old pianos that were once fine instruments, not necessarily of historical significance or rarity, and

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World-Class Junk

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have the capability to be once again fine pianos at cost-effective rebuilding

C. old pianos of historical or rare value, that should be restored to their original state, or left in museum settings as an historical record for future study and analysis. Stephen signs his posts "Stephen Birkett Fortepianos, Authentic Reproductions of 18th and 19th Century Pianos" and he knows whereof he speaks when writing about historical values.

So, with relief at the sudden arrival of order, I can talk about what should be done with each category.

- Category A: Treat as junk. I keep them going as well as I can, but don't encourage owners to sink more than a little money into them, the sole exception being overwhelming sentimental value. If appropriate, I start talking to owners about how to replace them. As long as these instruments play at all, the world has a place for them, but they shouldn't be asked to do more than they can.

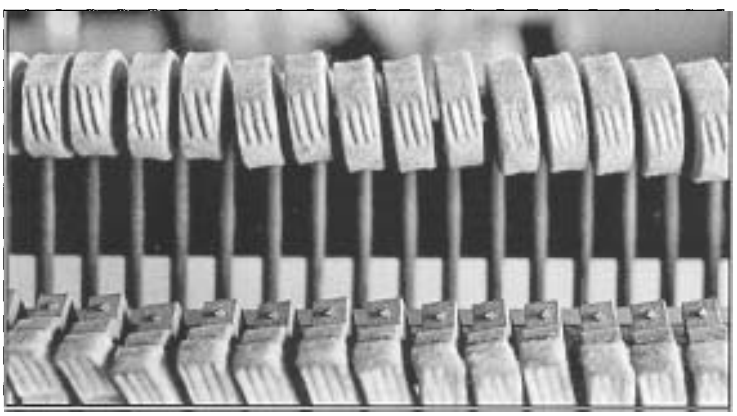


Photo 1 — Oldies weren't always goodies.

- Category B: Here comes the problem: there are wide areas between A, B and C where everything is blurred. Toward the A side, pianos should have economical repairs and major rebuilding shouldn't be done. As they move closer to the C territory, better, more expensive and more careful repairs become appropriate. At the "top of the class," like the Ivers & Pond I described above, one should become more aware of what is and isn't fitting. Generic supply house wippens or hammer butts or flanges really aren't good enough, any more. This is not the supply houses' fault: they are made this way so we can afford them for everyday work. Some pianos of very good quality have the brass butt plates, which can cause many problems. For something like a good old Packard it may be appropriate to convert the whole hammer rail to standard flanges, with new butts, shanks, and hammers. However, any piano good enough to warrant all these new parts deserves good quality new parts. One solution is to investigate buying parts directly from piano manufacturers. Renner also makes high-quality parts which often suit old-fashioned pianos better than one would expect, because some styles which died out here were kept going longer over in Europe.

The small details (the "minor felicities") can add something when working on such very good pianos. Renner can supply bridle tapes with leather tabs instead of vinyl, for instance. Pianotek carries stringing braid made of wool, with weave just like the old stuff, in a clear, strong red or a good royal blue.

As we move further toward the "land of C," where historical considerations rule, we need to think very carefully before removing the original wire. Some of the 19th- and early 20th-century wire is different in composition and degree of tempering than our replacement wire. Sometimes this can affect sound and is an original design feature which was chosen on purpose. A few European sources exist for special 19th century-type wire, which is used for reproductions of old pianos. The sound it gives is different: less bright, but sweeter.

Hammer choice also becomes problematic. The old hammers often were cold-pressed and lightweight. People who know about these things moon over the quality of the old hammer felt, yet the hammers are often so worn that they simply must go. Ronsen makes cold-pressed hammers. Sapele moldings are lighter than maple, too, as are mahogany. Old hammers can be refelted, as is commonly done in Europe. A few people exist who refelt old hammers with a type of felt more appropriate for older pianos. One has to be ready for a different sound. They shouldn't be voiced to today's bright standards. Of course, a different and authentic sound is one reason for going to all this trouble to begin with!

Please notice that on very good (and on some only moderately good) uprights the hammer tails are progressively tapered in the treble, so that the hammer weight is lighter in the upper register. This can improve tone. A tapering jig can allow this feature to be duplicated with the replacement hammers.

So, as we move further and further toward high quality, more and more costly and drastic repairs become appropriate. In the final analysis, when no cost is spared, how far can you go to restore an old piano? Years ago, even pinblock replacement in grands was considered impractical. Now soundboard replacement is common in grands but not for uprights. In a few more decades will this still be true? The irreducible minimum would seem to be a good plate with good string lengths, well-designed action brackets and rails and a good-quality case. Everything else, including the pinblock and keysticks and soundboard, can be replaced and one can still end up with a high-quality instrument. However, if the basics aren't right (the plate, the backpost construction, the good rim on grands, and a workable action design), you can move heaven and earth and still not have a decent piano.

One word, just in case soundboard replacement does become more common for uprights: soundboard replacement should never become automatic, like replacing pinblocks on grands is. Some of these soundboards, even when cracked a little, have been producing a fine tone for over one hundred years. They often have a design that is not conventional. Look at my photos of an 1892 Mason & Hamlin screw-stringer back. This soundboard not only has radiating ribs and cutoff bars at unusual angles, but the ribs themselves are flat on top and tapered all the way from the center to the edges. Soundboards like this have something to teach us. They should either be preserved and studied or

carefully reproduced. At this point, we have entered Category C.

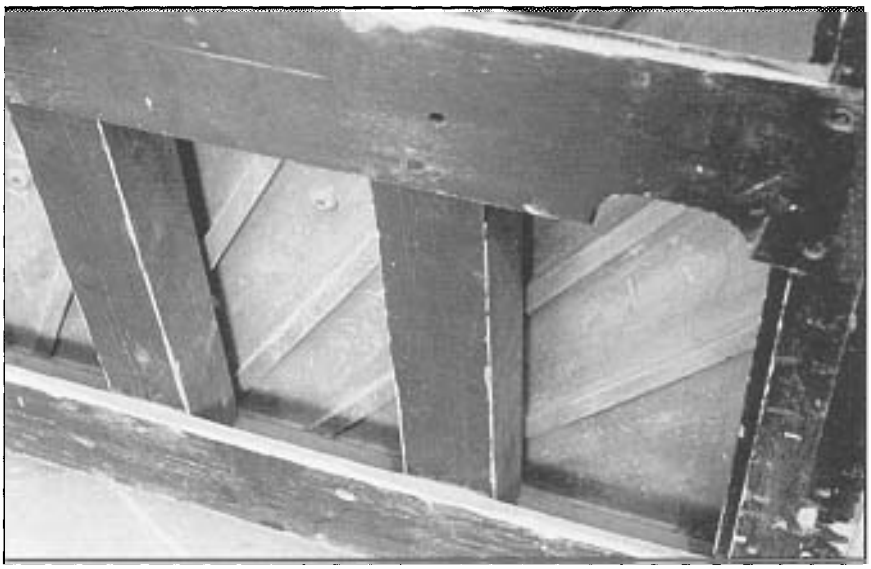
- Category C: pianos of rare or historical value. Some people deny that this category exists. "If it'll never make music again, do whatever you like with it or throw it out." (Turn it into a liquor cabinet; let the kids play with the action pieces.) I vehemently disagree. The physical evidence of what has gone before, the embodiment of unique originality and craftsmanship, is part of our human heritage. If we carelessly discard the old workmanship, we steal from our children and grandchildren, and our world is poorer and shallower for our having been in it. If we haven't the insight or determination to study and restore these instruments ourselves, at least we can get them to safe places where people with less limited vision can study them later on.

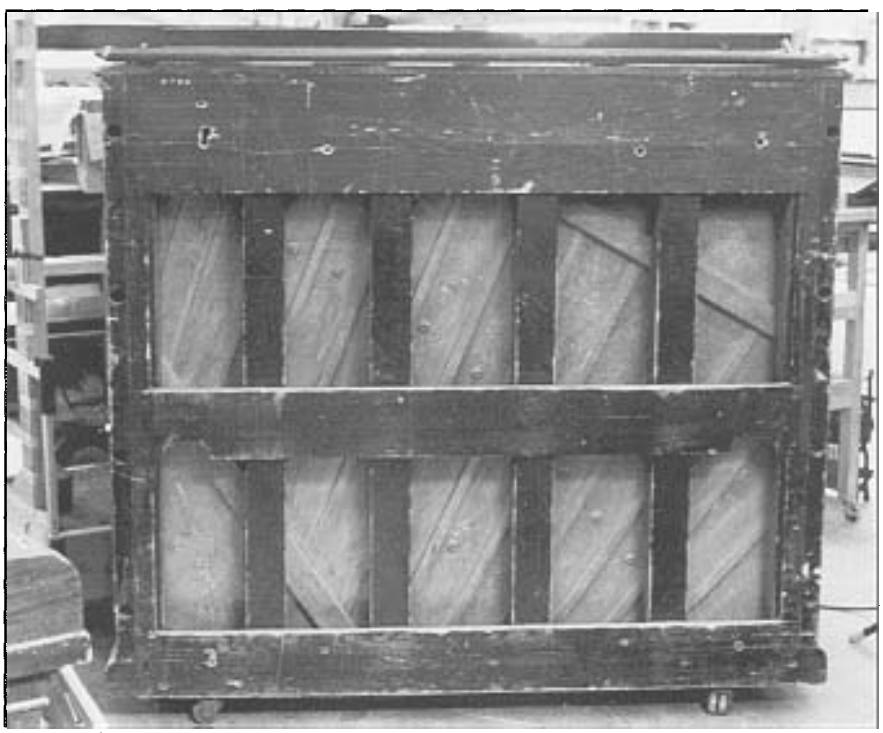
But what is & what isn't?

To quote Stephen Birkett again: "The problem is to weed out the 1920 grand and 1890 square grand that granny had, since many people associate sentiment for such with antique/rarity value."

In my twenty years of tuning pianos, I have seen my share of birdcage pianos, square grands, and even a few Viennese grands and Blackmore sticker action uprights with wooden plates. Some of these seemed very old and unusual to me at the time, but I later learned that there are plenty more where those came from. I have met four pianos which are unique, in my experience, at least:

- a 20th-century piano called "Playwrite" which featured a standard upright, though with a short scale, convertible into a true and functioning secretary, complete with writing surface and pigeon holes.
- an 1840s lyre piano, very unfortunately restrung with modern wire and tuning pins, and unable to hold pitch even when tuned an octave low; the fabric on the front was an obvious replacement. It had a knee lever for damper lift.
- a small square grand which apparently dated from before the American Revolution. It was a curiosity because it had no sustaining pedal at all; indeed, originally it had no pedals of any kind. A lyre which looked like it came from the 1840s or so had been added, quite evidently only for looks. The pedal rods fit into blind holes on the bottom of the keybed!
- a tiny spinet-sized piano from (roughly) the 1830s, in nearly original condition, which may, I am told, be similar to one that Chopin used in his teaching studio to accompany his students.





Photos 2 (TOP) & 3 (ABOVE) — Back of 1892 Mason & Hamlin screw stringer, showing ribs and cutoff bars.

The last one seemed to me to be the most important, due not only to its early date but also to its nearly original condition. It had many unusual technical features, including flanges which were doglegged to nest with each other.

The lyre piano, though it had bad woodworm in the case, also had the very unusual (for me, at least) action intact. I took some slides and adjusted a few notes so they worked again. The dampers were bundles of thread, and they still worked.

A piano historian might have made something of the square, which appeared to have been one of the first built in this country. The lack of a damper lift arrangement seems incredible to me, but I've been informed (by Anne Beetem, see below) that some early pianos didn't even have dampers (!), or

Continued on Next Page

Continued from Previous Page

they would have all the dampers on for a while, then all off for a while, operated by hand stops located in the piano. (Live and learn ...)

But how, really, can we tell what is special and what is not, since we see so few of these pianos and know so little about them? And if we think something may be a rare and historically important piano, what should we do and how should we work on it? Or should we work on it at all?

Anne Beetem, another expert on historical pianos, wrote the following suggestions to the pianotech e-mail list:

> Any changes/additions/repairs should be easily reversible (sorry, guys, no CA glue!), and all work documented, including materials and date of change. Original parts which are replaced need to be labeled, documented and preserved. This includes all the wonderful surprises, such as old coins and bits of old toys or papers found in the action.
>
> When original specs are not available, the best alternative should be used and documented. Duplication of missing parts should be as close to original as possible. On the other hand, if parts are too fragile (or too rare, so that continued use may compromise otherwise unavailable historic information) for continued use, then certainly the original parts should be preserved and duplicates made. Complete duplicates of actions have been made for some of the early 19th century pianos in order to preserve the condition of the original parts for the sake of history and better duplication.
>
> There are informational guidelines on this published by CIM-CIM, the museum conservators association. You can visit their web page to find more information.
>
> In fact, I feel that all piano work should be documented and a copy given to the owner for posterity. Who knows, your name could be a matter of history and inquiry in a hundred years or two. Del [Fandrich], you really should get your name and date into those pianos. Technicians from the 19th century frequently wrote inside the piano when making repairs or modifications. So did the harpsichord technicians from the previous centuries. How I love to see their names and dates written in there so long ago. It is somewhat traditional to write on the lowest keys, or otherwise in a hidden but easily accessible place. When I install harpsichord soundboards, I write on the underside as a surprise for some investigator of the future. You never know! You could be a minor name in somebody's thesis someday.
>
> Speaking of which, using business cards as shims is another way to communicate with the future. I have encountered a good number of Civil War era business cards in my work, for businesses with no place in the late twentieth century. It helps glimpse the world the instrument was born in.

Anne has kindly compiled a partial list of experts who may be consulted. Any of these people, or your local museum, or best of all, The Smithsonian Institution, can direct you to other people in your area. In particular, at the Smithsonian you may contact:

> Cynthia Hoover
> Division of Cultural History,
> NMAH 4127, MRC 616
> Washington, DC 20560

Some on this list are more expert in early 19th-century pianos, others skilled in the later 19th century, some in everything. They tend to know of each other and will direct you to people who can help you (You also can contact Anne herself, of course.):

Lyndon Taylor, CA
Tim Farley, WI
Richard Hester, NY
Ed Swenson, NY
Ken Eschete, IL
Tom and Barbara Wolf, The Plains, VA
John Koster, Shrine to Music Museum, SD
Margaret Hood, WI
Edwin M. Good, VA (who wrote the "Giraffes" book mentioned below)
John Watson, Colonial Williamsburg, VA
Martha Novak Clinkscale
Darcy Kuronen, Metropolitan Museum of Art
Stephen Birkett, Ontario, Canada
David Lamoreaux, Washington, DC area.

Do remember that these are normally busy people who have to make a living like the rest of us. Try not to waste their time unnecessarily, and of course they will need to be paid for their time and expertise. As Anne says, "Still, like calling a house inspector before renovating or buying a house, it's a drop in the bucket compared to the potential expense or value of the article."

But how do we sift in category B?

That is, what makes an upright worth preserving? Over time, one learns to respect certain names, with the realization that most brands get worse as the date of manufacture becomes more recent. When companies start to fail, the original owners or their heirs face a choice: do they allow the company to die gracefully, with its name and reputation intact, or do they sell the name to the highest bidder? Some, like Bush & Lane, refused to sell. Anything you see with that name is probably of high quality and well worth investigating. All too often, however, the name got sold to a large conglomerate like Aeolian, who usually put it on their most generic instruments, and ran it till it dropped. For instance, having seen some fine Packard uprights, you may hear about another, and assume that it is just as good; but after 1938 Packards were made by Story & Clark, and they won't be the same. When the last Knabe who built good pianos died, his sons sold the name to American, later Aeolian, and began their own company, "Knabe Brothers." Their pianos were mediocre, and the company didn't last. When you hear names like Steck, Chickering, Henry F. Miller, Ivers & Pond, Cable, Kohler & Campbell, Chase, Lester, Kimball, (and more that I can't think of) you need to ask about how old they are. A 1903 Kimball may have trouble with breaking butt plates or breaking tongues on the continuous brass rail, but it will be a far cry from your basic Kimball console of later days.

If you feel an interest in these questions, the *Pierce Piano Atlas* will sometimes tell you when the late great names changed hands. Good information can be gathered by reading *Pianos and Their Makers* by Alfred Dolge, *Giraffes, Black Dragons, and Other Pianos* by Edwin Good, and the excellent social history of the piano, *Men, Women and Pianos* by Arthur Loesser. Canadian makers are discussed in a very good book, *Downright Upright, A History of the Canadian Piano Industry* by Wayne

Kelley. Some of the old Canadian pianos such as Nordheimer, Bell, Mason & Risch and early Heintzman, are excellent.

The Signs of a Good Upright:

(These signs are not 100 percent decisive, but they should attract your attention. Not all good uprights will have all these.)

(a) massive, elaborate, well-finished case. (But don't be fooled by dark, alligatored finishes. Look further ...)
(b) "Cabinet Grand" or "Upright Grand" (usually meant it was top-of-the-line.)
(c) soft pedal compensator to take up lost motion when the soft pedal is used.
(d) sharp cut marks in worn hammers with little or no side-play.
(e) neat stringing and unbroken wire.
(f) immaculate spacing throughout.
(g) heavy, unusual, plated metal case fittings that still work.
(h) a working true sostenuto system.
(i) a bass bridge without cracks and splits and even side-bearing throughout.
(j) a clear-sounding high treble which still has good volume
(k) good quality plate decorations, filigrees and other fancy work inside the case. (People cared.)

Names, Names

I've already mentioned quite a few, and any list I could make certainly wouldn't be all-encompassing. Quality is where you find it. I can say, though, that age and size alone do not ensure quality. One of the worst uprights I have ever been stupid enough to work on was named "King" and didn't look all that bad at first glance. Inside, it was junk in more ways than I can tell, and resisted me every step of the way. Names that suggest royalty, prestige or aristocracy are always suspect, by the way. Exceptions: some Monarchs aren't too bad, and the old Crown uprights, usually with four or more pedals, can be very good indeed.

Older names: Mehlin (very interesting and innovative pianos, except that the name got taken over by [shudder] Winter), Decker, Emerson, Mathushek. The classic American companies: Steinway (couldn't really omit it, could I?), Knabe, Chickering, Mason & Hamlin, George Steck, Weber and Baldwin.

We may not see many, but old European pianos have come over to this country in small numbers. A few (not all!) important names are: Grotrian, Pleyel, Broadwood, Schiedmayer, Ibach, Schimmel, Bechstein, Bösendorfer and Erard. Some of these are early pianos and others are still being made.

'All dressed up and nowhere to go'

All right; suppose you've "saved" and refurbished and cleaned and tuned your quintessential first-class upright. Now, to find it a good home. I've been distressed to read on pianotech about how little the public in some parts of the country esteems big old uprights. In the Midwest and parts of the South, particularly, they seem only one step from the dump. I believe this is due to two factors: the climate is not kind to old pianos, so many would need a lot of help to come anywhere near their true potential; and so many people moved out west and left them behind that they seem a dime a dozen. I've heard so many times, while tuning some trashy console in California, that my customers had had a beautiful old family upright which they left behind in Iowa, or Missouri, or Minnesota. They assumed that they could replace it for less than the moving cost after arriving in the west, only to find themselves sadly mistaken. The price differential between the East and West does present some sort of financial opportunity for someone both knowledgeable and enterprising, but it would not be an easy undertaking. I think that the best we can do at the moment is to educate as many people as we can reach, and separate out the better old uprights, storing them (in good conditions) if necessary, until public awareness of their value increases.

The value is there. A well-rebuilt old piano of good quality will often provide musical and aesthetic returns (per dollar) far superior to many modern uprights and grands, and can, ironically, last longer.

The Link Between Generations

It may be that doing a fine old piano justice, "saving" it, does not always make financial sense. (However, do not be so sure! Real quality can be extremely attractive.) I feel strongly that other non-monetary considerations should not be ignored. We live in a time where our collective attention span seems to be measured in days or sometimes minutes. A basic part of humanity always has been the bond between generations. For as long as we've been human, sitting around the fire in the evening, the older people passed their knowledge and experiences on to the younger.

Many of the fine pianos which we take for granted, alter at will or toss in the landfill were built to wonderful standards which we cannot now reproduce. At the time when they were built, human life expectancy was often tragically short. Frequent epidemics, poor food, overwork, and rudimentary medical care (or no medical care at all) took their toll. People struggled just to stay alive and to feed themselves and their children. There usually were no pensions, or safety measures, or workman's compensation for injuries. Yet they could still spend the time and effort to make something beautiful, without cutting corners. They could work on research and innovation. They could keep striving for rich and clear tone, incredible durability and graceful and beautiful design. Can you imagine if they saw our mass-market consoles, what their opinions would be? They left this legacy to us, and their work is so good that with just a little effort we can pass it on to our children and grandchildren. When I hear about so many big old uprights just getting thrown away or left in barns, I feel like saying, "don't destroy what you cannot replace." We need to consider deeper, more important values than immediate profit or demand. If we cannot afford to do right by these instruments, at least we should get them to places of safety where they can sit and wait for someone who can.

World Class Junk

I may, now and then, write for the *Journal* about some new aspect of World Class Junk or other topics, as they occur to me. However, this article is the last in the regular monthly series, which started in October of 1997. I hope that all who have offered me encouragement will realize how much it has meant to me, and I wish to give Steve Brady my heartfelt thanks for suggesting the column. I can't imagine a more benign introduction to professional writing than he has provided.

Joe Sciortino – The Gift for Invention

By Anita Sullivan
Journal Feature Writer

Once when Joe Sciortino was sharing a hotel room with his friend and teacher Steve Fairchild, he woke up about 3:00 in the morning.

"Hey, Steve!" he called out.

"What?" came a sleepy voice.

"The light went on!"

"What light?"

"In my head."

This is how the Suffolk county, Long Island RPT describes the way he gets an idea for a new invention. "I always sleep and I figure out what I want to do. I have the pattern in my mind."

At age 82 he still is inventing new tools for working on pianos. The most famous of these, the Sciortino Insta-Coiler (sold exclusively through APSCO) is probably what has made his name a household word for piano technicians. It is a device which fits onto the tuning pin and allows the technician to make a coil without having to use the fingers to hold the wire in place as the "coiling" process occurs.

"You make a tool, nine times out of ten you find an easier way," Sciortino says on a Saturday afternoon at his shop in Copiague, N.Y. where he is still hard at work despite gradually deteriorating eyesight from macular degeneration. He speaks excitedly and in detail about the escapement mechanism in a grand. "I know nothing better than a piano action. It's magnificent!" he tells me, and explains the delicate and complex function of a grand wippen, which he can do now with his eyes closed after so many years, and so perhaps has less need for his sight than he did before.

Photo 1 — Joe Sciortino with his new 'System 10+' multi-purpose shop tool.

In answer to another question, he begins his story again: "When I saw the piano in front of me...!" He is talking about the first piano he repaired in the garage of his house, this same house he has lived in for 48 years, give or take a year.

Actually, it was 13 pianos to start with. It was the mid-1940s and Sciortino, fresh out of the army, was working as a milkman to support his family. He and his wife opened their house to a friend who was not so fortunate in finding a job, and this friend suggested to Joe that the two of them buy a bunch of pianos, fix them up, and sell them.

"I have a long garage," Sciortino says. This is part of the story. "We lined them all up," he says. And without any training in piano work, he got all the pianos to playing in almost no time. There was, between Joe and the piano, a kind of instant understanding. So, he sold the first batch, brought in more, and found his life's work.

"I am mechanically inclined," he says, in massive understatement.

Within a few years of launching himself into a new career as a piano technician, Sciortino met Steve Fairchild from the PTG, who taught him how to tune, but who did not hesitate to pick his brains, and soon the two of them were learning from each other. For many years Sciortino taught classes at local, regional and national PTG conventions, and gained a reputation as something of a mechanical guru; he even had a title — "technical coordinator of new ideas." He has been president of his own PTG chapter and still holds the position of technical examiner.

LaRoy Edwards on Sciortino

What can I say about Joe Sciortino in one paragraph? We could all talk about his near genius in creating tools, systems, and techniques for piano service work, but we all know about that. I doubt that there is one technician who has not benefited from his teaching or tools in one way or another. We could talk about his quality approach to work and life, but that is a given as well. We all know what a great guy he is, how much fun he is to be around, how sincere and dedicated he is. Thanks for asking me to write a tribute to Joe, but I just can't think of a thing to say other than I consider him one of my best friends.

— LaRoy Edwards, RPT

You might say Joe Sciortino is an inventor who just happens to specialize in the piano. Not inventing pianos — he says he has no interest in doing that — but inventing tools and devices to fix pianos faster and easier. From that first time in his garage, facing a row of these large, complicated manual devices, Sciortino began to develop a deeply intuitive understanding of how they work. So well does he understand the piano that he can troubleshoot over the phone when people call him for help. Once, for example, a customer and friend was putting bridle straps on an upright and he gives Joe a call, "Can't get this thing to work!" So, Joe listens to him a minute and then tells his assistant, "Go over there and push the bridle wires in about 1/4 inch, will you?" And sure enough, this fixed the problem.

Another time, Joe was supervising a new student working on a grand action. The student turned to Joe and asked, "Which way do I turn the let-off screw, right or left, to get more let-off?" And Joe said, "Why are you asking me that? Just turn it one way and see what happens!" This is not rocket science, but what is obvious to some is not so obvious to others.

The Tuner's Life

Sciortino the Inventor describes his process this way: A person who invents is "a pipe smoker," he says. Pipe smokers these days are rare, he says. How many people do you know who think like that, as if they were puffing on a pipe? It's a kind of patience, a kind of persistence, a

kind of endurance you gotta have to be an inventor. You gotta think very deeply and you gotta keep on going, and it'll come to you. That's the first part, the initial inspiration.

But then, you go out to your shop to put theory into practice, and as you are tinkering with your new idea, you see it's not quite going to go the way you thought, but instead, if you just add something here or grind something down there....

"Da Vinci must have worked like this," muses Sciortino. And he reminds me again that persistence is the greater part of invention. And I think to myself yes, but not dogged persistence, more like enlightened persistence.

Just recently he invented a new tool, sort of like the Insta-Coiler, only it's for hitch pins. And the "System 10+" which he introduced just last year — a complicated apparatus (Sciortino doesn't like the term "jig," and chooses to call his tool a "system" instead) which lends support to both upright and grand actions during various processes such as hammer hanging, spoon regulating, damper removal and regulation — well, the System 10+ is "up to about fourteen-plus now!" admits its inventor, almost sheepishly, over the phone. Guess the order form will have to be revised again. Probably the drawing on the front of the form, too. It's hard to keep up with an 82-year-old inventor with a lightbulb in his head, which keeps going on.

Ernie Juhn on Sciortino

I have known Joe since he joined the Guild. It is impossible for me to name all his inventions without filling up a couple of pages. I had the privilege of being the first Institute Director to have Joe teach a class at a PTG convention (1971, Cleveland). Even now he is active and just introduced his brand new "jiffy jig." In all my years I have never met a more "inventive inventor" with practicality as his main objective.

— Ernie Juhn, RPT

Steve Fairchild on Sciortino

Joe Sciortino, a man for all seasons. It's been more than 30 years since we first met. He is a tireless supporter of PTG, and as the whole country knows, a brilliant innovator of new tools, such as the Sciortino "Insta-Coiler." Even now, at the young age of 82, he still can invent something new, such as the "Multi-Hammer Installer and Regulator." To add to all his talent, you couldn't find a nicer or warmer human being. He'd take the shirt off his back to help anyone in trouble. The Suffolk County Chapter and PTG were fortunate when Joe Sciortino became a part of us.

— Steve Fairchild, RPT

BREAKING ELBOWS MADE EASY

(for Piano Technicians)

By Zen Reinhardt, RPT
Detroit-Windsor Chapter

They're still out there. Plenty of them, as a matter of fact. That's right — I'm talking about those spinets built in the early fifties with elbows made from that new space-age material, plastic!! Now, 40-45 years later, that plastic crumbles when someone looks at it the wrong way.

No test blows. You peeked at the elbows before you muted up the piano. You tuned the piano very carefully, setting what you could without resorting to habitual test blows. The client was thrilled with your work, gladly paid your fee and a tip, then settled into a long afternoon of energetic playing. THK! A key stopped working.

A short time later, the kids came home from school. They immediately saw the non-working key sitting very low, and proceeded to pound on the piano to see how many other keys they could make stay in the low position. They were very successful in their efforts with what little time they had before their mother chased them away from the piano.

Your answering machine had just one new message by the time you got home that evening and it was from that spinet client. "You were just here this afternoon, and right after you left, some of the keys stopped working. I need you to come back and fix them right away – my kids need to have their piano lessons tomorrow afternoon."

You knew perfectly well what happened. You already had replaced the odd elbow here or there on previous visits to that piano. Seemed like they had a way of breaking just after you had been there tuning. You put on your best sales tactic and convinced this client that the time had certainly come to go ahead and replace all of the remaining original elbows with those new polycarbonate elbows of the nineties. The client asked, "How would I know that these new elbows won't break over time?"

"They'll outlive the pinblock and the rest of the piano," is my usual answer.

What to do ... you hadn't planned on doing a job like this on short notice. At least you had a full set of replacement elbows kicking around in your shop, but you really didn't have a whole lot of time on the next day's schedule to devote to this spinet.

The advertisements for the polycarbonate elbows claim that the replacement job can be done without removing the action. That's great if all you are replacing are just a couple of elbows, but it gets awfully messy when you go about replacing the better part of 88 elbows. Furthermore, not everybody fits neatly under the keybed for long periods of time. So, first comes first.

Required tools (in addition to whatever will be necessary to remove the action and to regulate it afterward):

- Tin snips
- Transverse-end wire cutters (available from Jensen Tools, cat. #66-544. 800-426-1194)
- 5-7" vise-grip pliers
- 7" slip-joint pliers
- If you want to give your client full service, bring your action screwdriver (for Psst! below) and a small canister-type vacuum cleaner with rug and floor attachments.

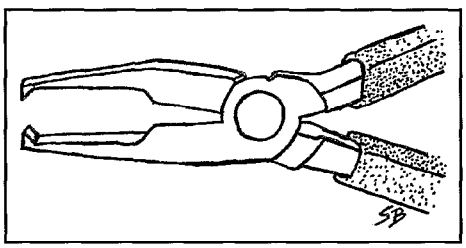


Figure 1 — Transverse-end wire cutters.

Prepare a work surface. A coffee table padded with magazines and covered with a beach towel works well if you don't mind sitting on the floor. Otherwise, set up a portable workbench (e.g. WorkMate) nearby.

Remove the free-hanging stickers, disengage the remaining stickers from the keys and remove the action. Lay the action with the dampers facing down onto the work surface.

With the tin snips, snip each original elbow in half. Some will break on contact. Others may be considerably more resistant. Just be careful that if the material tries to twist in the jaws of the snips, the snips are held so that the centerpin holding the elbow to the wippen is under the least amount of stress.

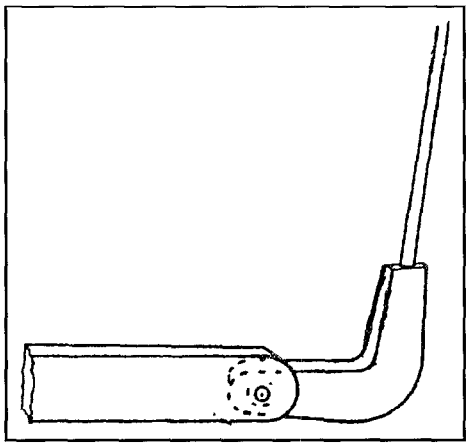


Figure 2 — Plastic elbow on spinet action.

Nip, gnaw and bite at the remaining elbow scraps with the transverse-end wire cutters. Nothing beats this tool for the job. The width of the jaws fits neatly in the space in the wippen. The fact that the cutting edge of the jaws runs in the same direction as the centerpin means that the chances of inadvertently cutting into the centerpin are next to nil. The area behind the cutting edges is great for crushing the plastic away from the centerpin.

Psst! Now with all those stickers out of the way, go ahead, get out your action screwdriver and tighten all of the flange screws, dope all of the centers with ProTek, spray Dry-Lube where you will to quiet down the damper assemblies, etc. You don't want this client calling you back again too soon because of clicking and clunking in the action.

Go back to reality, this time in the form of removing the elbow scraps from the stickers. That's easy. Grab the sticker near the elbow with the vise-grip, grab the scrap in the slip-joint pliers. If the scrap doesn't crumble right away, hold on to it with the slip-joint and spin the sticker out using the vise-grip as a handle.

Still holding the sticker in the vise-grip, spin a replacement elbow onto the

sticker. If it is stubborn, hold on to the elbow and spin in the sticker using the vise-grip as a handle. Set aside. Do not mount the stickers onto the action just yet.

Reassemble the piano. Start by reinstalling the action. Get all of the screws tightened down. Now install a sticker into each key end with the elbow facing the wippen. The stickers should hang in a neat row with the elbows ready to snap into the wippens. Now snap everything together and regulate the action for lost motion.

This entire procedure takes about three hours. That works itself out to less than two minutes per key when you figure in the time it takes to get the action out and back into the piano. If you did the job correctly, the piano's overall touch will feel much better than it did before you started, something that will certainly impress the client. If you really want to impress the client, get out the vacuum cleaner and clean up after yourself — get rid of all those little elbow scraps because they are not very comfortable to step on in stocking feet. This will enhance the client's sense that the job had been completed.

The Puzzler

By Dan Levitan, RPT

Standard Actions, Part II

This puzzler is similar to an earlier one in which nouns were defined which, used as verbs, were actions that a piano technician might perform while working on a piano. In this puzzler, verbs are defined which, used as nouns, could be a part of a piano. Use the infinitive form of the verb (without "to," of course) unless otherwise noted. How many can you identify?

0-3: GED
4-6: BA
7-9: PhD
10-12: RPT
13-15: IPP

---

1. To coat with metal
2. To be given meals in return for pay
3. To offer formally
4. To move through the air
5. To aid the cause of by advocating
6. To provide assistance and encouragement
7. To fasten clothes
8. To use harsh language, to harangue against
9. To repeat constantly and forcefully
10. To entrap, to hold fixed in one place
11. To connect
12. To sense with the skin (past tense)
13. To strike forcefully with the head
14. To strike forcefully with the fist (gerund)
15. To multiply by three

Answers to Puzzler #16 –

Standard Actions, Part II

1. plate
2. board
3. tender
4. fly
5. support
6. back
7. button
8. rail
9. hammer
10. pin
11. bridge
12. felt
13. butt
14. punching
15. treble

Puzzle mail (snail mail only) should be sent to Daniel Levitan, Puzzle Editor, 530 First Street #6, Brooklyn, NY 11215. Elaborations on previous puzzles will be printed, even at the expense of the Puzzler Editor's dignity. Especially welcome are ideas and suggestions for future puzzles, subject to whatever modification the whim of the Editor may deem necessary.

By David Patterson, RPT
Toronto, Ontario Chapter

The Bartolomeo Chronicles

Bartolomeo Sees the People

Because pianos are somewhat predictable to a trained technician, Bartolomeo is able to control the ups and downs that come with the job. At times, he might experience either joy or despair as a result of his performance technically. But Bartolomeo's hard and fast rule of 50 percent pianos/50 percent people means that his customer-inspired highs and lows should be in about the same proportion as his technical ones. Since his job is literally 50:50, it causes him to work on making all of his client interaction as predictable as possible. He therefore needs to believe in, study, and learn techniques that will get the result he wants by working through the people. It was a wise PTG veteran who challenged him with the words, "If you owned all the pianos, you could do whatever you want with them. But you don't."

Bartolomeo asks the owner, at some point, what they have been noticing about the piano. The players, regardless of age, can be valuable in isolating problem notes and explaining subtle points. He engages in education of the customer, as critical in piano servicing, as it is nowadays in every field. He remembers the 'bowling ball' analogy during those memorable occasions when the lady of the house says, "Hi, I'm Mrs. ____ and this piano belonged to my grandmother, who was a concert pianist. Now I know the plate is cracked, but I already understand that's not a problem. The keys are all off by one note, but the strain is too much for it so it's being brought up a little bit at a time every year. Now, let's see – for the temperature, we turn the air conditioner on if it gets too hot, so it's kept as good as can be that way. Some of the notes are really, really hard to push down, but the teacher said that will be fixed automatically with the tuning. By the way, we can't spend anything, but it's not as if we're professionals, so it doesn't matter if it's perfect. Besides, it had all new pads put on not long ago and I think everything inside is new. You know, five years ago a neighbor who was with the symphony told me that the tone was so beautiful, if I ever wanted to part with it, call him first. Now, I realize you'll be here for a few hours. I'll be in the kitchen if you need me."

A huge bowling ball sits at the top of a hill. The momentum of the ball represents how well the relationship is going. A small nudge in the desired direction gets things off to a good start; before long, the ball is going along at a good pace in this desired direction. But if the ball should get its nudge in the wrong direction, Bartolomeo will have to expend plenty of energy to stop the ball and push it back to the top before restarting it in the right direction.

Hopefully, he will act in such a way that the ball will get a good solid nudge from the first moment of contact. However, sometimes the customer's previously acquired misinformation and improper education are so dominant that he must jump immediately in front of a runaway ball, hoping to regain neutral ground and start again. These are repairs of the most delicate nature. It's true: some repairs are interactive.

Bartolomeo uses kindergarten layman style language at all times, employing something visual to accompany practically any information or educational statement. His like or dislike of their piano has nothing to do with why he is there; as a professional, he never offers that type of information.

He's always attempting to get permission to do what he wants with the piano.

Next month, Bartolomeo does some tuning.

PTG Review
PIANO TECHNICIANS GUILD
DEDICATED TO PTG NEWS • INTERESTS & ORGANIZATIONAL ACTIVITIES

KC 1999 — The University of Piano Technology

John Ragusa, RPT
Institute Director

What is the one aspect that makes a truly great university stand out among the rest? The reputation, skill and teaching ability of its instructors. In addition to that, its diverse curriculum. This year's offerings prove that we remain an Ivy League-class institution. Just look at the vast array of subjects and the proven skill of those instructing.

Action and Regulation –

Willis and David Snyder, "Action Diagnostics." With action models in front of each student, see if you can detect the problems that Dave and Willis worked into the action. You'll learn troubleshooting from two of the best in the business.

Damper Leaks –

How much time do you really have after tuning a piano to deal with this frustrating problem? It's a task that can be made quick and easy. Ninety minutes with Ernie Juhn can do it. Ever replace an entire set of vertical hammers or dampers? Observe Bill Spurlock. He'll give you all the info you need to do a professional job. Bill McKaig and Steve Geoghegan will give instruction during three hours of hands-on grand regulation. Ben McKleveen and Jim Geiger do the same with vertical regulation.

Other Classes –

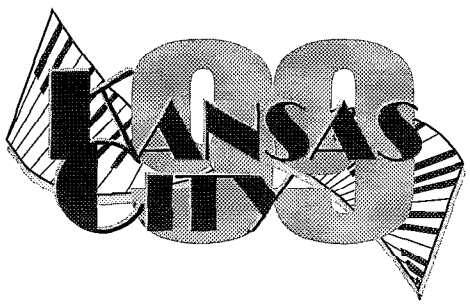
"Grand Dampers," Yamaha team. "Action Centers," Kawai's Don Maninno. "Servicing the Vertical," with Baldwin's Kent Webb. Tuning classes with Jim Coleman, Sr., Al Sanderson, Virgil Smith, Christine Lovegren, Dan Levitan, Fred Tremper, Randy Potter, Gina Carter and Dean Reyburn.

Voicing –

Wally Brooks returns with "Tone Building." "Concert Voicing" by Don Maninno. "Vertical Hands-On Voicing" with Darrell Fandrich. Need more? Try voicing with Virgil Smith or Rick Baldassin.

Design and Construction –

Here are some great new ideas to get your attention. DS Keyboards has patented a new way of retrofitting many pianos with a slightly smaller keyboard for those of us that are interval-challenged. Add more dimension to your music and increase your repertoire. Learn how to market this remarkable innovation to your customers.



Also New –

Dan Franklin will demonstrate his duplex slider tool. Stop muting out the duplex section of some quality grands. Interested in historic keyboards? Schiedmayer Company will send an instructor from Germany to teach you all you need to know about the history, tuning and repair of the celesta – a must for techs with large orchestras. And Dave Sanderson will discuss replacing bass strings with an eye on rescaling. Get lots of information in rapid order in our Mini-Techs. This year you can pick four out of 30 classes presented. Thirty entirely different subjects. Fast info for those on the run. It looks like Mini-Techs are now mainstream and here to stay.

A Rebuilder's Dream –

Find out what works and what doesn't. Do it faster and more professionally. Most rebuilding instructors will be available in the "Rebuilding Hands-On Workshop." Just look at this stellar list of instructors: Richard Davenport, Alan Vincent, André Bolduc, Nick Gravagne, David Hughes, Paul Revenko Jones, Leon Speir, Norman Cantrell, Greg Hulme, Lowell Wakker, David Betts and Shawn Hoar.

More Classes –

Phil Glenn, "Polyester Repair." Ernie Juhn, "Spinet Piano Servicing." Isaac Sadigursky, "Pedal Repair." Paul Revenko Jones, "Stringing" (grands and verticals). Debbie Cyr, "Ivory Repair." Brian DeTar, "Upright Damper Installation and Troubleshooting." Tom Servinsky, "Grand Hammer Hanging." Ron Berry, "Tools and In-Home Repairs." Gary Neie, "Hospital for Hopeless Pianos." Many of these fine instructors will be teaching you hands-on in "Applied Skills Field Repairs." Plus, *Field Repairs* author Steve Brady, along with Joel Jones, John Minor, Kim Fippin and David Patterson.

Interested in Players? –

We'll have one full day (Wednesday) of Yamaha's "Disclavier." Later in the week, PianoDisc will have their "Silent Time" installation class. And Baldwin will take you through their "Concert Master" piano. Don't forget we have Tuning-Tutoring one-on-one. We also have classes for the visually impaired.

And like any great university, we have a great school of business. Get computer moxy in "Cyber Cafe," a

Continued on Next Page

A Fascinating Art: Business Classes in Kansas City

Evelyn Smith, RPT
Assistant Institute Director

Andy Warhol once noted that "Being good in business is the most fascinating kind of art." We usually assume an artist is driven by a passion for his or her craft. But for Warhol, famous for creating images of popular culture like the Campbell's soup can, the craft of being financially successful also captured his imagination.

What is the art of business for a piano technician? Whether your business is a dull obligation, a dreaded task or an intriguing art for you, we have classes in Kansas City to help. You can benefit from the expertise of several succcessful technicians in these outstanding classes:

- Anthony Pascone can speak from recent personal experience about how to place a sales value on a piano service business. As a technician who recently relocated from California to North Carolina, Anthony has done the research and gotten real-world experience in buying and selling a business.
- Vivian Brooks can help us make the best of all the "necessary nuisance stuff" about running a business in her class on "Business Practices." Since our time is the only way we can make money, she'll help us maximize our income by managing our office and time.
- Taylor and Julie McKinnon run a prospering piano rental business in Oregon, and they'll share with us the in's and out's of renting pianos for fun and profit. Don't miss this dynamic teaching duo.
- Bruce Genck is back, this time with the next level of how to build your business in an all-new class. He'll guide you through the "construction zones" of scheduling, pricing, promotion, computer field use and much more.
- Andy Rudoff is just the person to handle your computer questions. As both a piano technician and a computer network specialist, he knows the practical answers to a piano technician's computer queries. Andy will teach two classes in Kansas City, one on business computer applications and another on the Internet for technicians.

Finally, a special treat is in store for all of us who want to understand the nether world of the IRS: learn about taxes from PTG's own CPA, Bill Mendus. Bill will offer a three-hour tax class in Kansas City, at no extra cost to you. Let Bill teach you about record-keeping, deductions and tax traps, IRA's, and other tax-saving ideas and strategies.

The Business Roundtables and CyberCafe will be back this summer; look for more details in a future article in the *Journal.* ■

Kansas City History – More Than a Cowtown

By Rebecca Yockey

Kansas City, like many Midwestern cities, exists because of its location at the confluence of two rivers (the Kansas and the Missouri), and in the early 1800s it was a trading post. It gained population and prominence as a jumping-off point for the California, Oregon and Santa Fe trails in the mid-19th century, with covered-wagon "outfitters" in the Westport area and Independence. You can still see wagon ruts from the beginnings of pioneer journeys in southern Kansas City and in Independence.

Civil War battles were fought in and around the Kansas City area, which was a hotbed of debate — with or without guns — over the slavery question. Missouri joined the Union as a slave state, but Kansas harbored abolitionists, so K.C., very near the state line, was a focal point at times for both groups.

After the war came the railroads and the cattle trade. Kansas City, nearly in the center of the nation, became home of a gigantic stockyard facility. By the 1880s, the town's growth rate attracted corporate interest and its first skyscraper, the New York Life building, was erected on West 9th Street. The building faced a mud street, but retail and wholesale businesses soon thrived in that neighborhood, and the downtown area grew around it and southward. The restored building is still part of that street today.

Kansas City played a major role in U.S. history as a starting point for pioneers heading west along the Oregon, California and Santa Fe Trails.

City development after the turn of the century was expansive and checkered. Commercial and residential construction pushed south with the boulevard system, a series of broad roads leading through neighborhoods and commercial corridors to parks established in different areas of town. The prohibition era, dominated in Kansas City by Mayor Tom Pendergast, saw the flowering of notorious speak-

Continued on Next Page

The University of Piano Technology

Continued from Previous Page

hands-on computer workshop. "Business Roundtables": Sit down with successful piano technicians, and pick their brains for the information you need to run your business efficiently. Plus, classes by Vivian Brooks, "Business Practices;" Anthony Pascone, "Buying and Selling a Business;" Julie and Taylor McKinnen, "Renting Pianos;" Andy Rudoff, "Computers;" Bruce Genk, "Marketing and Sales;" Ward Guthrie, "Estimates and Appraisals." And finally Bill Mendus, CPA, "Taxes." We'll help put you in a higher tax bracket, and Bill Mendus will show you all you're entitled to!

Well, there you have it: KC '99, the University of Piano Technology. Be successful, be the best, be at KC '99. ■

More Than a Cowtown

Continued from Previous Page

easies, brothels and gambling establishments. Jazz music grew and prospered as well, with jams commonly lasting into the wee hours. Kansas Citians enthusiastically supported Duke Ellington and Count Basie and gave native son Charlie Parker his start. Negro Leagues baseball featuring the Kansas City Monarchs was played nearby, and barbecue restaurants became a culinary tradition that is still alive and well.

The Nichols Fountain, Country Club Plaza

Kansas City's famous Plaza shopping district was developed on the south side of town in the 1920s, the first open-air shopping mall not part of a downtown area. Its Spanish-style buildings still house prominent retailers and restaurants. Residential areas nearby were developed in named sections, and Kansas City neighborhoods are still known by those names – Crestwood, Brookside, Meyer Circle, etc.

Kansas City's role in the development of jazz is known worldwide.

In more recent times, Kansas City has begun to restore and rediscover its heritage. Downtown buildings are being renovated and rebuilt, and the old Union Hill residential district has gained great favor among urbanites. The River Market, near the original site of the Town of Kansas, has undergone a rebirth and now has an amalgam of unique shops, galleries, restaurants and produce vendors. Union Station, once the largest U.S. railway station, is being restored to its former grace and will include a museum and retail space. Liberty Memorial, the only national monument to honor the servicemen of WWI, will undergo complete renovation soon. The new Brush Creek walkways along the south side of the Plaza have added to that district's elegance. Kansas City has made renewed commitments to its neighborhoods, which are seeing improvements in basic services and infrastructure. The city is reclaiming its heritage and finding fresh ways to show them off to the public. ■

Industry News—

Steinway & Sons to Buy Steinway Hall

Waltham, MA — Steinway Musical Instruments, Inc. recently announced that it has signed a letter of intent to purchase the building which includes its Steinway Hall Showroom on West 57th Street in New York City. The facility has housed Steinway & Sons flagship retail store since its construction in 1925. Located just down the street from Carnegie Hall, this distinctive museum-like facility has served as both an elegant retail showroom for Steinway & Sons pianos as well as a requisite stop for everyone and anyone interested in playing the piano, including the world's greatest pianists such as Rachmaninoff, Rubinstein and Horowitz. The company sold the building in 1958 and has leased back its retail space since that time. The transaction will involve the purchase of the building coupled with a 99-year land lease. Financial details will be released upon the signing of definitive documents, which the company plans to complete by the end of February.

Commenting on the acquisition, Dana D. Messina, Chief Executive Officer said, "Steinway Hall in New York City is the most successful piano retail store in the world. We are now in a position to remain at this unique and important property for as long as we choose. In addition, we were able to structure this transaction to increase our cash flow and produce an attractive rate of return on our investment."

Bruce A. Stevens, President of Steinway & Sons, added, "Everyone at Steinway is simply ecstatic about bringing this historic site back into the fold. We have been selling the finest pianos in the world from this beautiful store for nearly 75 years. Steinway Hall has set the tone for the company's revenue growth by producing record breaking sales results for the last several years. We can now enter the new millennium with this valuable asset safely back where it belongs — at Steinway."

Steinway Musical Instruments, Inc. through its Steinway and Selmer subsidiaries is one of the world's leading manufacturers of musical instruments. ■

Upright Intentions & Grand Illusions

By Theron Ice
Economic Affairs Committee

ECONOMIC AFFAIRS COMMITTEE

Whether you work from a single toolbox or in full-service and sales, you can speculate on every aspect of your daily routine in order to try and draw a mental spreadsheet of where you stand when you close your toolbox or turn off the lights on your spinning neon grand. The piano business, as in life, is fraught with costs and windfalls coming out of the blue. The ability to absorb the unexpected and gainfully funnel the windfalls is subject to the financial devices available to the individual technician.

The most effective tools you can have will be experience in successfully bidding a wide range of jobs. Your business plans versus your business cost is a topic that could be addressed in a week-long seminar considering the variables innate in this field. Whether you're just starting or have been making a living at this for decades, it seems ultimately incumbent on you to ascertain a formula which works for you. Do a little soul searching and ask yourself: Are you a self starter? Is your expertise inclusive enough to cover a wide range of services? And perhaps most important, do you have the attributes to relate to a wide variety of people as well as the ability to instill in them a sense of confidence toward you and your service?

Fortunately, the piano business has many avenues to pursue depending on the answer you glean from the rather generic formula above. Obviously the more services you offer the more expense you incur. Try to speculate the worst seasonal and economic conditions, given your take on your local market, with a figure in mind of what your average income has been. The difference should be considered a safety factor that allows you to operate year-to-year with gradual expansion and frugal investment in your business goals. As witnessed by so many successful technicians, dealers and rebuilders, the slow and steady course often serves their needs even into retirement.

Having some basic piano knowledge and a propensity for this trade, technicians soon can find themselves working in an established shop environment, where they can see the many facets of business costs and overhead. This has been the initial exposure to many in this business, who have since ventured out on their own successfully. These insights for many others may confirm their desires to be distanced from the tedium of many of the peripheral business trappings and allow them to concentrate on their efforts on the rewards of shop work. Whatever you decide to incorporate in your business, factor in your time. There should be cushions in place which will enable you to do all the daily chores life throws your way.

Consistent customer satisfaction and quality work goes a long way in securing your place in the market and should be your basic tenant in your business plans. Talk to other tuners and technicians. Listen to their stories of rocky times and high cotton. It's best if you "Learn from the mistakes of others. You won't live long enough to make them all yourself." ■

www.ptg.org/1999/conv/

Last year the Institute put itself on the world map by setting up a web page on the Information Super Highway (Internet). This new and useful tool has been crafted and managed by the brilliant team of Dean Reyburn and Mitch Kiel. If you are online, you have to check this out. This year, Dean and Mitch have created a "Bulletin Board" where you can post messages, ask questions or look for roommates in Kansas City. Check out exhibitor listings with lots of background information, instructor bios, and KC hotel info. Give us your feedback. This page is available to anybody in the world with Internet access. And it's done with style and creativity. Thanks, Dean and Mitch!!

CALENDAR of EVENTS

March 11-14, 1999
PA STATE
Holiday Inn Central Greentree, Pittsburgh, PA
Contact: Dan Sittig (724) 266-5497
1209 May Street, Ambridge, PA 15003
website: members.tripod.com/pittsburghptg

April 8-10, 1999
PACIFIC NW REGIONAL CONFERENCE
Provo Park Hotel
Contact: Vince Mrykalo (801) 378-3400
694 North 100 East, Provo, UT 84606

April 17, 1999
GRAND PIANO PERFORMANCE
Piano Wholesale Dealership, Temple City, CA
Sponsored by the Los Angeles, CA Chapter
Contact: Jon Longworth (818) 982-2431

April 23-24, 1999
FLORIDA STATE SEMINAR
Ft. Lauderdale Marriott
Contact: Mark Shapiro (561) 451-2136
23360B S.W. 53 Ave., Boca Raton, FL 33433

April 30-May 2, 1999
NEECSO / New England Eastern Canada Seminar
Hotel Gouvernears, Quebec
Contact: Isabelle Gagnon (418) 822-3550
6769 Royale, L'Ange - Gardien, QC G0A 2K0

July 21-25, 1999
PTG ANNUAL CONVENTION & INSTITUTE
Hyatt Regency Hotel, Kansas City, MO 64111
Contact: The Home Office (816) 753-7747
3930 Washington, Kansas City, MO 64111

All seminars, conferences, conventions and events listed here are approved PTG activities. Chapters and regions wishing to have their function listed must complete a seminar request form. To obtain one of these forms, contact the PTG Home Office or your Regional Vice President.

Once approval is given and your request form reaches the Home Office, your event will be listed six-months prior and each issue until the month in which it is to take place.

Deadline to be included in the Events Calendar is at least 45 days before the publication date; however once the request is approved, it will automatically be included in the next available issue.

Associates Pass The Test

Region 1
190 Southeastern Pennsylvania

John Scogna
49 Lamberts Lane
Coatesville, PA 19320

Region 3
787 Austin, TX

Russell W. Norlie
C/O Alamo Music Center
6603 Cromer
San Antonio, TX 78239

Region 6
891 Las Vegas, NV

David B. Chadwick
6394 Newville Avenue
Las Vegas, NV 89103

921 San Diego, Ca

Robert T. Jones
13250 Carolee Avenue
San Diego, CA 92129

In Memory . . .

Lewis Mell, RPT
Middlebury, CT

William Pealer, RPT
Alexandria, VA

New Members Join In January

Region 1
191 Philadelphia, PA

William F. Walker
49 Aunt Molly Road
Hopewell, NJ 08525

Region 2
Northwest Florida

Gary P. Denecke
2638 State Avenue
Panama City, FL 32405

Region 4
616 Peoria, IL

Richard O. Snelson
RR 3, Box 295
Clinton, IL 61727

Region 5
801 Denver, CO

Michael L. Routh
1911 S. Knox Court
Denver, CO 80219

Region 6
851 Phoenix, AZ

Vincent G. Bray
2017 W. Peoria
Phoenix, AZ 85029

951 Santa Clara Valley, CA

Valeriy S. Krasin
1582 Blossom Hill Road, #6
San Jose, CA 95118

Region 6
972 Portland, OR

Judson D. Howe
4534 N. Kerby Avenue
Portland, OR 97217

Plenty to Do for Auxiliary

Here it is March again, the jonquils are in bloom and you know what that means. It's my birthday again. I can't help but remember what one of my college girls said last year, "Life is like a roll of toilet paper. The nearer the end, the faster it goes!"

Phyllis Tremper
PTGA President

If there is still time, I would hope that you could attend the PA State Seminar. They have so much planned for us in the Auxiliary. They have gone all out and it sounds like fun. I am sure that your tuner/spouse has received notice of the event. I'll be there and hope you can come, too.

The Annual Convention in July will be here before you know it. There will be a tour this year. We plan to go to Truman Library, Mormon Tabernacle and Mystery Theater for lunch. Plus some shopping on the Country Club Plaza, the great Spanish-style mall. Please wear good walking shoes and comfortable clothes in layers. AC is always so cold. We are also planning to visit the Hallmark company on Saturday. The tour will be Thursday this year. Y'all come, you hear! ◆

Evelyn Ternstrom – Saved to Serve

Lindsborg, Kansas, "Little Sweden, USA," is my hometown. Everyone who lives in this town of 2500 becomes infused with music. Bethany College and Lindsborg hold the national record for presenting Handel's *Messiah* the most consecutive years.

I am not "gifted" in music. My parents promoted participation in music and the community provided the opportunities. We learned to sing in school. I was into piano and violin. In eighth grade I began clarinet. It became my favorite instrument.

The Walnut Creek Concert Band provides an opportunity to continue playing clarinet. My husband, Ray and our son Dan, both piano technicians, play tuba and trombone in the band. We share a love for music.

I was born in my father's hometown, Meriden, Connecticut, but my life began in Tanzania, East Africa where my parents were Lutheran missionaries. I lived in Africa five years before our 1939 furlough.

Dad returned to Africa alone in 1940. In March, 1941, Mother and we six children sailed from New York for Africa to join Dad. We were on a "safe" neutral Egyptian liner, the *ZamZam*. It wasn't as safe as we thought.

On the morning of April 17 we were awakened suddenly. A German Nazi raider, the *Atlantis*, was attacking us! We children, ranging in age from 10-1/2 to 1-1/2 years, managed to stay together with Mother and get into the same lifeboat. However, our lifeboat had been damaged by shrapnel, filled with water and sank from under us. None of us knew how to swim. Our life jackets held us up. Mother had a strong Christian faith. Her calm presence and prayers calmed us.

Out attackers rescued us and transferred us the next day to the Dresden. For 32 days we lived as prisoners of war. The United States was not yet in the war. We made it through the British Blockade and reached German-occupied France. We were set free, traveled by train through Spain to Lisbon, Portugal and sailed to the States. It was 3-1/2 years before Dad could join us in Kansas.

Having miraculously survived this adventure, Mother said we had been "saved to serve." We wanted to serve in whatever way we can be used. I chose nursing as a career, including 4-1/2 years as missionary nurse/instructor in Liberia, W. Africa.

In 1970 I entered a new "calling." I married a widower, Ray Ternstrom, and became mother to his six children. I gave birth to two more. In 1984, when Ray became a full-time piano technician, I returned to work full-time as a registered nurse.

I retired from nursing employment in 1995 and attended my first Piano Technicians Guild Convention. In Albuquerque I joined the Auxiliary. I have many things on my "agenda" for retirement. Our family has grown and now includes 12 grandchildren. I am serving by accepting officer positions in the organizations to which I belong and doing volunteer service. I enjoy bicycling for transportation and health.

I appreciated serving on the Bylaws Committee and will do my best to serve effectively as Recording Secretary. I feel blessed to be serving with others in the PTGA to promote music.

Trinity Lutheran Hospital in Kansas City, Missouri was my school of nursing and place of employment for nine years altogether. I'll see you in Kansas City in July. ◆

Texas State — Really Great

The Texas State Seminar was held in Houston, TX on October 16-18, 1998 with a total attendance of 122. On Friday morning, eight ladies and three children met in the hotel lobby to coordinate our activities. Old Town Spring was decided on as our destination. Spring is a small town located just north of Houston. The "old town" has been converted to a quaint shopping area, including a variety of businesses and restaurants. We did not begin to cover all the shops available, but we all managed to find some good buys to our liking. Five of us got together again Saturday to go a little further north to Conroe to check out the outlet mall. We came back to The Woodlands for lunch and shopping at The Woodlands Mall.

My husband, Martin Wisenbaker, has been having so much fun singing with Larry Crabb's barbershop singers at the international conventions, that he decided to organize it for the Texas State Seminar. A group of nine men, including Bill Yick as the director, entertained us at the banquet on Saturday night. To quote Gary Neie, TSA President, "The barbershop went over with a bang...." It promises to be a regular attraction for the future if we can get Bill Yick to come every year.

At the banquet, Martin also was presented with the Jimmy Gold Award for his "outstanding service and dedication to TSA." Before he presented Martin with the very nice plaque, Leon Speir called me to the platform to stand with Martin since he knew that I had done much of the work for Martin when he was on the TSA Board. So, although my name is not on the plaque, I was recognized as well. You can see why I think the Texas State was really great!

— *Beva Jean Wisenbaker* ◆

CLASSIFIEDS

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Closing date for placing ads is six weeks prior to the month of publication.

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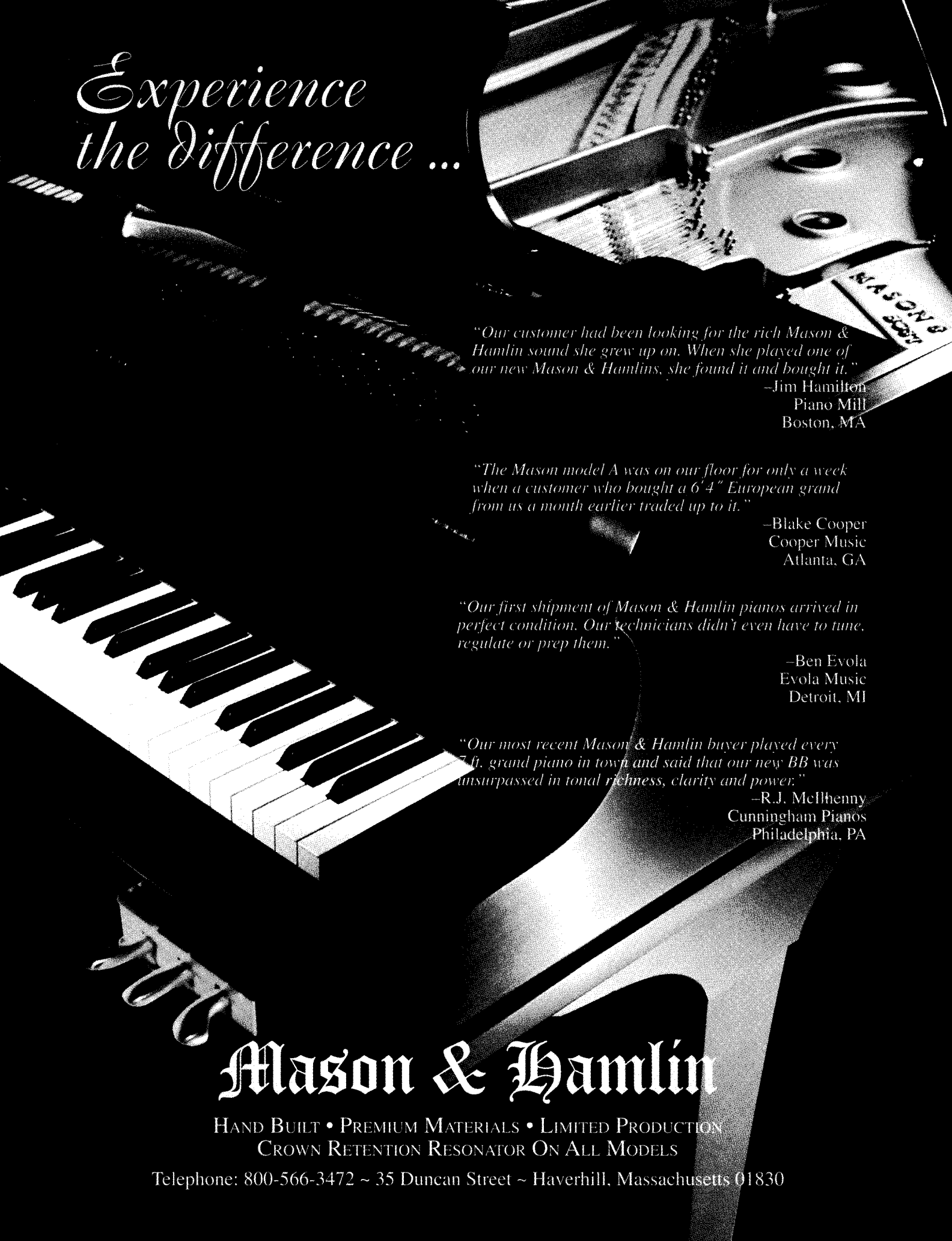

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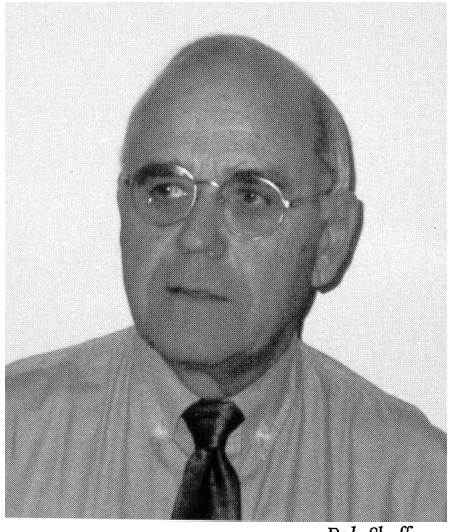

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Approximately 3 to 6 months after the piano has been delivered to the customer, the Yamaha Service Bond should be performed. Begin your proactive service by talking with the customer. Listen carefully as the customer shares with you his or her opinion on the condition of the piano. How does it sound? How does it feel? What the customer says will provide you the first clues about what to look for as you begin to perform the Service Bond. Repeat the standard piano service: inspect the case, keyboard and action, regulate the action and pedals. Tighten all action screws and case hardware. Seat the strings to the bridge and check to be sure the strings are level. Tune the piano. And voice the piano if it is needed.

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Bob Shoffner has been in the piano business for 36 years, and tuned his first Yamaha Piano in 1973. His favorite aspect of the business is doing recording studio work, especially for celebrated artists such as Elton John, whom Bob has had the pleasure of working with. Playing the trumpet is one of his favorite pastimes. He is also a long time student of the classical guitar. A native of Colorado, Bob lives in Grand Junction with his wife Char.

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