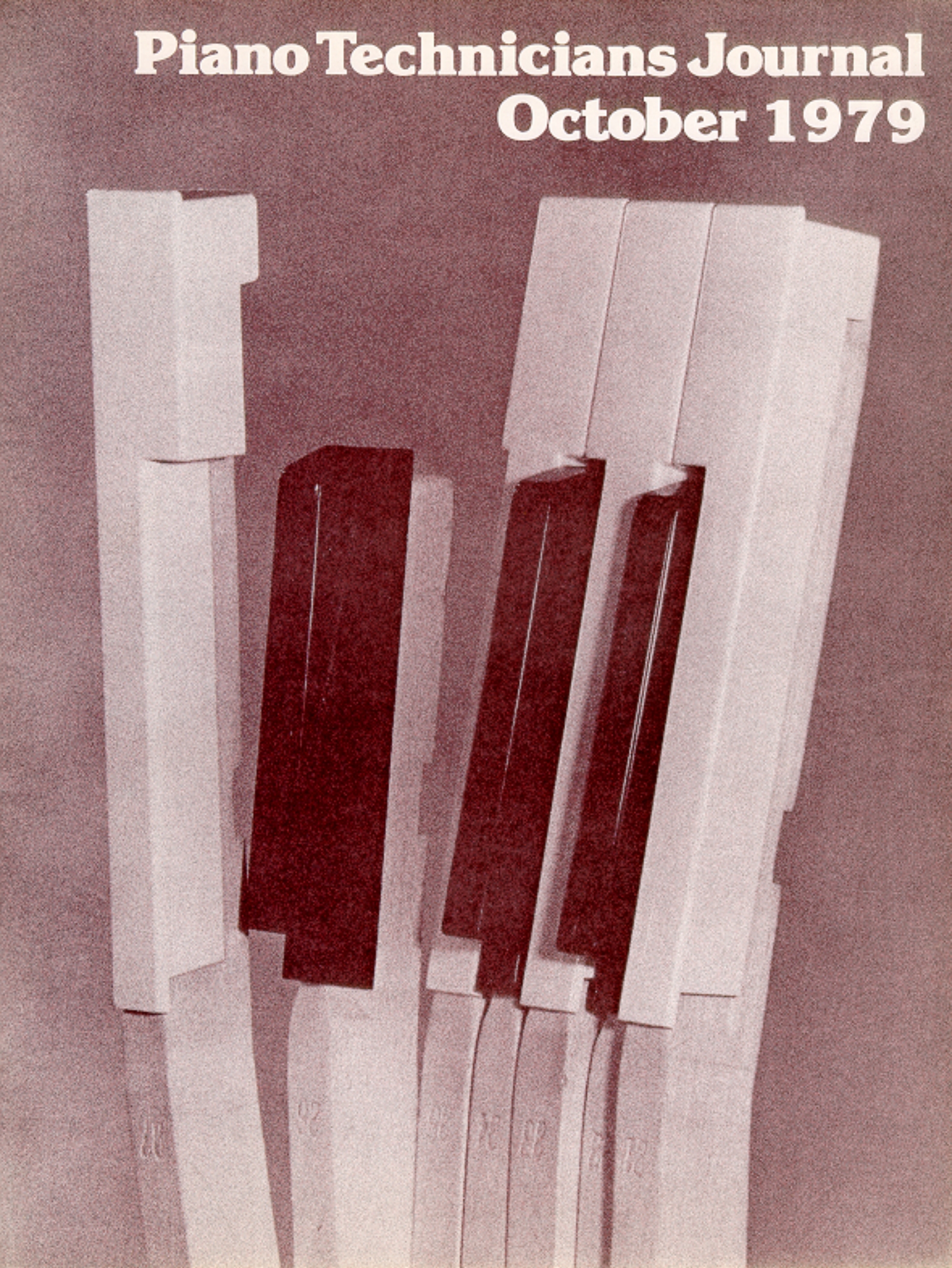
Piano Technicians Journal
October 1979



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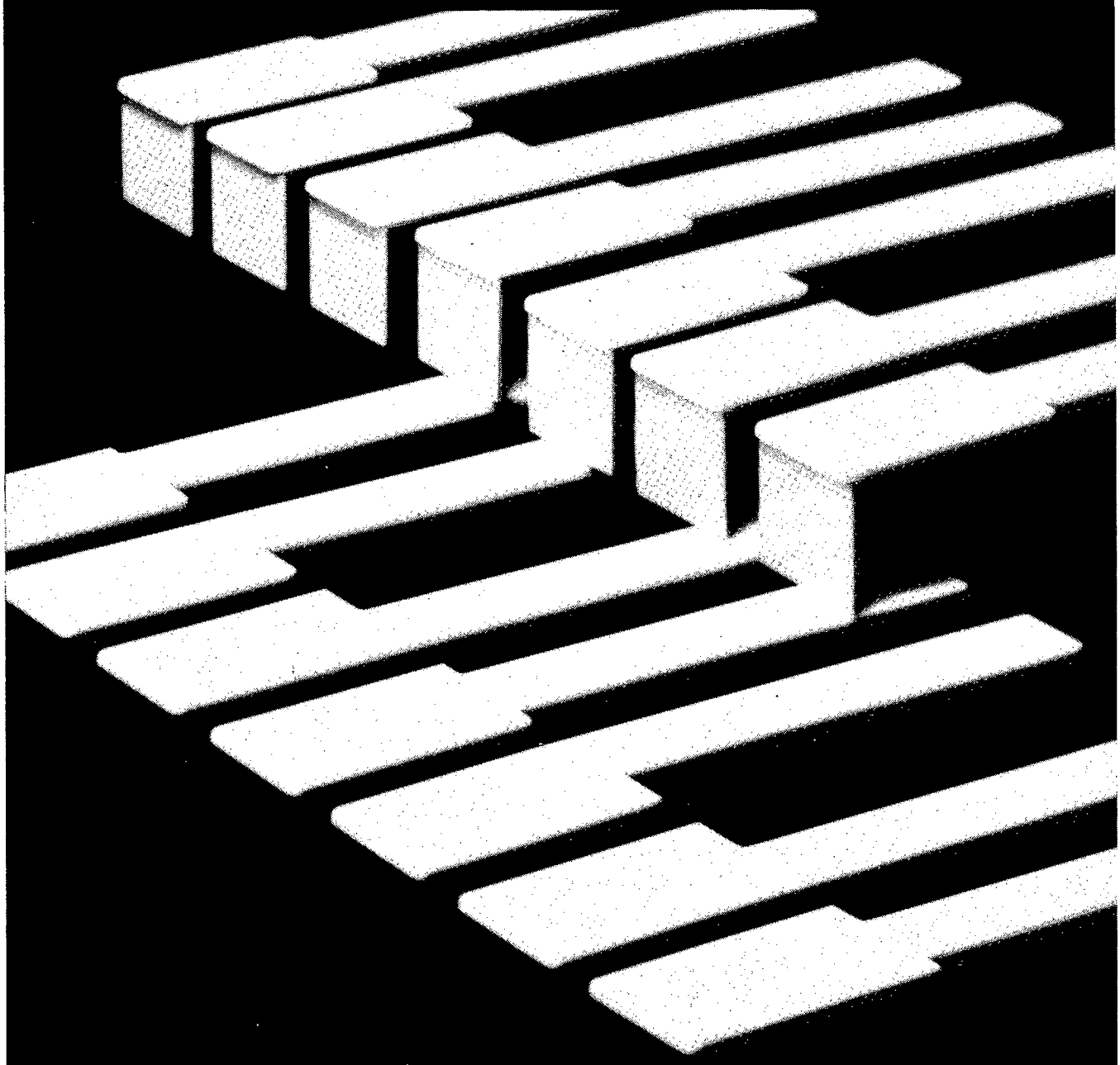

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Piano Technicians Journal

Contents

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DON L. SANTY

EDITORIAL

Most people think about communications in terms of just the spoken or written word. What is often overlooked is the art of listening.

Information available from those who study such things indicates that over three-fourths of a person's day is spent in oral communication with others. It can be assumed that at least half of that time is spent listening.

Psychologists have determined that within a 24-hour period, well over half of what we have heard will be forgotten. Within a two-week span of time, 25% more is forgotten.

In other words, over three-quarters of what we hear is not retained at all, and is lost forever in that vast void of time past.

This is probably why the proliferation of cassette taping companies has appeared at conventions and annual meetings and why reams of reports follow such events.

Psychologists tell us the reason we forget so readily is because we are really not paying much attention to what is being said. We are fantasizing, dwelling on memories, associating with what is being said in terms of our past experiences, and building up defenses if we disagree. Most of us are poor listeners. Our ability to listen is four times faster than words can be spoken. For this reason, most people habitually think ahead of the speaker and build up conclusions that may be entirely different from those the speaker wants us to develop. Unfortunately, this practice tends to break down proper communication and divert reasoning processes designed to solve problems or to teach.

When emotion enters the picture, combined with a lack of education, ocal skills and writing ability, it can be disastrous. It is here where people get into trouble in terms of trying to say what they really want to say. We have all seen examples of fragmented thinking expressed in words. I often think of the excerpts I have read from letters to a welfare office. These were from people in trouble, desperate for help, but in spite of that, what they said came out funny. A few examples:

"I am forwarding my marriage certificate and six children. I had seven but one died which was baptized on a half sheet of paper."

"Mrs. Jones has not had any clothes for a year and has been visited regularly by the clergy."

"I am glad to report that my husband who was reported missing is now dead."

"This is my eighth child. What are you going to do about it?"

"I am very much annoyed to find that you have branded my boy as illiterate, as this is a dirty lie. I was married to his father a week before he was born."

"In answer to your letter, I have given birth to a boy weighing ten pounds. I hope this is satisfactory."

"My husband got his project cut off two weeks ago and I haven't had any relief since."

"You have changed my little boy

"There's only one person who cares more about how a piano sounds than a pianist: the piano technician."

For years we've been telling our customers how important it is to take proper care of their piano *after* it's in the home. Especially during the first year when the piano is becoming acclimated to its new environment.
And, of course, we urge them to call a qualified piano technician. We hope, when you recommend a piano, you'll tell them about Baldwin.

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to a girl. Will this make any difference?"

Communicating through the written word can be a danger and a bit confusing. There it is in black and white — no matter how right or wrong, smooth or awkward, correct or incorrect, slanderous or meaningless, it is there for all to see and to judge. One word can infuriate or it can placate. A **word** can start a domino effect and lead to great things, or it can stop a good thing in its tracks. Words used in the right place, in the right way, and at the right time are a formidable force, indeed.

People have a tendency to "read in" their own thoughts, concerns, meanings and opinions in both written and spoken words as they transcribe them into thoughts. In my August editorial I wrote at quite some length on the frustrations of members when their coveted emblem or logo is made use of by those who haven't earned the privilege and don't qualify. It almost sounded like "since it is difficult to stop them, why try?" This is certainly not a correct assumption. We intend to pursue and stop those who persist in this fraudulent use of our hard-earned titles and emblems. If need be, we will take them to court and in every other way protect our reputations as qualified and certified technicians. We owe it to the consuming public and to the industry as a whole.

Words put together, singly or collectively, to convey thoughts, can also have multiple meanings. Chicago columnist Sidney Harris once gave several examples in one of his columns. Here are a few:

I am discriminating. You are prejudiced. He is bigoted.

I have a large frame. You are heavy. He is obese.

I am only commenting. You are criticizing. He is nit-picking.

I am frank. You are outspoken. He is rude.

In a labor dispute, what the company offers is insulting. The union's requests are unreasonable.

In an argument, I am verbally fencing. The opposition is double-talking.

Our children get good grades in some classes because they apply themselves. In classes where poor marks are evident, the teacher has it in for them.

Not to change the subject, but, generally means they are.

It really isn't any of my business means they are about to make it so.

A homely person we dislike is ugly, but one we like has a face with lots of character.

Rich people who go "crackers" are installed in rest homes. Poor people are sent to the nut house.

And, finally, when we say "If I don't, somebody else will," usually signifies that the speaker is about to adopt the creed of the world's oldest profession.

All in all, words pretty well fashion our lives, both in terms of steps to success and roadblocks to failure. Those who learn to use them effectively can not only cover a multitude of sins, but can motivate others, spread influence and gain affluence. Those who are not articulate or literate strive constantly to achieve this enviable position. Those who are, constantly strive to hone their skills to a finer edge. The real tragedies in life are the lost thoughts, brilliant ideas and deep philosophical dissertations which would be possible but which are never spoken or recorded for the use of mankind.

Then there is the professor who wrote so succinctly on the corner of a student's theme paper, "Your vocabulary is mean and impoverished, but entirely adequate to express your thoughts."

PIANO ALLEY

NEW YORK — Steinway & Sons has appointed George Defebaugh technical representative for the western United States.

In making the announcement, Richard Gigax, Steinway marketing vice-president, said Mr. Defebaugh's responsibilities will include conducting training seminars for Steinway dealer personnel as well as representation of Steinway & Sons at regional meetings of the Piano Technicians Guild. He will be based in Los Angeles and will report to Mr. Gigax.

A veteran technician of more than 25 years, Mr. Defebaugh is widely known for his educational work in piano technology. He conducted classes in tuning, regulation and piano servicing for 6 years at Piano Technician Guild conventions and seminars, during which time he was national recording secretary for the Guild. More recently, he was national technical manager for a piano marketing company, a piano tuning instructor at the Los Angeles Trade Technical College, and a piano technician for the Los Angeles Unified School District.

BOB RUSSELL

PRESIDENT'S MESSAGE

The Piano Technicians Guild is always expanding its membership and horizons. We are now involved with the International Association of Piano Builders and Technicians. As we expand and grow, our most important tool is communication. Without communication, we cannot share our knowledge and friendship.

Many, many times we have heard the statement, "He is listening to me, but he hasn't heard a word I've said."

We have all experienced this situation at some time or another. People listen, but their minds are thinking of something else. A pleasant nod of the head in agreement is a sure sign people only *think* they understand what you are saying. They heard only words, not intent.

There is another human trap . . . the trap of *reading* a letter. When we read a letter, or any other written material, do we try to *listen* and *hear* what the person is trying to say? Do we go beyond seeing and hearing the written word?

Wouldn't it be great if everyone added another dimension? Listening with an open mind. Listening without projecting our own preconceived ideas. Communication, both written and oral, takes effort. Yes, it is difficult to listen when we have already formed our own opinion on the subject. But we must make an effort . . . a sincere effort . . . to be concerned with what others are trying to say . . . their real intent. Let us use our tool wisely. Let us communicate.

Flea Market

Has your chapter decided on its contribution to the Piano Technicians Guild Flea Market? Have you discussed who will be in charge of this project for your chapter and help put your chapter treasury in the black?

Do you have . . . a handy dandy tool to sell? . . . hobby to sell? . . . teeshirt for sale? . . . book to sell?

. . . craft you have made? . . . paintings to sell? . . . etc.

The list of items is lengthy, just put your imagination to work and create a new "item" for the market. Do it now! The Auxiliary is also included in this project. Remember, anything goes!

What a fun night the Flea Market will be at the Philadelphia convention!

1979/80 Piano Technicians Guild Executive Board

Elected to the Board of Directors in Minneapolis this past summer were the following Guild members.

Front row, left to right: **Sid Stone**, Vice President; **Bob Russell**, President; and **Charles Huether**, Secretary/Treasurer.

Top row, left to right: Executive Director **Don Santy** appears at the left of the top row followed by elected members **Ernie Preuitt**, Central West Regional Vice President; **Tom Blanton**, South Central Regional Vice President; **Sam Pearlman**, Western Regional Vice President (deceased); **Dick Bittinger**, Northeast Regional Vice President; **George Peters**, Central East Regional Vice President; **Walter Kerber**, Southeast Regional Vice President; and **W. Don Morton**, Immediate Past President.

Following the death of Sam Pearlman, **Daniel A. Evans** has assumed the duties of Western Regional Vice President.

Technically Speaking, we've got the answers.

Joe Yoder
Quality Control Manager

Otis Oxford
Service Manager

Ron Achor
Executive Vice President

David Lowe
Mgr., Manufacturing

Baxter Edmisten
Asst. Mgr., Manufacturing

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THE TUNER-TECHNICIANS FORUM

PAPERING STEINWAY FLANGES

In our June 1979 issue, this column ran an article on papering grand whippens. We used a Pratt Read whippen for purposes of illustration since the design of that whippen and flange is typical of that used by the industry. The Steinway flange is shaped differently than any other, so that it can be used on the unique Steinway action rail (see Figure 1). The principles of papering are the same as for any other make, and the new reader may wish to refer back to the June issue for that information; the application is somewhat different, though. We present a method for papering Steinway flanges now in the interest of completeness.

First, a passing comment about spacing hammers: Since the Steinway hammer flange cannot be simply turned from side to side, it must be papered at the front lip of the hammershank flange (see Figure 2). Paper on the side toward which the hammer must be moved. It is naturally assumed that any warped shanks will have been straightened with heat before they are spaced.

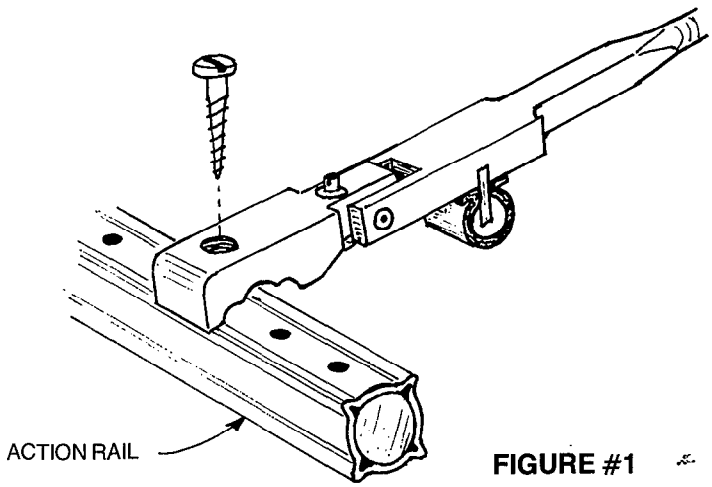


FIGURE #1

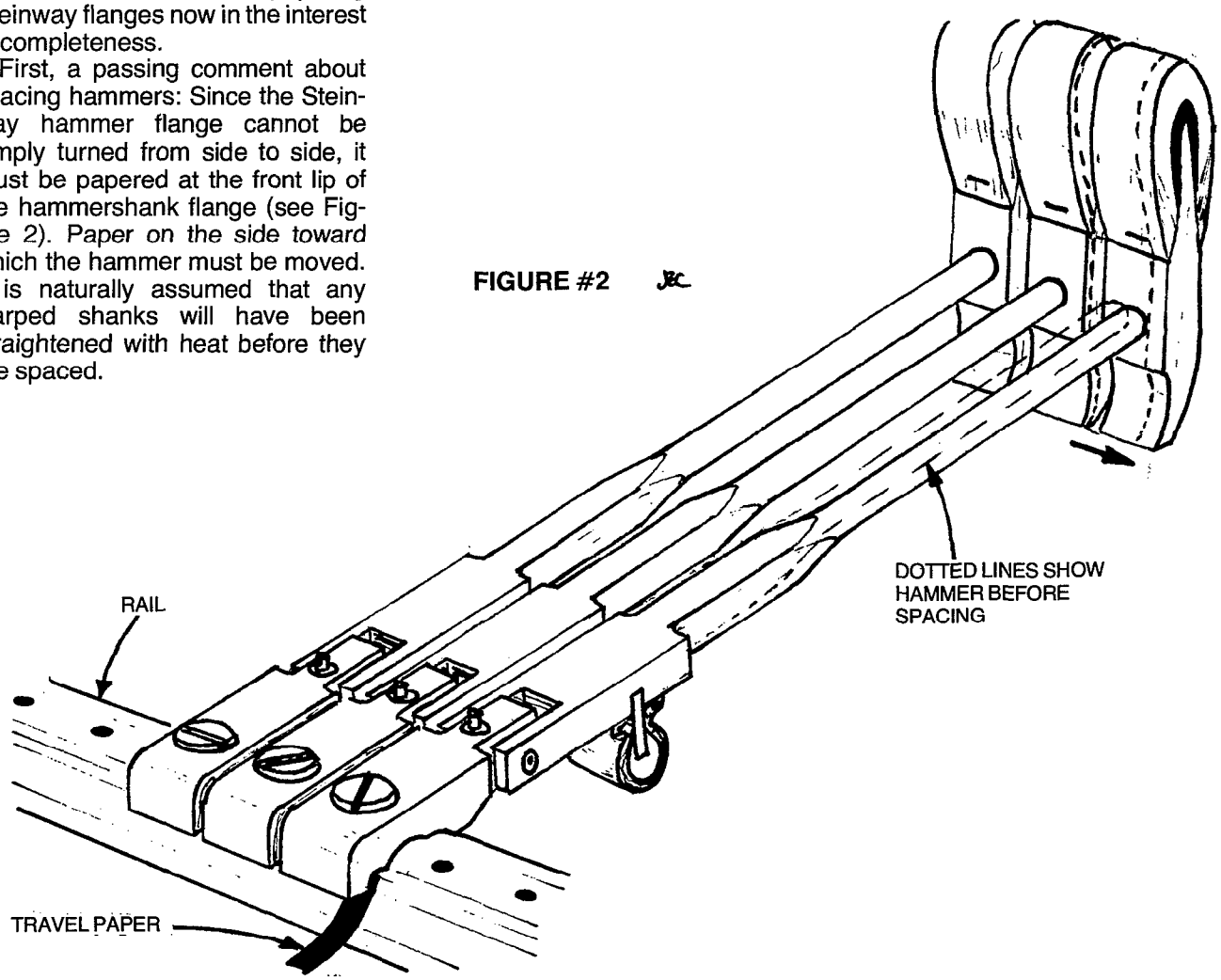
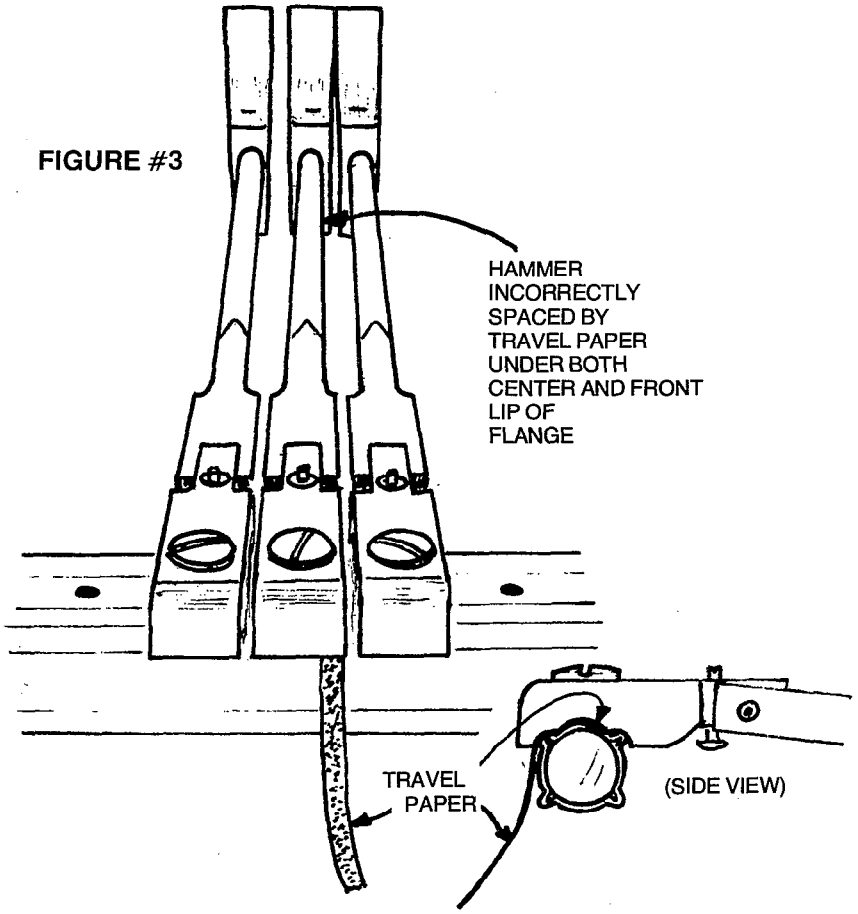


FIGURE #2

FIGURE #3



We hear a lot of talk about traveling hammers, but what we really are doing is traveling the shanks. If the hammer tilts out of alignment while the shank is being traveled, so be it; first things first. In the event of a slight misalignment, the shank can be burned later. If it's really bad, the hammer can be removed and reglued. But before worrying about hammer alignment, we must be sure the shanks are properly traveled. Steinway shanks can be traveled just like those of any other make except that the paper should not extend to the front lip. If it does, the shank will not only be traveled but also spaced to the side (see Figure 3). To travel the shank without spacing it, place the sandpaper only under the center of the flange **on the same side of the screw toward which the shank is traveling.**

Parenthetically, we might point out that a lot of this can be avoided altogether when replacing Steinway shanks and flanges by simply replacing the old rail cloth. Willis Snyder of Pennsylvania, whose attention to detail is legendary, likes to replace this cloth with very fine aluminum oxide paper. It is cemented to the cleaned rail with the grit side facing the flanges (see Figure 4). This eliminates any problems that could be caused by lumpiness or old travel paper in the old cloth.

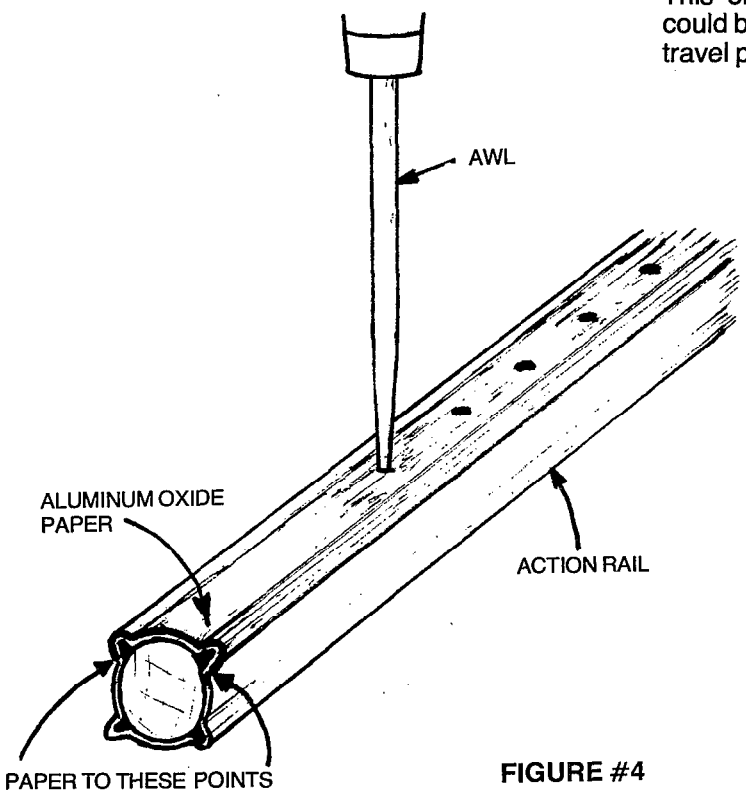
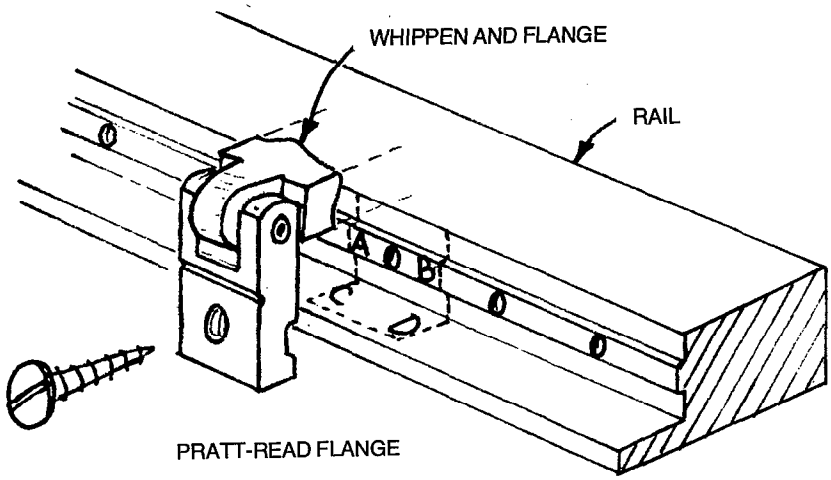


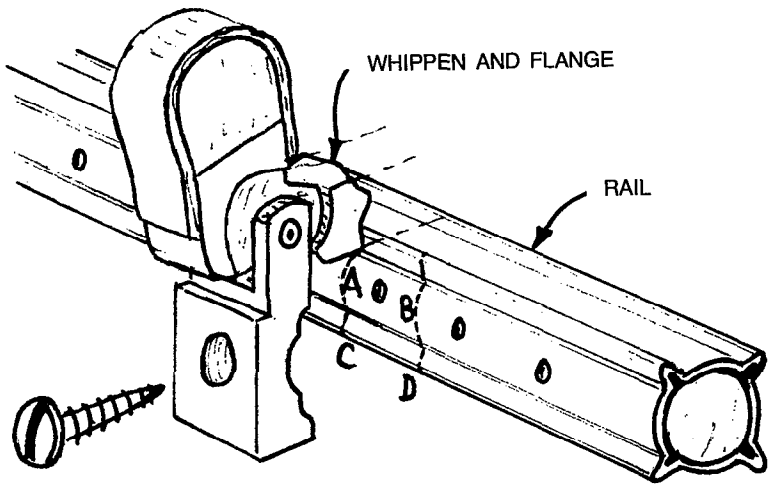
FIGURE #4

Spacing Steinway whippens is accomplished in the same way as described in our June issue, but tipping or swinging whippens so they will line up with capstans or knuckles requires exactly the opposite treatment on a Steinway. The reason for this is that the addition of a piece of travel paper to the bottom corner of a Steinway flange will bring that corner **down**, while the addition of paper to the bottom corner of a Pratt Read flange will push that corner **up**. Figure 5 illustrates that point, which I think we need not belabor further here. Our thanks to those who have requested this clarification.



PRATT-READ FLANGE

FIGURE #5



STEINWAY FLANGE

BACKCHECK ADJUSTMENT

QUESTION: *"Should the backchecks be adjusted by lining them all up with a straightedge and adjust the key dip to the present backcheck as described on page nine of the July 1979 JOURNAL and as the Wurlitzer manual also says? Or should the key dip be set first as described on page 23 of the same issue and let the backchecks fall where they may, while preserving a constant key dip? . . ." — Ken Winters, Paradise, California*

ANSWER: There are two variables involved here; whether the piano is a grand or a vertical, and how much wear exists in the action. Both authors were correct, but were referring to different circumstances.

If we assume that all parts are new and of identical dimensions, then it follows that all parts will be lined up symmetrically when the action is properly regulated. George Peters was talking about reregulating a relatively new vertical piano and the Rappaports were talking about regulating an older grand. If I had to make a broad generalization, I would suggest making a straight line as a point of departure. This straight line may have to be modified for performance if the dimensions of the parts vary, and that is a judgment call for the individual technician to make.

It could also depend on the preference of the performing artist, as the Rappaports state in the third column of their article. Some artists insist on uniformity of aftertouch, while others insist on uniformity of key dip. It is our job to make these artists happy, within the bounds of what we know to be acceptable procedure.

HORN WEDGES

QUESTION: *". . . I have tuned a concert grand for a famous artist several times in the past three or four years, and the piano obviously gets moved around a lot. A couple of years ago I noticed that the horn wedge was missing. I said nothing, because I had already tuned the piano and it was too late to do anything about it right then. But the wedge is still missing, as I have noticed recently. Since the piano seems to work fine without the wedge, is it all right to just leave well enough alone? . . ."*

ANSWER: The piano was probably dropped or at least jarred in moving, because normally the wedge will not fall out once the tension has been placed on the frame. Since the instrument was designed for a horn wedge, it should be replaced as soon as possible. Let the tension down, tap the wedge lightly but firmly into position, and raise the pitch again. The chances are good that the wedge will be found under the damper tray in the bass corner of the action cavity. If it isn't there, order a new one or have one made by a local machine shop.

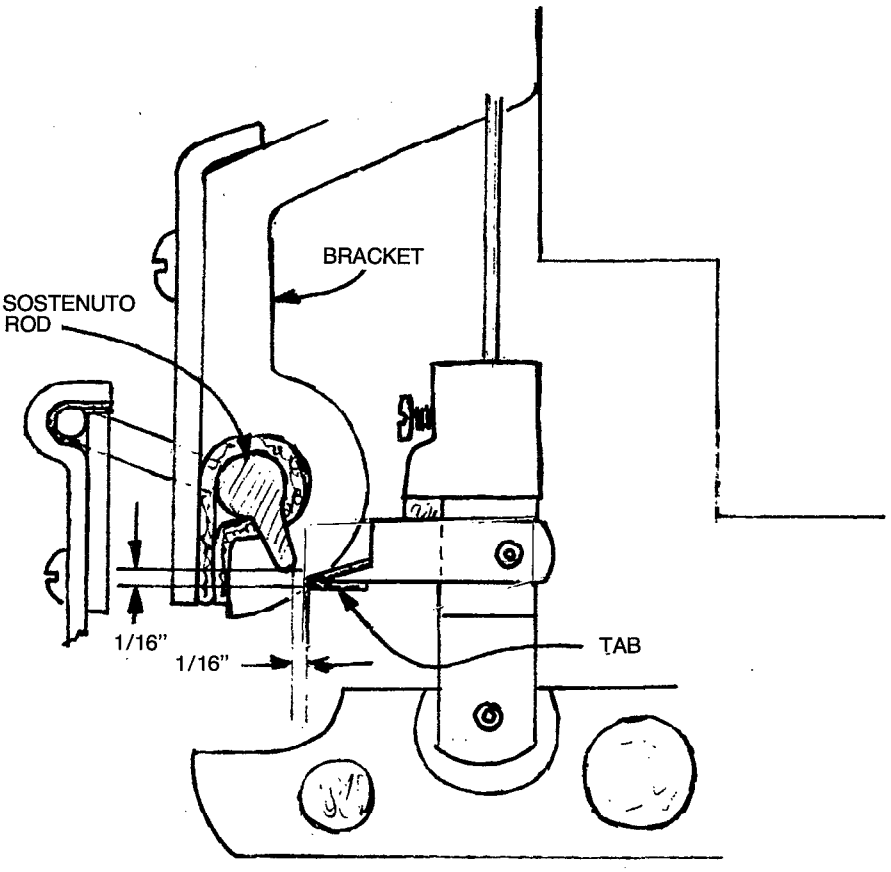
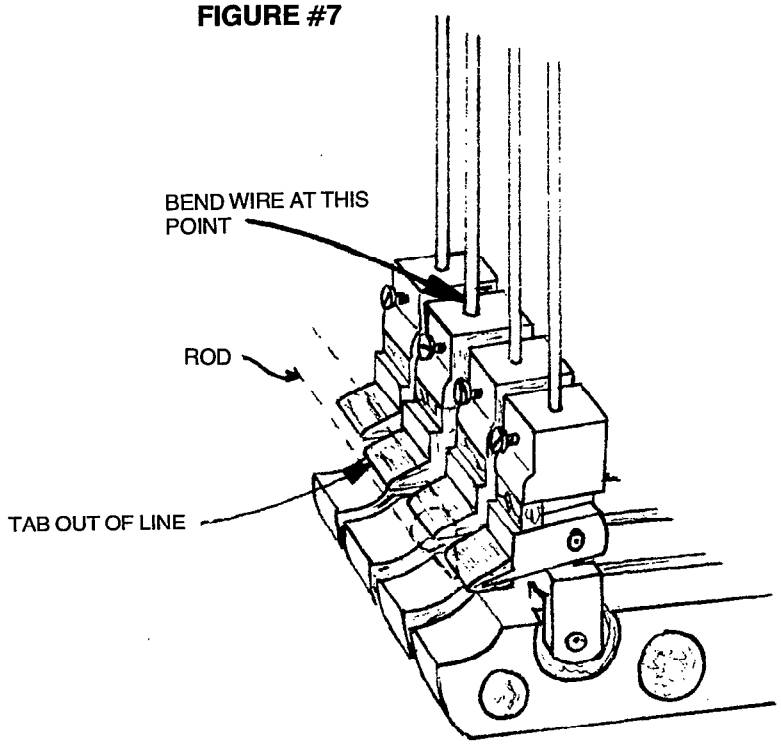


FIGURE #6

FIGURE #7



SOSTENUTO ADJUSTMENT

QUESTION: *"I service mostly vertical pianos, so I don't often run into a problem with a grand sostenuto, but I have one now. My customer, who is a teacher and a fine pianist, complains that when the sostenuto is operating she can make other dampers stay up on a hard blow. I tried it, and she's right. What's wrong with it?"*

ANSWER: The blade is probably too far away from the tabs, allowing them to be driven past it on a hard blow. It is also possible that the blade is too low. Adjust it so there is a clearance of approximately 1/16" both vertically and horizontally when the blade is at rest in the five-o'clock position (see Figure 6). Also adjust the in-and-out position of the underlever top flanges by bending the damper wires slightly so that all tabs project exactly the same distance toward the blade (see Figure 7). Adjust the travel so the blade is in the three-o'clock position when the pedal is fully depressed.

When the system has been regulated to the above specifications, test it as follows:

Test #1. Operate the sostenuto pedal several times, watching the damper heads as you do so. Absolutely nothing should happen to the dampers if the blade and tabs are properly aligned. If a damper lifts or twitches during this test, its tab is either too high or too close to the blade. If they all twitch or lift, adjust the blade upward or away from the tabs, whichever is appropriate to attain proper clearance.

Test #2. Standing at the keyboard and grasping the rim or stretcher for balance, fully depress the damper (right) pedal with the right foot, thus raising all dampers. While holding the right pedal down, depress the sostenuto (center) pedal with the left foot and then release the right pedal. All dampers should remain in the raised position. If some dampers fall, either the tabs are not lined up with each other or the blade is too far away or not coming to its full horizontal position. Locate the problem, correct it and try the test again. As in test #1, if the problem affects only a few dampers-

the problem is likely to be found in the position of the tabs; adjust the underlever top flanges so the tabs are in alignment. On the other hand, if all or nearly all dampers fail the test the problem is most likely the position of the blade.

Test #3. Depress the sostenuto fully and, with the pedal held down, strike each key with a hard blow. All dampers should return when the key is released. If they remain up, it means they have been driven past the blade by the force of the blow and are hanging on the blade by their tabs. If this is happening when all tabs are in alignment, the blade is either too low or too far away from the tabs. Adjust its position until the condition is corrected.

Sostenuto adjustment is easy if you remember three things: (a) be sure the tabs are in perfect alignment, both up-and-down and in-and-out; (b) align the blade so there is 1/16" clearance both vertically and horizontally; and (c) adjust the travel so the blade operates from a five o'clock position to three o'clock position and back to five o'clock when the pedal is released. It's as easy as that.

NEWSLETTER TECH REPRINTS

Someone once defined "experience" as the sum total of our mistakes, and we benefit as much from hearing about another technician's mistakes as an accounting of his triumphs. We are often too insecure to admit our errors to our peers, but Clayton Shufelt of the Connecticut Chapter willingly shares the following in a recent issue of The Keybed:

"Years ago I learned never to put screws or other small objects on the shelf formed in a vertical piano by the top of the pinblock when the lid of the piano is raised. They are almost sure to roll off into the action. However, I have regularly used the shelf to lay tools on while working or tuning — that is, until a few weeks ago when a most annoying incident occurred during the tuning of a studio upright in a school classroom. After matching the pitch of the piano to my Sheffield C fork, I put the fork on the above-mentioned shelf and proceeded to tune the piano. Somehow (I'll never really know now) my hand knocked the fork off the shelf and it dropped down through the open spot just above where the dampers end, slid in back of the plate and finally lodged on the bottom board between the plate and the soundboard, just in back of the lowest bass strings. There was just no easy way to get it out. It seemed risky to leave it there where it could later be the source of a disturbing rattle or vibration. There was nothing to do but go back a few days later with a piano tilter, put the piano on is back, remove the bottom board, and retrieve the fork from its snug-as-a-bug resting place. The cost? Almost three hours time including the extra trip. I've decided never to put anything on that shelf again!"

Thanks, Clayton. And if you think that's bad, some day I'll tell about the time I was tuning a vertical with a cup of coffee on the shelf when my lid prop slipped out of position, allowing the lid to knock the coffee into the action. I made some immediate comments on the nature of things in general, emphatically enough that it is rumored that the air around that instrument is still a little blue.

Our next reprint is from the Cleveland Chapter's newsletter, involving an open question format. The writer is Mike Knoblock:

"Every technician comes across a regulating problem now and then, and it's interesting to analyze the interrelationships between the many mechanical facets of a piano action, especially when such a thorough analysis results in a quick or "hidden" solution to the problem. This month's article will take the form of a short quiz and while the experienced technician will have no trouble with the answers, its intent is really just to provoke a little thought.

(1) You enter a home for a tuning on an average-sized grand. It's only a few years old and you can see it's been well cared for and kept up to pitch; however, the customer complains that the touch is too light. You inspect the action and find nothing out of the ordinary: standard dip, close let-off & drop, good repetition, hammer line OK — everything seems to fit together well, yet the customer wants a somewhat heavier feel in the keyboard. What's the most straightforward solution (no key weights, now)?

(2) In an upright action you are observing the tip of the jack at the end of its travel while adjusting the letoff. You strike a normal blow and with the hammer checked, the jack tip will exhibit a certain amount of clearance between it and the hammer butt. How much clearance is desirable and why?

(3) In the same upright action, you wish to increase this clearance. Name two ways of accomplishing this.

(4) Upright again. What effect does quickening the letoff have on the hammer-to-string checking distance?

(5) Let's say you have a properly regulated upright action, but you think the hammer blow distance is too great. You shim the rest rail 1/8" and take up the lost motion you've introduced with the capstan screws. What is the NET effect of these two operations?

(6) In regulating a grand action you've set key height and dip, hammer line, jack position to knuckle and repetition lever, letoff and drop. You now regulate all the repetition springs. What will be the most obvious effect of this step, assuming you've changed the spring tensions an appreciable amount? In other words what will you most likely have to reset?

(7) Finally, a quickie. You're tuning a 10-year-old console (direct blow) and you come across a bubbling hammer. You check the letoff and find it to be between 1/16" and 1/8" — certainly within tolerance. What's the most likely fault?

WURLITZER SHARP TOPS

The sharp top illustrated in Figure 8 was mailed to my office recently by noted technician Dick Bittinger of Brownstown, Pennsylvania, as an item of interest to JOURNAL readers. It looks like any other plastic sharp top except for the presence of two projecting studs on the bottom and a thin shelf on the back. This is a Wurlitzer sharp, and according to Wurlitzer Service Manager Larry Talbot it has been in production ever since the company started making

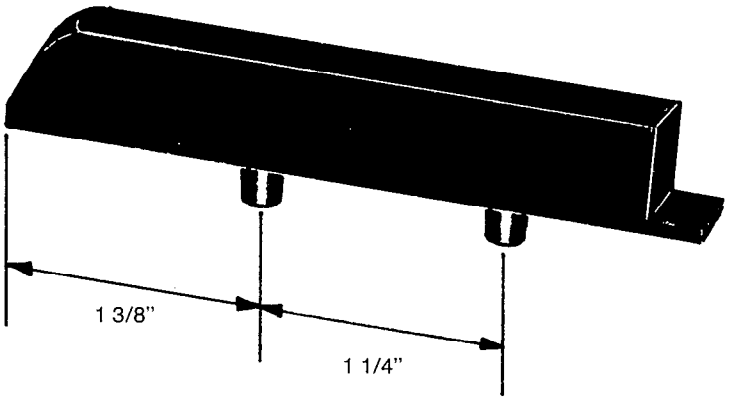


FIGURE #8

its own keys.

The two studs on the bottom are designed to accurately locate the sharp top on the wooden part of the sharp key, and fit into holes drilled in the key. A drop or two of epoxy in the bottom of each hole secures the top to the key. The projecting shelf on the back is about the same thickness as Wurlitzer's white key covering, and its purpose is to allow the sharps to be accurately leveled to the naturals.

According to Bud Corey, this shelf provides the extra thickness required so that the wood of the sharp keys immediately behind the keytop can be leveled with the wood of adjacent naturals without excessive clearance between the key and the nameboard felt.

Because of the epoxy bond on the studs, this type of sharp top is unlikely to ever fall off the key; in fact, should it be necessary to replace the sharp top a special procedure should be followed. Do not attempt to pry it off, because you will likely damage the wooden part of the key. Here is the procedure Corey recommends:

1. Order a new sharp top from Wurlitzer.
2. Using a pair of side cutters, bite into the old sharp top at the two stud location points. Remove the sharp top and clip or grind the imbedded studs down flush with the wood.
3. Break the projecting studs from the bottom of the new sharp top.
4. Roughen the bottom of the new sharp top with sandpaper, and carefully sand any old glue off the wood.
5. Glue the new sharp top onto the wood, using contact cement or whatever glue you customarily use for this purpose.

The Wurlitzer people do not recommend that we try to drill the old studs out of the wooden part of the key. It is too difficult to drill through the plastic and epoxy without allowing the bit to wander, and the oversized holes that would inevitably result from such an attempt would do us no good at all.

LEATHER NAP

QUESTION: *"I have ordered a new set of knuckles for a grand piano. Is there a front and back to the knuckle as some say, or not? . . ."*

ANSWER: Yes, there is. You may not be able to tell by looking at the knuckle, but you can easily tell by feeling it with the fingertips. Buckskin has a natural grain or nap, and it feels noticeably smoother when rubbed one way than the other, much as a dog can be petted easily from head to tail but not so easily in reverse. The knuckle should be installed so that the jack can return easily but will be relatively difficult to trip. This ensures maximum power because the jack is unlikely to slip out prematurely when going against the grain of the knuckle, and aids repetition because the spring can easily return the jack to position even though it brushes the knuckle lightly as it returns. Similarly, the nap on backchecks should point downward so the hammer tail is easily captured but will not jump upward again until the key is released.

HARDWARE REFINISHING

QUESTION: *"Several months ago you hinted in your column that an article on hardware refinishing would appear in the* JOURNAL. *Whatever happened to it? I am very interested in this because I do quite a bit of rebuilding and refinishing. . . ."*

ANSWER: It didn't appear because I couldn't find anyone to write it. No technician of my acquaintance has so far admitted to any great degree of expertise in metal finishing, so I will share a few of my own ideas on the subject in the hope that one of our readers will take the challenge and furnish more detailed information.

Let's eliminate gold plate from the list because of its expense, and white antique paint because of its ugliness; so what's left? Brass, in satin or polished finish, brass plate, nickel plate and chrome plate.

If in doubt, scratch an unexposed part of each piece of hardware to see what metal it was made of; a bright yellow glint indicates solid brass, the most desirable because it can be finished any way you or your customer wants it finished. If some parts are brass and others are not, the entire set will have to be plated.

Brass plating is unmistakable, but many people confuse nickel with chrome. Nickel is shiny and silvery in color, with a slight yellowish cast, while chrome is shiny and silvery with a very slight bluish cast. Compared side by side, the difference is readily discernible. Actually, chrome plate is nickel with a flash of chromium on the top. The chrome finish may look gaudier and less classy to the discerning eye, but it has the advantage of never tarnishing. Over the years, an untended nickel finish will become a dull gray. When a customer asks for a nickel finish, it's a good idea to ask a few questions to determine whether nickel or chrome is really what is desired.

Satin brass is probably the most popular finish for piano hardware,

which is a good thing for us because it doesn't require the services of a professional plating company. A fine wire wheel mounted on a 3450 RPM motor will do a beautiful job of restoring the finish on solid brass parts. Here is the procedure I use.

1. Once an area has been buffed with the wire wheel, do not touch that area. It will tarnish if handled, so some parts may have to be held by pliers while being buffed. After buffing, lay the part on a piece of cardboard or pegboard to be lacquered.

2. Large screws can be handheld to the wheel, but very small ones may have to be held by pliers. If you line up the screw slot with the direction of the wheel, the slot will be cleaned out while the head is being buffed. Lay the screws in pegboard so the heads can be lacquered.

3. Don't press too hard. If the wires are bent too much, they will not do an efficient job because they will be pushing instead of scraping. Bent wires will frequently break off whil the machine is running, causing a hazard to anyone in the shop who is without safety glasses. If the wheel begins to lose its effectiveness, turn it around. This will reverse the bend in the wires and the wheel will suddenly cut twice as well with less pressure.

4. Buff in one direction only. The buffing is actually putting fine scratches in the finish, and it will look good only if all the scratches are even and parallel. Just as in rubbing out a satin finish on wood, a cross-hatch pattern looks terrible.

5. Buff the edges and hard-to-reach areas first. When buffing a pedal I always work on the horn first, then all the way around the edges; then I do the most visible portion. Pedals seem to look best if the scratches run across, from side to side. Buff all three pedals in one sitting to be sure they will look alike. If done at random, there may be a difference in the finish because of a change in pressure or condition of the wires in the wheel.

6. Continuous hinges are too flexible to be easily buffed if they are held flat, so I suggest that they be opened as far as they will go (see Figure 9) before applying them to the wheel. I buff the rounded center part first, then the flat faces. Finally, the hinge is closed all the way so the back of the rounded part can be buffed. Be sure that every part that will be visible is buffed.

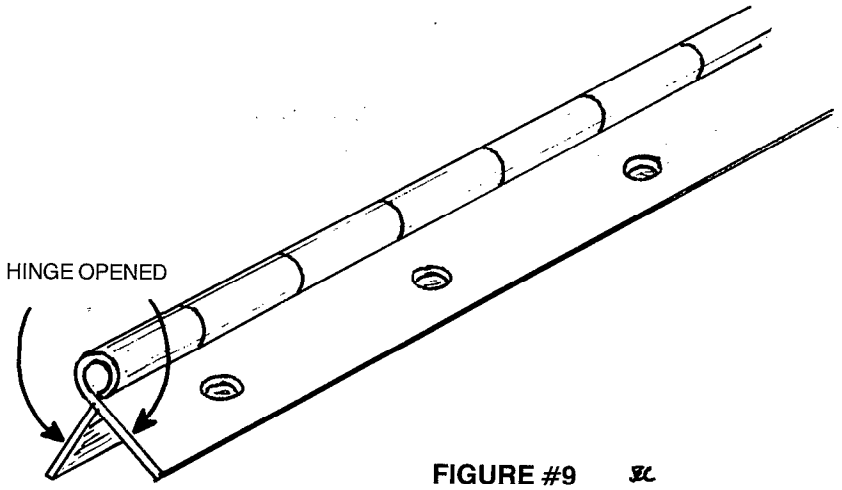


FIGURE #9

7. Pedal rods can be easily and quickly buffed if the last two or three inches of each end is buffed first. Then, with a finger on each end of the rod, buff the center portion.

8. Inspect the work as you go. The surface should look as though it were lightly brushed, with thin, uniform scratches all over. If the surface looks rough, it is either because the wire wheel is too coarse or too much pressure is being applied. Replace the wheel if necessary.

9. When all the pieces have been buffed, give them two coats of clear lacquer. When the lacquer is dry the parts can be handled without fear of tarnishing.

10. Whenever you use a wire wheel or a grinding wheel, check the RPM rating of that wheel to be sure your motor won't exceed its safe limit, and always stand to one side for one minute after starting the motor. If it's going to fly apart it will probably do so within the first minute, and it's healthier not to be in the line of fire when that happens. The safe RPM of the wheel will be stamped or printed on the wheel. Never use a wheel that is cracked or out of balance, and always wear safety glasses.

PAINTED TUNING PINS

QUESTION: *"Last week I was called to inspect a small grand that had been refinished a month previously. The refinisher, an experienced and reliable craftsman, had in a wave of enthusiasm painted the tuning pins with bronze paint. The piano owner claimed the piano was ruined, and a piano man called in had pronounced the wrest plank a total loss. He estimated the cost of putting the instrument back in usable condition at several thousand dollars. The refinisher asked me to look at the piano.*

"I tried the pins by raising the pitch some. The pins seemed to be as tight as any piano fifty years old (estimated age of this one) and I pronounced the piano tunable and that the paint had not done the pinblock any serious damage.

"Is there any record of pinblocks being ruined by bronze paint? Is it possible that the alcohol or other thinner leaves the pinblock undamaged after evaporation? . . ." — George H. Klimack, Zelienople, Pennsylvania

ANSWER: Since we don't know what type of paint was used or how heavily it was applied, this is a little hard to answer with authority. Chances are good that a thin spray coating on the pins would do no real damage to the block, regardless of the type of paint, because it wasn't allowed to run down the pins into the block.

If the block is delaminating and cracking, a heavy application of paint could easily penetrate the block; but if that is the case, the block was no good any way. Lacquer is generally regarded as safe to use around pinblocks, and traditional enamels are basically varnish with a pigment added. We know that varnish is safe, because it is often

used as a pin driving fluid. I'm not so sure about how safe the pigment would be, though, because I don't know what is in it. And if the paint were one of the newer types, such as acrylic, I really can't say whether there would be any harmful effect.

I don't like to see painted tuning pins any more than any other tuner does, but I must admit that my prejudice against this practice is based almost wholly on the visual effect of such treatment. I have never heard of a case where a pinblock was ruined because the tuning pins were painted. I have heard of instances where bass strings were ruined because paint was applied to the windings, but that's another story. Assuming that the paint was not applied to the speaking length of the strings, my guess is that the worst consequence of this treatment will be that the tuner will have to clean paint out of his tuning hammer the first few times the instrument is tuned.

The problem now is that it is your word against the word of another piano technician; and even though I tend to agree with your analysis, I have qualified my statements to the point that they may only add confusion to the situation. But you can prove who is right if you have a torque wrench and a hygrometer. Make a note of the relative humidity in the vicinity of the piano and check the torque of certain selected pins. Recheck the torque of the same pins periodically over the next year or so, whenever the humidity is the same as it was at the initial reading. The reading will naturally be lower whenever the humidity is lower, so it is important that the hygrometer be used in the test. If the torque holds up, then the block was not damaged.

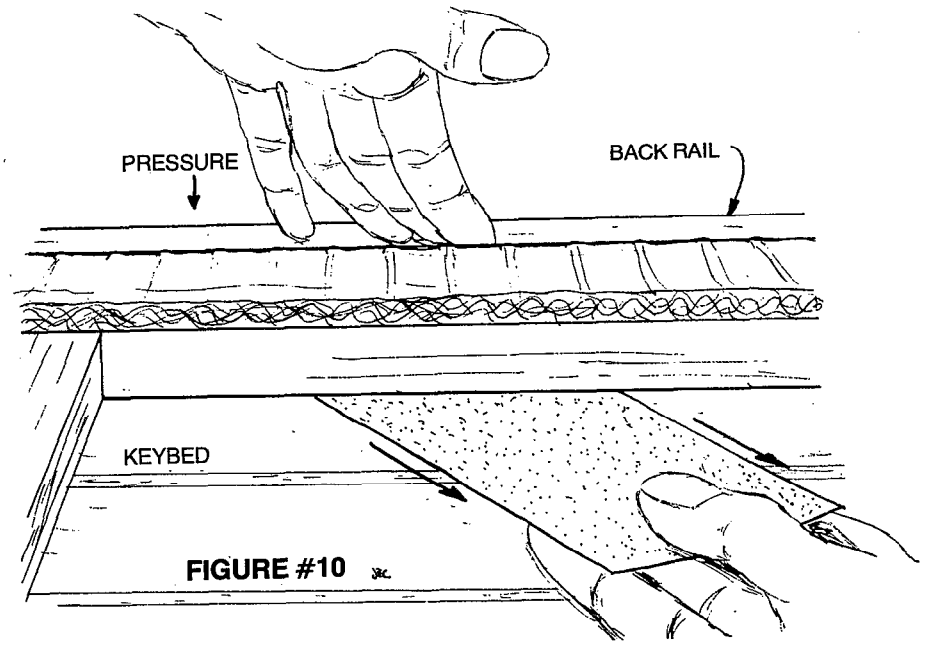


FIGURE #10

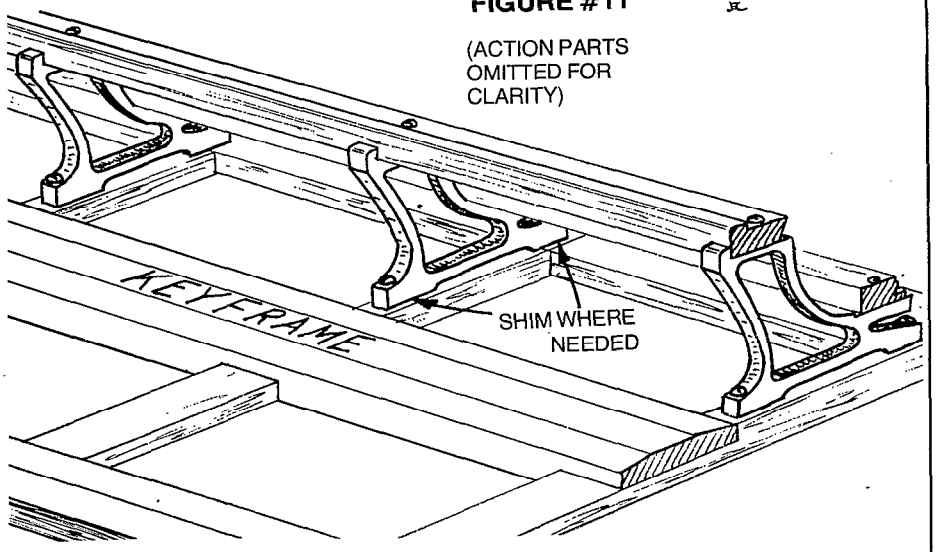


FIGURE #11

(ACTION PARTS OMITTED FOR CLARITY)

GLIDE STUDS

QUESTION: *". . . I have noticed that when the glide studs on the balance rail of a grand are turned down, the key dip is increased. Is this a permissible method of increasing the dip?"*

ANSWER: No. The purpose of the glide studs is to provide solid support for the balance rail when the key is operated. The balance rail would be solidly screwed down to the keybed if it were not for the requirement that the action be allowed to shift sideways when the soft pedal is depressed.

If the glide studs are turned down too far, they will force the keyframe to warp upward in the middle; if they are turned up too high they will not support the rail. In either case the action will lose efficiency. Proper bedding of the keyframe is basic to regulating any grand action, so we do this first. Here is a procedure to follow:

1. *Check the keybed to be sure it is flat.* Any irregularities can be eliminated by carefully sanding down the high spots while checking results with a straightedge.

2. *Bed the back rail.* Place the keyframe in position, minus stack and keys, and tap along the back rail with the fingertips. The glide studs should be turned up (counterclockwise) during this operation so that only the back rail and the front rail are touching the keybed. If a clacking sound is heard while tapping along the back rail, that indicates a spot that is not touching the keybed. Sand a bit of wood from the area of the keyframe that is **not** clacking, so that the entire rail will be touching. One way to do this is to place a piece of sandpaper between the rail and the keybed, grit side up, and pull it out while pressing down on the rail. This will remove some wood from

the underside of the keyframe (see Figure 10). Pull the paper out at an angle rather than straight forward, as this angled sanding will tend to feather the line between the sanded and unsanded portions of the rail.

3. Bed the front rail. Holding one end of the keyframe down to the keybed with firm thumb pressure, tap along the front rail from that end to the middle. Mark any noisy spots with chalk, and then start at the other end. Be sure the end of the keyframe is held down while tapping, as this simulates the downpressure exerted by the keyblocks. This operation should be done with the action stack fastened to the keyframe, but still without the keys. Be sure that the action frame does not distort the keyframe at the point of contact with the action bracket feet so that all feet are resting on the keyframe (see Figure 11). If necessary, sand the underside of the front rail in the same manner as the back rail was sanded to insure solid contact between rail and keybed along the entire length of the rail.

The front rail bedding is even more critical than that of the back rail, so it must be done carefully. Some pianos have a projecting register on the front of both rails (see Figure 12). This ridge is designed to minimize shifting friction, but it also eases the job of bedding because only a small cross-section of wood must be removed when bedding the front and back rails. Again, be sure to sand the portion that is **not** clacking.

4. Bed the balance rail. This can be done by knocking or by using newspaper as a feeler gauge. I will describe the latter method because it is easier to describe and, in my opnion, easier to do. Leave the action stack on the keyframe and install the keyblocks, adjusting their height if necessary to obtain a good compromise between firm downpressure and shifting freedom. Test this by alternately tapping the ends of the front rail and operating the shift pedal. Two common adjustments of keyblock height are illustrated in Figure 13.

When the keyframe is securely held down but will still shift easily, place a strip of newspaper under one of the glide studs. Tighten the stud down until the newspaper strip cannot be pulled out without resistance. If the paper tears, back the stud up again and start over. What we want is just a noticeable amount of resistance on each stud with the action in place but without the keys. This will leave a gap of about 0.003 inch between the bottom of the studs and the keyframe. That slight gap is just what we want, because the added weight of the keys (when installed) will cause the studs to just touch the keybed. Once this has been accomplished, the keyframe has been bedded and further adjustment of the glide studs will be counterproductive.

Never place a grand action on a concrete floor or other rough surface unless the glide studs have been turned up to protect them from becoming rough. Lubricate the keybed dowels with soapstone, and the front and back rail contact areas of the keybed with unscented talc.

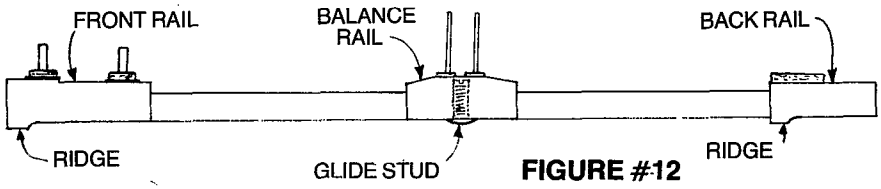


FIGURE #12

TIP OF THE MONTH

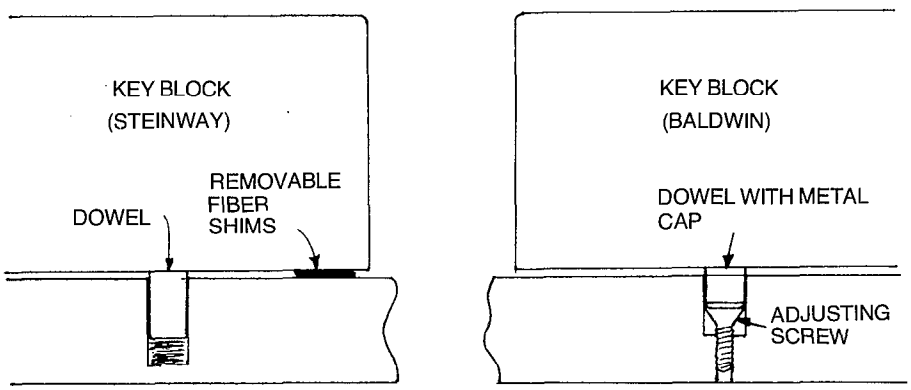
This month's technical tip addresses the problem of Phillips screw heads that have been partially stripped. If you can't get a good bite on the slots in the head with the screwdriver the head will be stripped further, and the screw will be seemingly impossible to remove.

Willard Sims has an answer for that. Simply grind the point off the Phillips screwdriver so the point cannot bottom in the screw head. This allows the outer edges of the blade to seat fully in the slots, and the screw will come out easily.

Now that the screw is out, what do you do with it? According to Sims, the next thing to do is hold the screw firmly between thumb and fingers, go outside, and throw it as far as you can in any direction.

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

FIGURE #13



PTG Logo And Its Use

It has come to our attention that the official PTG logo and emblem are being used by people who are not craftsmen members of PTG.

It is extremely important to know that this emblem is officially registered and is the protected trademark of the Piano Technicians Guild, Inc.

It cannot be used by any individual or firm unless they are fully qualified and accredited by this guild through proper competence testing procedures. Any illegal use of this emblem should be reported to the home office immediately for proper action.

PRISCILLA AND JOEL RAPPAPORT

VON DER WERKSTATT

CHOOSING MATERIALS FOR PIANO WORK

We all have had experience in evaluating pianos. Customers may wish to have you examine a piano that they are interested in buying, or they may want to know the repair or rebuilding costs of an old family instrument.

When we go to evaluate an instrument we look at everything from the way it sounds to its condition, both on the inside and outside. The value of an instrument is determined by the sum total of its condition in these three areas. We ask ourselves — How does the piano sound? What does it look like? What condition is the action in? A piano may be freshly "rebuilt" with all new parts, but sound and feel terrible. Or an instrument may be "rebuilt" and sound and feel terrific, realizing its maximum potential. Of course, the material and workmanship play a role in the value of the instrument.

In our article this month we will deal with the choosing of materials for piano work. In addition to piano parts, some common materials used in pianos and piano work include many kinds of felt, leather, wood, screws, lubricants, glue, paper, wire, etc. Since we can not cover everything, we will select a few of these for our discussion. One of the first considerations is to determine the purpose for which the material is to be used and ask ourselves, "Is this material suitable?"

Let's take a look at different kinds of felt. Felt used in hammers is a layered felt which is pressed around hammer moldings in a press. The degree and uniformity of hardness of the hammer felt has a direct influence on the tone in terms of brightness, character and color. Damper felt is also a layered felt, but much softer than hammer felt. Its function is to dampen or suppress the vibration of the strings. In choosing damper felt for the bass section of the piano one pays particular attention to the size of the instrument, diameter of the strings, spacing between the double unisons, and the thickness of the felt or the way the wedge felt is cut. Depending on the manufacturer, horizontal layered and vertical layered damper wedge felt is used. In the treble sections a softer layered damper felt is used. It is very sensitive to impressions and good damper alignment is important.

Choosing felt for the key frame involves not only using a felt or cloth which equals the original or desired thickness, but should be a firm material that suppresses noise and resists packing. If a soft layered type of felt were used on the key frame, we would find out quickly that the tendency of the felt to pack down is very great. Key leveling, key height and dip would constantly change.

Bushing cloth is designed to take a lot of wear. It is very strong and does not tend to pack down. Besides bushing keys, flanges and damper guide rails, bushing cloth can be used for balance rail punchings, or on the action stop block if so desired. Or in stringing it can be used on the plate between the hitch pins and bridge since bushing cloth is often of similar thickness and quality to the original felt. It also will withstand the pressure of the strings better than a strip of flannel-like fallboard felt. Strings will cut into the weaker flannel-like felt rather quickly. Flannel-type felt is used primarily as a noise preventative and does not have to be strong. It is usually found glued on fallboards, key stop rails and is used by some manufacturers as damper underfelt on damperheads. It may also be found lining the cut-outs in the lyre for the pedals.

Choosing the right kind of leather for the trapwork can make the pedals very responsive and efficient to the pianist. The use of hard smooth shoe leather, lightly lubricated with fine dry graphite powder and used with highly polished brass pedal rod

tops, will be effective and practically trouble-free for long periods of time. If a soft buckskin or "leather-like mystery material" is chosen for these trapwork contact points like the pitman, we will find that the softer material will give in to the pressure and unwanted friction will result. Pianists who expect response and perfection have ways of becoming annoyed when they must first stomp on the pedal to override friction, then calculate into their playing two to three measures' time for the damper tray to drop and the dampers to seat.

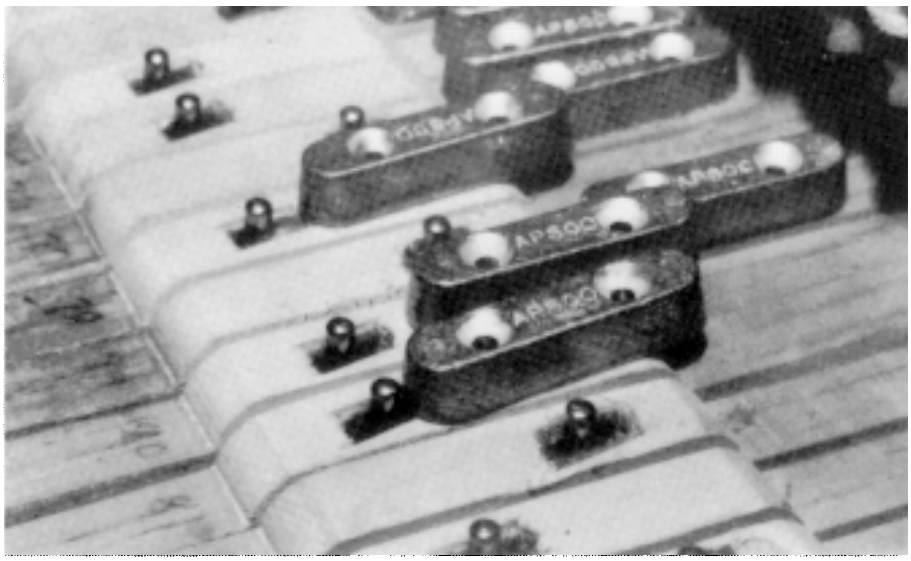
It is not enough to pay attention only to the purpose this felt or that material is being used. We must also consider the quality of the material with respect to purpose, cost, value of instrument and what was originally used. Technicians should know their materials and realize what they can do and not do with them. This all comes from experience gained by simply trying the material out to see how durable it is for your particular use. We don't always have to use first quality in everything. For example, a beautiful expensive piece of smooth well-treated soft leather will not be as suitable for pedal rod contact pads in the trapwork as a tough smooth piece of scrap shoe sole leather. Or if the bottom panel of an upright is to be reveneered, we can use the first choice veneer for the outside (where it counts) and our second quality for the inside. (Wood panels should be veneered on both sides to prevent warping.)

Choosing and using your materials properly requires good judgment. Each instrument is different. Its condition and what you as the technician see in it as a finished product dictate certain priorities. Not only do we pay attention to small details, but we must also make good choices in our materials, keeping the overall picture in mind. For example, the use of felt, leather, or key top covering in the frame insert for a shift pedal repair may not prove to be the best choice from the noise and wear point of view, whereas the use of a well-fitted masonite washer insert to repair the hole in the bottom of a key may be a good choice. Shop procedures and quality of workmanship should place the proper

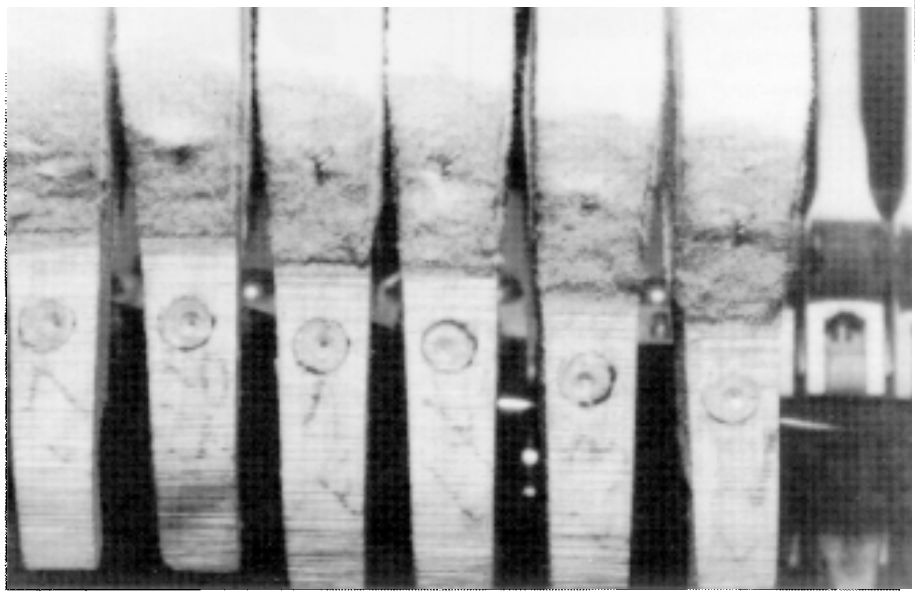
use of materials high on the priority list. Doing things wrong is not only wasting time and money, but *materials* as well.

In addition to felts, leather and piano parts, there are other materials that are used in piano work. We will refer to them here as help materials or unquantifiable substances, since they should not remain in the piano in measurable quantities. They may include the following: sandpaper, steel wool, glue, soap, lubricants, alcohol. We often see pianos completely lubricated with everything — graphite grease, spray lubricants, silicone and other preparations too numerous to mention. These treatments, intended to keep the instrument stick-free for many years to come, are not always the best solutions.

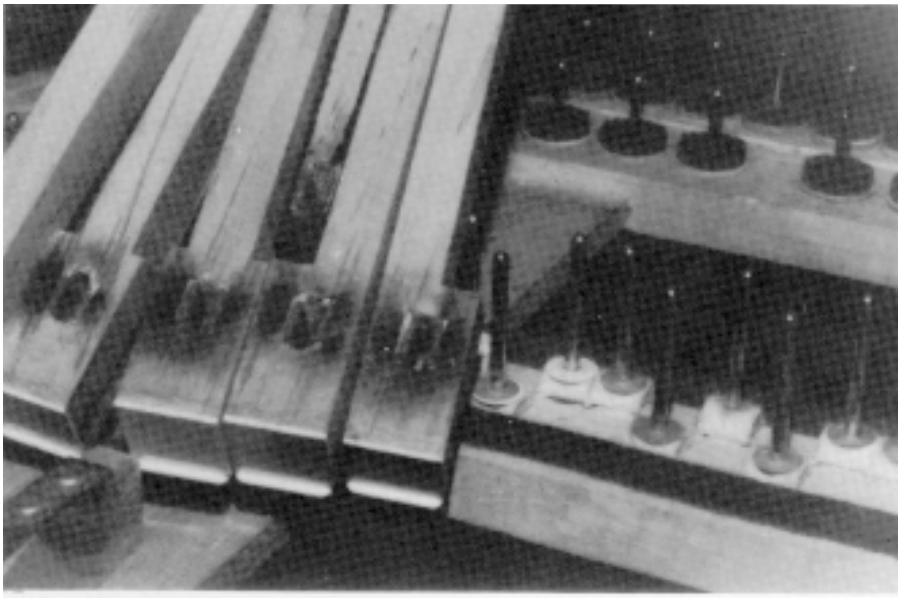
Good workmanship should also be **clean** workmanship. When you pull an action out of a grand piano it should not dump dirt, wood shavings, graphite, steel wool from cleaning the strings, or felt fuzzies from hammer filing into your lap. Actions do not work well when foreign matter is interfering with the friction points. Good workmanship involves also knowing your parts and help materials and understanding how to work with them. The following pictures illustrate some of these points.



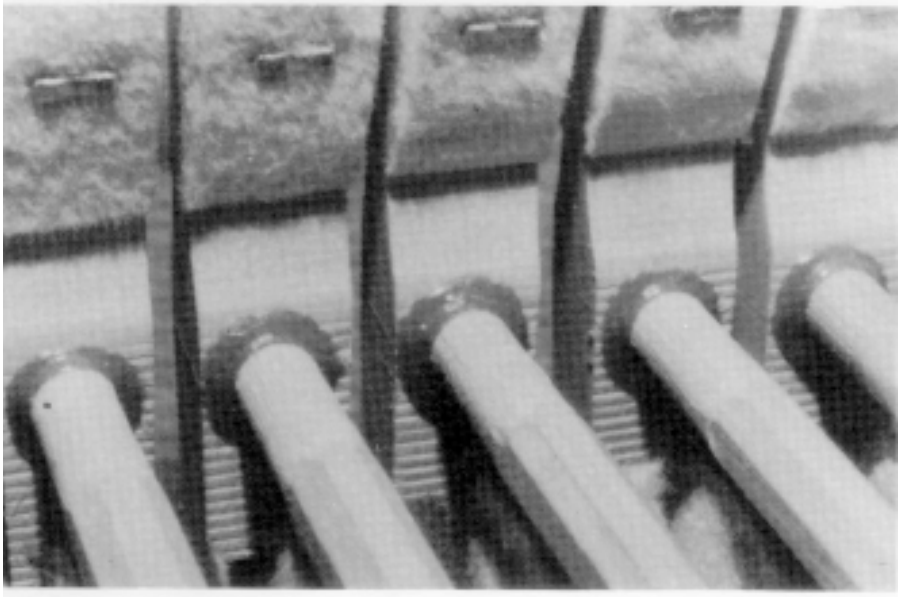
1. A method was chosen, but the person was not thinking. It is obvious that the glued-on lead near the balance rail pin causes clicks.



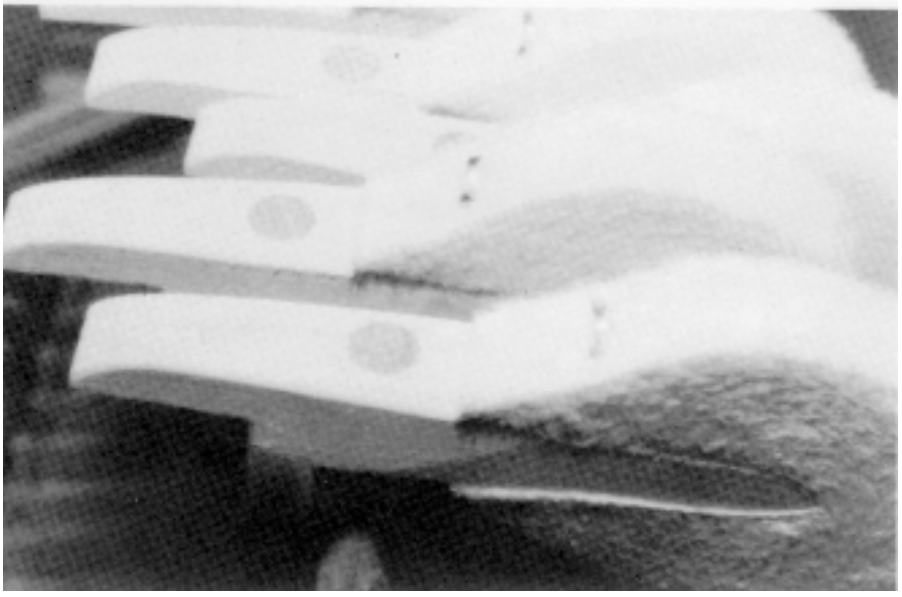
2. Even if standard quality parts are used, poor workmanship can ruin the job. These hammers constantly work loose. Either the shanks were too small for the hammers or the hammers were reamed too much for the shanks.



3. *Poor judgment shown by the use of the heat gun or alcohol lamp in removing front rail key bushings. These keys are somewhat overdone. Notice also the use of paper on top of the balance rail bearings. Paper punchings should always be placed underneath the balance rail bearing or felt punching to prevent possible noise from developing.*

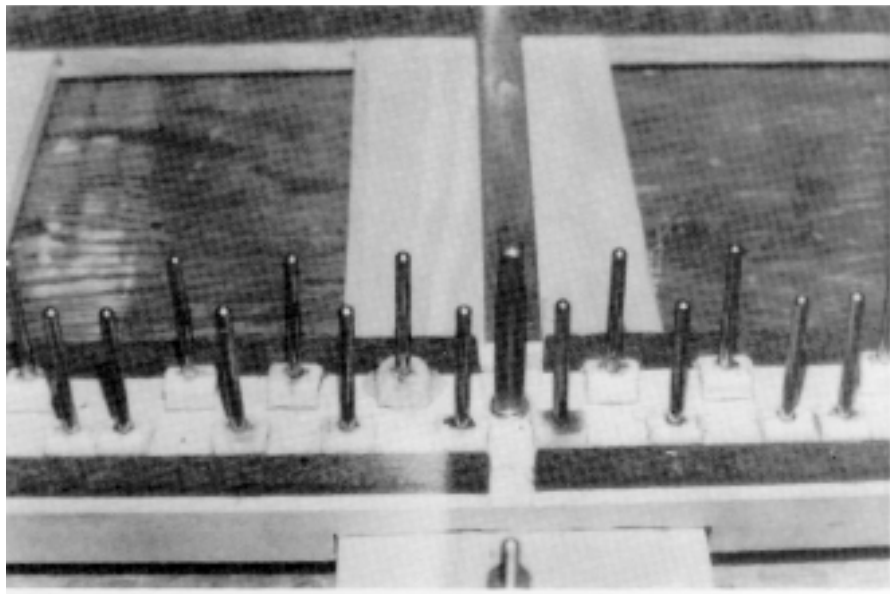


4. *Good example of hammer gluing with hide showing neat uniform glue collars.*

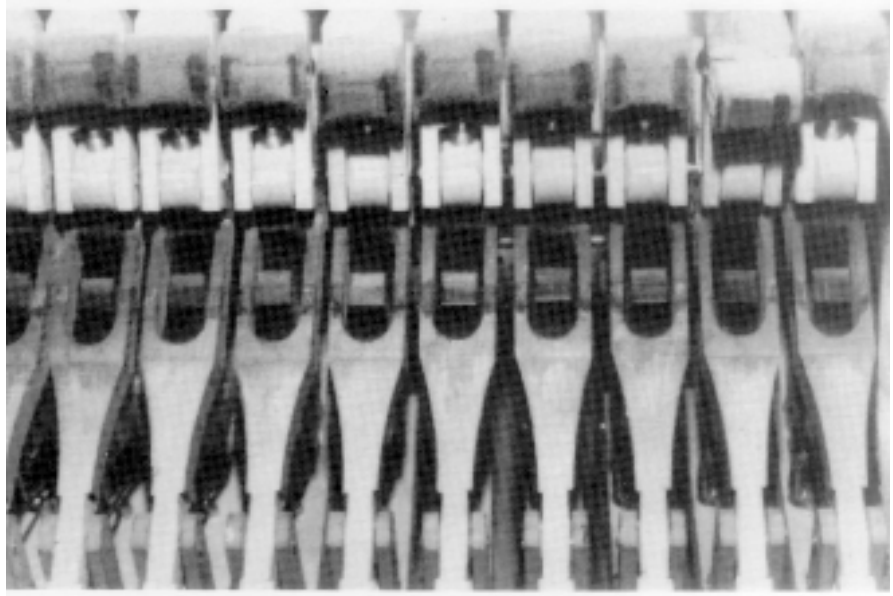


5. *Good fitting of the hammer shank in hammer molding. Back of molding is filed smooth.*

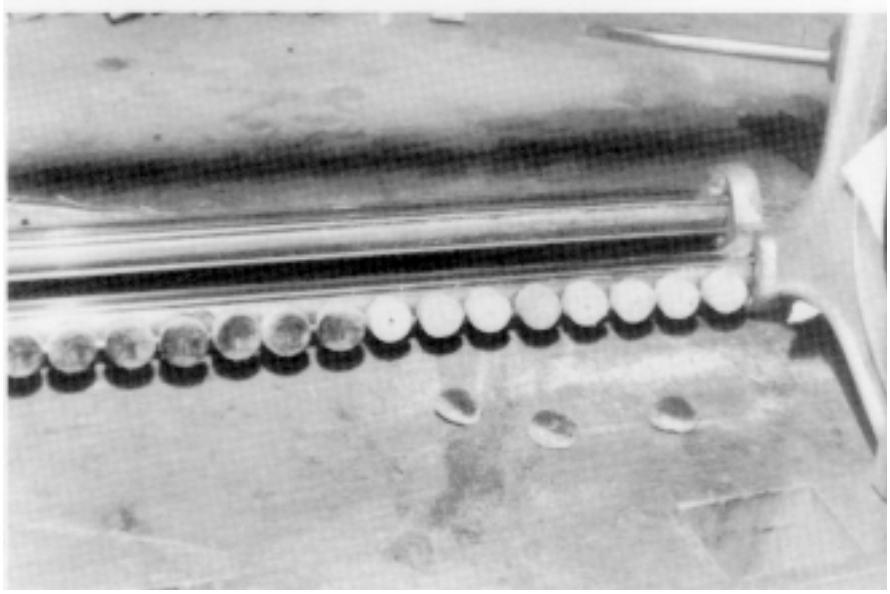
6. *Improper workmanship. The balance rail bearing should not be glued. The position of this glued-down bearing should be turned 90 degrees to be the same as the others.*

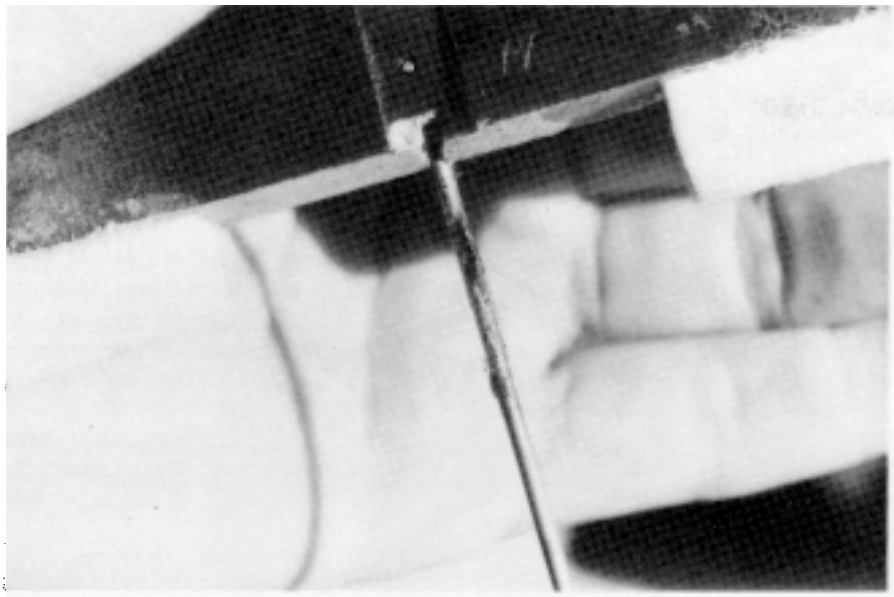


7. *Pins can be seen working out of these felt-bushed flanges — a sign of poor pinning. The pin was not fit in the flange tightly enough in this recent repinning job. Notice also the uneven wearing of the knuckle as a result of the shank not staying aligned.*

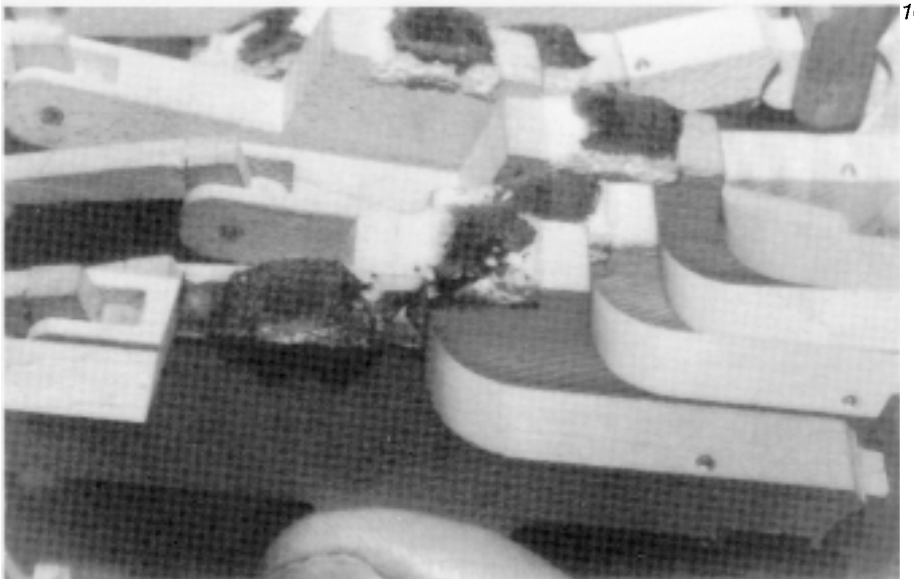


8. *In an attempt to eliminate clicks at the let-off buttons, dry graphite was applied. This, of course, did not prevent the jack from clicking on the wood since the punching was worn through. Only new felt punchings solved this condition.*





9. *Quantities of graphite grease were applied to the damper wire at the guide rail to reduce friction at this point. The damper wire was pushing excessively on the side of the bushing causing binding. Graphite grease did nothing to help. The damper wire must be correctly bent to correct this kind of friction.*



10. *A generous application of graphite grease is shown here on the wippen saddle felt. Not only is this messy and sticky, but use of this was not effective. The grease attracted dirt and there was no other choice but to replace the felt.*

DAVE ROBERTS

Calculating Technician

Last month, we promised that anyone who can add, subtract, multiply and divide can handle most of the algebraic formulas which confront the piano technician. As an example, consider the expression for tension (represented by the letter **T**) in a wound string:

$$T=\left(\frac{PLd}{K}\right)^2\left[1+A\left(\frac{D^2}{d^2}-1\right)\right]$$

You should realize that this expression is just a short-hand notation for a series of simple arithmetic steps (adding, subtracting, etc.). If you are bothered by the idea of adding, subtracting, multiplying and dividing letters of the alphabet, just remember that we'll eventually replace these letters with some real numbers. In the meantime, if you would rather think of each letter as a number, that's OK. The idea here is to calculate the quantity on the right side of the "equals" sign. If we do this, we will have the answer we seek; namely, the pounds tension in a wound string whose speaking length is represented by the letter **L**, core wire diameter by the letter **d**, overall diameter (including winding) by **D** and pitch (frequency) by the letter **P**. The units to be used and numerical values of the constants **A** and **K** will be discussed later.

Notice that the expression to the right of the "equals" sign consists of two main parts, one being the quantity

$$\left(\frac{PLd}{K}\right)^2$$

and the other being the quantity

$$\left[1+A\left(\frac{D^2}{d^2}-1\right)\right]$$

The fact that these two bracketed quantities are written next to each other implies that they are to be multiplied together once each part is calculated individually. For example, if the first part should turn out to be 144 and the second part turns out to be 2.5, the final answer we seek would be 144 times 2.5 which is 360; i.e., the tension **T** would be 360 pounds.

Now let's calculate the quantity

$$\left(\frac{PLd}{K}\right)^2$$

First, notice the number **2** to the right and slightly above the expression in parentheses. This is a short-hand notation telling us to "square" the entire quantity within the parentheses, which means to multiply the quantity by itself. Before we actually do this squaring operation, we'll first have to figure out

$$\left(\frac{PLd}{K}\right)$$

To do this, note that when two or more letters are placed together on the same line, such as **PLd**, this is just a short-hand notation for the successive multiplication steps **P** times **L** times **d**. For example, if **P** is 2, **L** is 6 and **d** is 4, then **PLd** is just 2 times 6 (which is 12) multiplied by 4 (which gives a total of 48). It doesn't matter in what order you do these multiplication steps: if you want to multiply **P** times **d** first to get 8 and then multiply by **L** to get 48, that's all right, too.

Next, note that when one or more letters appear *over* one or more different letters, such as we have with

$$\frac{PLd}{K}$$

(sometimes written **PLd/K** to save space), this is another shorthand notation telling you to take the number on top and divide it by the number on the bottom. For instance, we've already determined that **PLd** is 48 in the present example, so 48 is the "number on top". If the letter **K** turns out to be 4, then we should divide 48 by 4, which equals 12. Now that we've determined that **PLd/K** has a numerical value of 12, we can finally "square" it, as described above, so we have 12 times 12 which is 144. To repeat, $(\mathbf{PLd/K})^2$ is 144.

Next month we'll calculate the quantity in square brackets; i.e.,

$$\left[1+A\left(\frac{D^2}{d^2}-1\right)\right]$$

In the meantime, here's a test to see what you've learned so far: suppose **P=3, L=6, d=2** and **K=4**. Can you calculate $\mathbf{(PLd/K)^2}$? For the answer, turn page upside down and stay tuned to this column. . . .

(Answer: nine squared, which is eighty-one.)

Convention Recordings Available

This year you have an opportunity to purchase cassette tape recordings of the individual classes offered at the 1979 Institute. Ordering instructions are detailed below.

BASIC CLASSES

____ 7201 *BASIC PIANO REPAIR* (Palm)
____ 7202a *BASIC TUNING TECHNIQUES* (Wicksell)
____ 7202b *COURSE TWO – Part Two*

INTERMEDIATE CLASSES

____ 7203a *CREATIVE TUNING* (Wicksell)
____ 7203b *COURSE THREE – Part Two*
____ 7204a *DAMPERS – FROM THE BOTTOM BOARD* (Bloch)
____ 7204b *COURSE FIVE – Part Two*
____ 7205 *DAMPERS UPRIGHT* (Juhn)
____ 7206 *DAMPERS GRAND* (Juhn)
____ 7207a *EFFICIENT TUNING TECHNIQUES, AURAL AND ELECTRONIC* (Sanderson, Fairchild)
____ 7207b *COURSE SEVEN – Part Two*
____ 7208a *GRAND RESTRINGING* (Pearson)
____ 7208b *COURSE EIGHT – Part Two*
____ 7209a *GRAND AND VERTICAL HAMMER HANGING* (Dodson)
____ 7209b *COURSE NINE – Part Two*
____ 7210 *HARPSICHORDS – TUNING AND SERVICING* (Campbell)
____ 7211a *PIANO TUNING – THE FINE ART* (Stegeman)
____ 7211b *COURSE ELEVEN – Part Two*
____ 7212 *RECOVERING PIANO KEYS (OSLUND METHOD)* (Jedlicka)
____ 7213a *SERVICING THE PIANO IN THE HOME* (Drasche)
____ 7213b *COURSE THIRTEEN – Part Two*
____ 7213c *COURSE THIRTEEN – Part Three*
____ 7213d *COURSE THIRTEEN – Part Four*
____ 7214a *STRINGING AND BACK REPAIR* (Corey, Herwig)
____ 7214b *COURSE FOURTEEN – Part Two*
____ 7215 *TUNING HISTORICAL TEMPERAMENTS* (Jorgensen)
____ 7216a *TUNING – VISUAL AND AURAL* (Defebaugh, Coleman)
____ 7216b *COURSE SIXTEEN – Part Two*
____ 7217a *VERTICAL PIANO SERVICING* (Edwards, Caskey, Utsunomija)
____ 7217b *COURSE SEVENTEEN – Part Two*
____ 7218a *VERTICAL PIANO SERVICING* (Andersen, Hill, Talbot)
____ 7218b *COURSE EIGHTEEN – Part Two*
____ 7218c *COURSE EIGHTEEN – Part Three*
____ 7218d *COURSE EIGHTEEN – Part Four*

ADVANCED CLASSES

____ 7219 *MYSTERY OF PIANO TONE* (Herwig)
____ 7220a *PIANO SCALE – EVALUATION AND MODIFICATION* (Roberts)
____ 7220b *COURSE TWENTY – Part Two*

GENERAL INTEREST CLASSES

____ 7221 *AEOLIAN PLAYER TROUBLESHOOTING* (Snyder)
____ 7222 *THE CUSTOMER AND YOU* (Flegle)
____ 7223 *HUMIDITY CONTROL INSTALLATION* (Foote, Eaton, Harmon)
____ 7224 *LOOKING AT PIANO HARDWARE* (Kapreilian)

____	7225	*THE MICROCOMPUTER MAKES MONEY FOR YOU* (Fesler, Simcox)
____	7226	*THE PIANOCORDER* (Long)
____	7227a	*SERVICING THE RHODES PIANO* (Rhodes)
____	7227b	*COURSE TWENTY-SEVEN – Part Two*
____	7228	*SPECIAL TOOLS AND THEIR USE* (Mehaffey)
____	7229	*TROUBLE SHOOTING THE SHOT* (Cheatham)
____	7230	*USING GLUE AND EPOXY IN PIANO WORK* (McCall)

SPECIAL CLASSES

____	7231a	*BRIDGE BUILDING AND REPAIR* (Snyder)
____	7231b	*COURSE THIRTY-ONE – Part Two*
____	7231c	*COURSE THIRTY-ONE – Part Three*
____	7231d	*COURSE THIRTY-ONE – Part Four*
____	7231e	*COURSE THIRTY-ONE – Part Five*
____	7232a	*INSTALLING GRAND PINBLOCKS* (Krefting)
____	7232b	*COURSE THIRTY-TWO – Part Two*
____	7232c	*COURSE THIRTY-TWO – Part Three*
____	7232d	*COURSE THIRTY-TWO – Part Four*
____	7232e	*COURSE THIRTY-TWO – Part Five*
____	7232f	*COURSE THIRTY-TWO – Part Six*
____	7233a	*FORUM FOR COLLEGE AND UNIVERSITY TECHNICIANS* (Yat-Lam Hong)
____	7233b	*COURSE THIRTY-THREE – Part Two*
____	7234a	*PTG CLASS FOR TEST EXAMINERS* (Sanderson, Coleman)
____	7234b	*COURSE THIRTY-FOUR – Part Two*

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CLARENCE STOUT and MARVIN SHELL

Key Weighting

This article is intended to suggest a possibly lesser known "aid" for tuning the entire piano. Not included in this discussion are such basics as temperament, tuning checks to use, methods of tuning and electronic instruments if one is used. This article will center on "fine tuning" a piano that is already at the A440 pitch level and in fairly good, even tensions in all sections.

While tuning certain pianos, particularly the older uprights, all of us have encountered certain strings, usually the longer tenor ones, that suddenly start to ring or sound while tuning due to sympathetic vibration. It was exactly this situation that prompted further study and the exploration of these "open" strings as an aid in aural tuning. It was further noted that the more in phase the octave being tuned, the *louder and clearer* the sing-through sound created by sympathetic vibration.

This article assumes that the reader also understands at least some of the physical characteristics of vibrating piano strings, their modes, partials and inharmonicities.

The principal of weighting keys is to deliberately raise the damper, freeing the string to sound sympathetically as related intervals are being tuned. *The louder and clearer the sound of the weighted-open note, the better in tune the interval being tuned.* This is the main principle of the system. Primary intervals used in key-weight tuning are the octave, fifth, octave fifth and the double octave fifth. We hope to stimulate enough reader interest for many to actually experiment with the use of key-weighted open sounding strings in tuning.

One very discriminate college piano teacher once remarked, "I am more interested in the *fifth* being in tune than the simple octave." Of course what she was favoring was really the 6:3 octave tuning instead of using only the fundamentals in tuning the octave 2:1. A good example of "fifth" tuning is in the matching of the fundamental *and* the fifth in bass tuning which is fairly standard and well known by most tuners.

In regard to the type of key weight used, anything of size and shape, heavy enough to hold any key fully depressed to open the dampers, is fine. It must also conform in size and shape to hold only one key down at a time, including the sharps, without falling off easily. It is also suggested that the weight be felt covered to eliminate the possibility of scratching any keytops.

BASS TUNING USING KEY WEIGHTS

After completing a fine-tuned temperament, extend accurately the first few notes up to the first B natural above (B^4)*. The reason for tuning up these few notes is to have in tune the first fifths to weight keys open before starting the bass tuning. For example, the first note of the bass section below temperament is E^3. Now place the weight on B^4 and proceed to tune E^3 from the temperament E^4 in octave form as per usual. When B^4 actually sounds the loudest, E^3 is harmonically in tune both in single octave and octave-fifth relationship. Merely continue on down through F^2, changing the weight each half step as you tune the octaves. Before E^2 is tuned from E^3, change the weight back again to B^4 and tune this octave. This weights open the double octave fifth which is a bass tuning procedure as recommended by the Hale Sight-O-Tuner method. The rest of the bass is then tuned by weighting open the double octave fifth above and balancing these harmonics of the single octave with the double octave fifth.

TWO METHODS OF KEY WEIGHTING

In general there are two uses of key weights. One is to actually strike the key with the weight in hand, causing the string to vibrate just as the pianist plays the piano. Obviously this activates all of the string partials. The second technique is to depress the key *silently* with the weight without the hammer activating the string. In bass tuning, experimentation will soon determine the method you personally prefer. However, in treble tuning the more valuable technique is the silent weighting which will be further described below.

TREBLE TUNING USING KEY WEIGHTS

After tuning the bass, it generally is a good idea to recheck $F\#^4$ through B^4, weighting below notes B^2 through E^3. In treble tuning the procedure seems to work better if the octave being tuned is struck with a staccato effect, listening for

the actual harmonic sounding from the open strings. Also the second technique described above — placing the weight on keys silently — is preferred. By striking in a staccato manner either a fifth or a fourth below the key-weighted open string, only the related harmonics will sound, no fundamental or other partials. At least the most prominent partials will then ring, enabling a better balance between them and the octave being tuned.

For example, weight B^2 silently. Then recheck the $F\#^3 - F\#^4$ octave. If the weighted open B^2 sympathetically reinforces volumewise the pitch levels, you have compromised the octave the best possible. The louder the better in tune. True, the octave can be somewhat out of phase and the open string will sound but not at the loudest level! To prove this, listen volumewise to the single octave both with and without the addition of the weighted key. Now merely continue tuning treble octaves, moving the weight one-half step each time as you change octaves, until you reach C^6. In tuning C^6, again drop the weight down an octave and weight the temperament F^3. Thus the rest of the treble is tuned with the key weight in a "double octave" position. Test each octave both ways — first by trying to make the weighted note sound its loudest, and second by sounding the fifth below the open string. This will produce a sound for certain and then compare that harmonic with the octave you are tuning.

SUMMARY

One can experiment with key-weighting even without a weight! The next time you tune a grand piano with a sustenuto system, merely depress the desired fifth below or above the octave you are tuning and listen to the results! Then you can make yourself a desirable key weight for pianos without a sustenuto.

Key weighting has one additional advantage in tuning. If as octaves are being tuned you cannot actually hear the desired harmonics, then tensions have changed as you were tuning. These corrections must be made as the errors are discovered before proceeding further! The piano tuner definitely is working with a change of tensions and is confronted in each tuning with Hooke's law which states "the amount of compression is proportional to the amount of compressional force used". (Reread Dr. Albert E. Sanderson, "Scientific Pitch Raising, THE JOURNAL, June 1977.) Both authors of this article personally prefer *not* to tune pianos, either ascending or descending, by complete sections. That is, a "balance" of compressional forces is favored in smaller amounts at a time. A portion of the bass is tuned first and then a similar portion of the treble, repeating this alternating of tensions during the entire tuning. Also, both use the *unison* to indicate needed corrections indicated by key-weighted open strings. In order to make corrections as tensions change (Hooke's law), best results seem to happen by tuning octaves from "open" strings. That is, by tuning octaves from *all* strings in the unison rather than by just one with the others muted off. "Rolling" unisons indicate compression changes that need correction for accurate extremes in either treble or bass tuning.

Coming Events

Notices of seminars will be accepted for insertion in THE JOURNAL no sooner than six months before an event. In addition to the listing below, your seminar may be publicized through one free display ad, two columns by two inches deep. It is the responsibility of the advertiser to submit copy for the ad to the Home Office. Material must be received six weeks prior to the publication date of THE JOURNAL.

Note: All seminar dates must be approved by the Conference Seminar Committee. Please submit the appropriate information on the Request for Seminar Approval Form.

November 9-11, 1979

CENTRAL WEST REGIONAL SEMINAR
Kansas City, Missouri

Write: Wm. S. Brandom, Jr.
808 Sunset
Liberty, MO 64068

November 12, 1979

WESTERN NORTH CAROLINA SEMINAR
Black Mountain, North Carolina

Write: Ambrose Owens
709 Broadway St.
Forest City, NC 28043

January 11-12, 1980

ARIZONA STATE SEMINAR
Tempe, Arizona

Write: Carl Bates
4112 West Caron Street
Phoenix, AZ 85021

February 18-19, 1980

CALIFORNIA STATE CONVENTION
Santa Clara, California

Contact: Jim Johnson
1048 Marilyn Drive
Mountain View, CA 94040

March 17-21

MUSIC TEACHERS NATIONAL CONVENTION
Washington, D.C.

Contact: Ruth Ann Jordan
4 East Granville Drive
Silver Springs, MD 20901

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Policy number CTL 09 23 40 is being renewed November 1, 1979, for another year! Those who are insured will receive premium statements for the ensuing year.

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You'd like to know what we are talking about? Just the Greatest bargain in the country, Tool and Bailees' Customer Insurance!

1970 was the year this most popular plan was established. 1978-79 was the year the MOST (predominantly theft of tools) and LARGEST (due to floods) claims paid!

Coverage applies to tools and equipment usual to a Piano Technician against risks of: fire, lightning, windstorm, cyclone, transportation, theft (must be from securely locked place which has visible marks of forcible entry), etc.

Bailees' Customer coverage applies to pianos, harps, organs, and harpsichords accepted by a Technician insured for tuning, servicing, and/or repairing, against fire, explosion, cyclone, tornado, transportation (including loading and unloading), etc., on and away from the customers' premises!

This summary is a brief description of the plan: the specific terms governing the coverages are set forth in the contract and are the basis on which claims are paid. In the event of loss or damage, the company shall not be liable beyond the actual cash value at time such loss occurs.

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Address _____
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Losses the past 3 years: $ _____ Date _____

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Date _____ Signature _____

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LUELLYN PREUITT

Auxiliary Exchange

Auxiliary Council Meeting

Bert Sierota, recording secretary, sends this summary of Council meeting:

Meeting called to order at 2:05 p.m. by President Helen Pearson, Bert Sirota recording, July 24, 1979.

First Vice President Jewell Sprinkle, Second Vice President Kathryn Snyder, Treasurer Dessie Cheatham, Corresponding Secretary Agnes Huether, Immediate Past President Ginny Russell and Parliamentarian Ginger Bryant were present.

Twenty-one voting delegates and eleven non-voting alternates responded to roll-call, thus establishing a quorum. Fourteen observers also present.

Orders of the Day were adopted.

Minutes of the 1978 Council Meeting read and approved.

President Helen appointed Lu Preuitt as photographer; Lu Preuitt as Installation officer; Shirley Cornwall banner keeper; Arlene Grimley social reporter; Bea Kurk historian; Marge Evans in charge of Chapel service; and Virginia Seller, Convention Chairman.

Dessie Cheatham read audited Treasurer's Report.

Officer expense reports read and accepted.

Committee reports were read.

Memorial for deceased members given by Dessie Cheatham.

Secretary read proposed budget.

Ginny Russell moved the Piano Quilt be presented to President Helen.

Lu Preuitt brought before Council the suggested new names for the Journal pages. After much discussion a vote was taken and the new name is AUXILIARY EXCHANGE.

Bert Sierota, Nominating Committee chairman, read the ticket: President, Jewell Sprinkle; First Vice President, Julie Berry; Second Vice President, Kathryn Snyder; Corresponding Secretary, Agnes Huether; Recording Secretary, Bert Sierota; Treasurer, Dessie Cheatham.

President Helen asked for nominations from the floor. None submitted. Ticket accepted as proposed. New officers for 1979-80 are: President, Jewell Sprinkle; Vice President, Julie Berry; Second Vice President, Kathryn Snyder; Corresponding Secretary, Agnes Huether; Recording Secretary, Bert Sierota; Treasurer, Dessie Cheatham.

Dessie Cheatham nominated Agnes Huether as Chairman of the Nominating Committee for 1979-80. Ginny Russell nominated Esther Stegeman as member. Esther Stegeman nominated Marge Evans as member.

The nominating committee for 1979-80 is: Agnes Huether, Chairman; Esther Stegeman, and Marge Evans, members.

President Helen thanked everyone for being supportive during her two years as president and stated she would be available to assist and remain active in the future.

There being no further business the meeting adjourned at 5:15 p.m.

Open Assembly Summary

Commenced 9:45 a.m. July 24, 1979. President Helen welcomed all. Guild President Don Morton spoke commending Auxiliary, stressing togetherness in order to grow and develop. Respect and understanding important.

President Helen introduced Board members and Committee Chairmen. Past Presidents were introduced and Honorary Life members attending.

President Helen thanked Minneapolis group for a job well done and introduced Virginia Seller to acknowledge chapter members. (Belva Flegle, Bea Kurk, Harriet Nicholson, Nandy Gilbert, Libby Fesler, Helen Desens, Maxine Buckman, Shirley Cornwall, Avis Kuby, Musetta Olson, Mabel Main, Esther Carlson, Donna Knudtson, Dorothy Rockman, Lillian Sadler and Beatrice Skelton.

New members were asked to rise, give name and state.

Roll Call by states was read by secretary; 75 answered Roll Call from 24 states, Canada and Japan.

Virginia Seller introduced Minnesota-North Iowa chapter members who also helped. President Helen recognized everyone and thanked them for jobs well done. The assembly ended with everyone singing the BBA song.

Here's a note from Treasurer Dessie Cheatham — "Dear Members, At convention time in July 1979, the Auxiliary numbered 371 members. Fifty-eight had been dropped for over two years' nonpayment of dues. At the convention, we received 15 new members (these will be listed in a future article, as soon as this writer receives the list).

Honorary life membership was bestowed on Esther Stegeman. She so richly desrves this title.

Any new member's name and address should be sent to our vice president, Julie Berry, and she will be happy to welcome them and help organize a chapter wherever possible. A good idea is to send names of new Guild members to Julie, so she can contact them and enlist their help in bringing their wives into the Auxiliary. Sincerely, Dessie".

New Members/Reclassifications

NEW MEMBERS

REGISTERED TECHNICIAN

BARRON, EUGENIE C.
131 Woodmont Blvd.
Nashville, TN 37205
Nashville Chapter

DEFFLEY, MATTHEW B.
RR #1, Box 198-C
Carbondale, IL 62901
**Little Egypt Chapter*

FARES, JR. CHARLES A.
5072 E. Nevada
Fresno, CA 93727
Fresno Chapter

GREENWALT, GREGORY A.
616 Mill Street
New Madrid, MO 63869
**Little Egypt Chapter*

HERRICK, TIM R.
34562 Camino El Molino
Capistrano Beach, CA 68124
South Bay Chapter

McDONALD, CALVIN D.
620 Baltic Ct.
Upland, CA 91786
Pomona Valley Chapter

OLIVER, SCOTT D.
2507 E. Mill Plain #9
Vancouver, WA 98661
Portland Chapter

SUMMERS, WALTER W.
292-Lawndale Dr.
Nashville, TN 37211
Nashville Chapter

* *Formation of new chapter — LITTLE EGYPT, Illinois*

APPRENTICE

FOX, PAULINE S.
R 2, Box 595
E. Stoudsburg, PA 18301
Lehigh Valley Chapter

LONG, DAVID W.
47 S. Pitt St.
Carlisle, PA 17013
South Central Chapter

RUDGE, DONALD E.
2722 Welsh Road
Willow Grove, PA 19090
Reading-Lancaster Chapter

ALLIED TRADESMAN

MESSERSMITH, JOHN C.
126 S. Catalina St.
Ventura, CA 93003
Santa Barbara Chapter

SPANGLER, DONALD D.
RD #2, Box 281 Baish Rd.
Mechanicsburg, PA 17055
South Central Chapter

AFFILIATE

CORTES, CARLOS EUGENIO B.
Rua Tobias Do Amaral 103
Cosme Velho
Rio De Janeiro, Brazil 22241

GULLETT, DANIEL D.
5834 5th Avenue So.
St. Petersburg, FL 33707

VANDERVALK, ALEXANDER C.
3 Roymar Court Nth Croydon
Melbourne, Australia 3136

STUDENT

BORNS, CLARENCE R.
112 Suffolk Ct.
Longwood, FL 32750
Central Florida Chapter

SCOTT, BRIAN R.
136 Overbrook Dr.
Casselberry, FL 32707
Central Florida Chapter

TOMM, ROBERT E.
5025 Lakeview Drive
Hermitage, PA 16146
Erie Chapter

RECLASSIFICATIONS

REGISTERED TECHNICIAN

AMELANG, RICHARD L.
Central Iowa Chapter

DEWEY, DAVID J.
Rogue Valley Chapter

HARRIS, DON G.
South Bay Chapter

HORNBECK, STEVEN E.
Detroit-Windsor Chapter

IRELAN, SUSAN P.
Puget Sound Chapter

PIERCE, JAMES C.
Northern Virginia Chapter

ROSSMAN, PETER S.
San Francisco Chapter

SCHMITT, PAUL L.
Detroit-Windsor Chapter

SOLINGER, TOM D.
San Francisco Chapter

DICK BITTINGER

STUDENT MEMBERS

Some chapters around the country do not support student memberships. In my own chapter, we have never had a sufficient program to encourage student membership.

I never really thought too much about the subject until talking to Sam Pearlman, newly elected Western Regional Vice President, at the post-council board luncheon. He mentioned in his conversation that in one of his membership write-ups for the membership promotion column in The Journal, that students can be a very important factor in the growth of the Guild. Unfortunately, Sam passed away soon after returning from the convention.

I realized that Sam had shed some different light on the subject of student memberships. First of all, he said they are important people for they are the Piano Technicians Guild of tomorrow. It is our obligation to help wherever we can and encourage these students in the finer phases of piano technology. Sam used himself as an example. We who knew Sam realized he was severely handicapped due to a stroke some years ago. Realizing his handicap, Sam took on a student for learning the trade from the bottom up. Of course the student was of great help to Sam in many ways, so it made a very good partnership.

This is just one example. Sam went on to mention that there are many, many handicapped technicians in the Guild who could do with a student as Sam had done with his. So this article is really aimed not only at the chapters who have not considered student memberships, but to our handicapped members also. Perhaps Sam's idea will spark some interest among the handicapped members to get into membership promotion for the Guild.

Ring the Bell

Everyone wants a chance to receive the prestigious President's Club award or to sport a Bell Ringers or a Restorers Club ribbon at the annual convention. To insure that every Bell Ringer point is credited to your "account," and that every Restorer of a former member is recognized, the Membership Department requests the following:

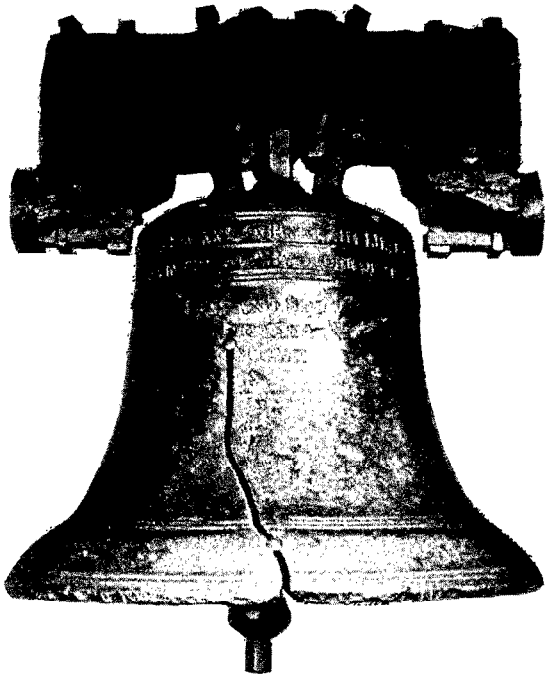
1. *Please PRINT your name after your signature on the line "recommended by" when you wish to receive credit for bringing a new member into the Guild.* Some signatures are difficult to read and we regret having to omit a name for this reason.
2. *Please show your own chapter after your name.* Some members sponsor a new member into a chapter other than their own.
3. *If you wish credit for a RESTORED MEMBER, please write this fact on the application form.* It is not always possible to trace a former member after a lapse of time.
4. *If corrections should be needed in the records, please notify the Home Office promptly, as The Journal goes to print some weeks ahead of receipt.*

The following points are scored for signing up the various ratings:

Craftsman — six points. Apprentice — five points. Allied Tradesman — four points. Associate — three points. Affiliate — two points. Student — one point.

When you have a total of 24 points you become a member of the President's Club; all others are Bell Ringers.

Sponsor a new member and win points in the Bell Ringers Club. Join the celebration at the 1980 convention in Philadelphia.



Bell Ringers Club

		Points
BACH, Phillip	Twin Cities Chapter	3
CLOPTON, John	Blue Ridge Chapter	4
COX, Merril	Utah Valley Chapter	1
CROY, Ronald	Nashville, TN	12
HESS, James	S. C. Pennsylvania, PA	9
JOHNS, Barney	Northeast Florida Chapter	1
KOFORD, Lyn	South Bay Chapter	5
MEHAFFEY, Francis	Pomona Valley, CA	6
PETERS, George	Paducah, KY	12
PHILLIPS, Webb	Reading-Lancaster, PA	5
SELLER, Marion	Twin Cities Chapter	10
SERVISS, Kenneth	Portland, OR	6
TAYLOR, Kendal	Santa Barbara, CA	4
WHITTING, Ted	South Bay, CA	6
WICKSELL, Carl	Central Florida FL	1
WILLIS, Aubrey	Central Florida, FL	1
WOOD, Edwin	Southwest Florida	5

OBITUARIES

Clarence Swengel, Central Illinois Chapter

Joseph Kinkead, New Orleans Chapter

Harry J. Polzin, Wisconsin Chapter

Classified Advertising

CLASSIFIED ADVERTISING

CLASSIFIED ADVERTISING RATES are 15 cents per word with a $3.00 minimum. Full payment should accompany insertion request. Closing date for ads is the first of the month prior to publication.

Box numbers and zip codes count as one word each. Telephone numbers count as two words. Names of cities and states count as one word each.

Send check or money order (U.S. funds), made payable to the Piano Technicians Guild, to Classified Ads, THE JOURNAL, 113 Dexter Avenue North, Seattle, WA 98109.

HELP WANTED

HELP WANTED — Experienced piano tuner-technicians fulltime, excellent wages and benefits, Wilmington, Delaware. **Contact Bruce Cohen, Wilmington Piano Company, #1 Concord Mall, Wilmington DE 19803**

HELP WANTED—Experienced piano tuner-technician fulltime. Salary negotiable. Send resume immediately to **Dr. Robert Gliden, Dean, School of Music, Florida State University, Tallahassee FL 32306**

WANTED — PIANO TUNER AND TECHNICIAN: Excellent opportunity for an experienced and energetic technician. MUST DO QUALITY WORK!!! This is a discriminating and musical community. Technical knowledge and ability coupled with a good sense of time priority important. Compensation can be negotiated. Outside tunings can help to start. Interested in long-term association. Enjoy the culture and climate of northern California while working with a reputable 73-year-old company. **Apply at Tupper & Reed, 2277 Shattuck Avenue, Berkeley, California 94704**

THE KIMBALL PIANO & ORGAN COMPANY is expanding their service facilities and is now accepting resumes from technical applicants. Applicants interested in relocating to Southern Indiana who feel they have the qualifications for all types of piano work should send this information to the attention of **Roger Weisensteiner at Kimball Piano & Organ Co., P.O. Box 432, French Lick IN 47432**

FOR SALE

FOR SALE—Yamaha PT-3 Tuner. Excellent shape, $300. Also new power and hand tools plus many other items in equipment and supplies. Selling below cost. Send SASE for items and cost to: **G&H Piano Tuning, P.O. Box 712, Orem UT 84057**

FOR SALE — Chickering Ampico Player A Drawer, semi-art case distressed walnut. Rebuilt, $7,900 or make offer. **(714) 544-1725 or Sheridan's Piano Service, 14172 Del Amo, Tustin CA 92680**

WANTED TO BUY—Advertising book issued in 1923, by American Piano Co., "The Piano Knabe Beautiful," 12"×16" bound in maroon leatherette. I will pay your price for this book. **Brady, 4609 Crankbook, Indianapolis IN 46250. (317) 259-4305. After 5 p.m. call (317) 849-1469**

FOR SALE—1857 Chickering Cocked Hat Grand Piano. Rosewood case in excellent condition. New string and tuning pins in 1976, original action, plays well. Looks exceptional. Rare collector's item. $5,500 or offer. **Richmond Piano Rebuilders, 3133 West Cary Street, Richmond VA 23221. Phone: (804) 358-1929**

PIANOS FOR SALE — Always on hand, 150 to 300 uprights! Plain case, art case and players. Also 50 to 150 grands at all times, as is or rebuilt. Excellent brand names — no junk! All set up for inspection. Lowest possible prices. Call for quotes: **Owen Piano Wholesalers, 2152 West Washington Blvd., Los Angeles CA 90018. Telephone (213) 883-9643**

FOR SALE—9'3" a Mason & Hamlin, Model CC-1, Pinblock, soundboard and action parts replaced in 1971. Excellent condition, $9,500 or offer. Will consider trade for smaller unrestored quality piano. **Richmond Piano Rebuilders, 3133 West Cary Street, Richmond VA 23221. Phone: (804) 358-1929**

FOR SALE — Conn Strobotuner (ST-11). Like new (packed in original box), $165. **Rose Stoutsenberger, 2612 N. Van Dorn Street #12, Alexandria VA 22302. (703) 931-5563 after 6 p.m.**

FOR SALE — 5'8" Weber grand with Duo Art Player, Serial No. 38918. Needs rebuilding. Finish in good condition. Player mechanism complete except for motor box. $2,000. Contact: **R. Schatzel, 4 Skiffes Creek Landing Road, Newport News VA 23603. (804) 887-5679**

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

FOR SALE — Piano Service business; established 16 years in sunny Phoenix, Arizona. Price $10,000 cash. Approximately 1,500 accounts plus constant referrals, plus repairs. Earn three times asking price first year. Also, house available with three bedrooms, large swimming pool, large refrigerated shop area, plus storage building located in beautiful Scottsdale. Asking $70,000. Writer: **Tuner, Box 1323, Scottsdale AZ 85251**

ANTIQUE PIANOS WANTED — Grands, squares, uprights. Any condition. Top prices. Finder's fee. Write or call **Edward E. Swenson, 11 Congress St., Trumansburg NY 14886. (607) 387-6650**

FOR SALE — Reconditioned Steinway whippens. Felt bushings. $200. **JOHN FOX, 3790 PRIEST LAKE DRIVE, NASHVILLE TN 37217. (615) 361-8972**

PIANOS FOR SALE — 1904 Mason & Hamlin Model "A." Needs rebuilding. $1,900 or offer. 1947 Steinway "D." Restrung several years ago. New legs, repetitions, hammers and key bushings. Rough case. Make offer to **Richmond Piano Rebuilders, 3133 West Cary Street, Richmond VA 23221. Phone: (804) 358-1929**

MISCELLANEOUS

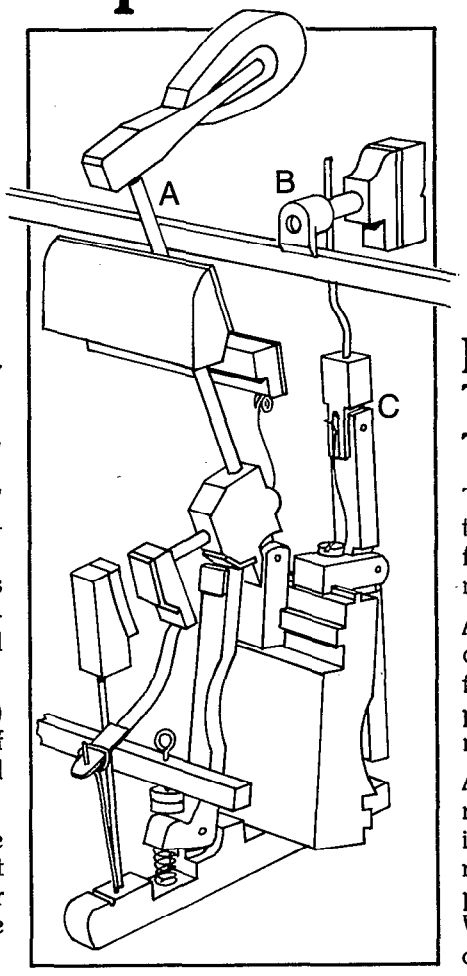
POSITION DESIRED: Piano technician moving to Mesa - Tempe - Phoenix - Scottsdale area, desires fulltime position with store, shop or school. Contact: **Vincent Mrykalo, RTT, 276 South 900 West, Provo UT 84601. Phone: (801) 375-1582**

CASH PAID for used Steinway action parts; Chickering and Mason & Hamlin screw stringer parts. Send sample of discards for payment estimate to **Janson Piano Co., 299 Queen St. W. Room 200, Toronto, Ontario, Canada M5V 1Z9**

TUNERDATA: (1) Mail reminders make money for you; (2) geographical files make money for you; (3) we'll do them both for you. Write **Ed Fesler, 11315 Rich Circle, Minneapolis MN 55437**

KEY RECOVERING MACHINE—Build your own precision key recovering machine from stock machine parts. Demonstrated 1978 California convention and Pacific Northwest 1979. Send $10.00 p.p. for acccurate machine drawing instructions, photos, to: **Solenberger Piano Service, 1551 Lynn Court, Santa Rosa CA 95405**

The Wurlitzer sostenuto system -so simple to service



INSTANTLY ACCESSIBLE FOR SERVICE

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

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

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

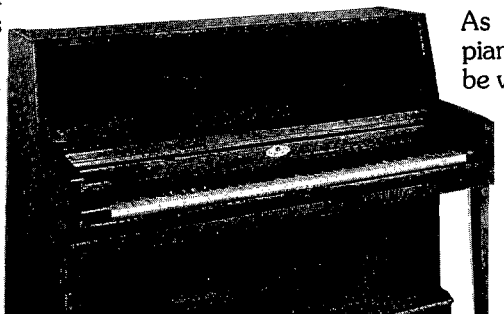
NO NEED TO REMOVE THE ACTION

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

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

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

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



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

Piano Technicians Guild
OCTOBER 1979 UPDATE

Has Your Membership Been DROPPED?

With much regret the Home Office has mailed notices to many of our valued members whose memberships have been dropped for nonpayment of dues. All of these members were sent at least two dues billings and a special letter reminding them of nonpayment and requesting a response, together with an offer of assistance to those who were having difficulties. Only those who did not respond were dropped and the chapter notified.

Many of these members will now be sending in the overdue payment. What is needed for a dropped member to be reinstated?

At the 1979 Council Session, the bylaws were amended so that now reinstatement requires:

1. Full payment of back dues.
2. A reinstatement fee of $30 to cover clerical and computer costs of the drop and reinstatement.
3. Formal approval from the member's chapter.

As a special concession, the $30 reinstatement fee is not being assessed at this time as many members may not yet be aware of this new rule. However, the late payment fee will be assessed and is payable until the $30 reinstatement fee goes into effect.

PLEASE NOTE THAT THE $30 REINSTATEMENT FEE WILL GO INTO EFFECT JANUARY 1, 1980.

IT'S YOUR GUILD USE IT!

Who Reads All Those Newsletters?

We recently read in a chapter newsletter that it takes many hours to put out a newsletter. Telephone calls, writing, crossing-out, rewriting, typing and retyping, printing and mailing.

Sometimes a newsletter editor must wonder whether the work is worth all the effort and who reads the newsletter, anyway?

WE DO! Your Home Office takes great interest in your chapter newsletters. Each issue we receive is read in four departments, and very often marked by each section for special interest notations.

Executive Director Don Santy sees every newsletter promptly on receipt.

The Membership Department reads the newsletters for any items about business meetings, new members, reclassifications, changes of address, new ideas in chapter management, etc. Each is followed up immediately.

The Publications Department reviews the newsletters for use in the Chapter Notes section of The Journal,

Technical Editor Jack Krefting is the final link in the reading chain. He reviews all the newsletters for technical information, use in his Tuner-Technicians Forum, special column ideas, and questions he needs to answer or enlarge upon.

So please keep sending your chapter newsletters to the Home Office in Seattle. Your news goes much farther than your own chapter, and what you are doing may well benefit other members throughout the entire Guild. KEEP UP THE GOOD WORK!

1979-80 GUILD COMMITTEE ASSIGNMENTS

BUDGET WAYS & MEANS

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Cincinnati OH 45220

Fred Drasche
Jack Sprinkle

CHAPTER NOTES

At the request of the Guild Executive Board, "Chapter Notes" will begin appearing in the UPDATE. Look in the November issue for news about what's happening with our chapters.

Nominations for the Board

In compliance with our bylaws, your Nominating Committee is requesting nominations for all 1980/81 elective positions on the Piano Technicians Guild Executive Board: President, Vice President, Treasurer-Secretary and all Regional Vice Presidents.

The bylaws require this committee to request these nominations, together with consent-to-serve forms and affidavits of eligibility and qualifications, so that the report of the committee can be in the Home Office before February 1, 1980.

When nominee suggestions are received by this committee, we will send the proposed member a consent-to-serve form, an affidavit of eligibility form, and information on the duties of the office.

Each nominee may submit no more than fifteen (15) lines of typed qualifications to the Nominating Committee for consideration.

The committee will prepare a list of nominees showing the committee's selections for President, Vice President and Treasurer-Secretary. All nominations received for the three offices, and for the offices of the six Regional Vice Presidents will appear in The Journal. In this way, the membership will be given information on every nomination received by the committee.

PLEASE READ the Guild Bylaws, pages 20 and 21, in the October 1978 Directory for full information on the required nominations procedure.

Nominations may be submitted NO LATER THAN JANUARY 15 to:

Charles Burbach, Chairman
Nominating Committee
902 South St. Francis
Wichita KS 67211