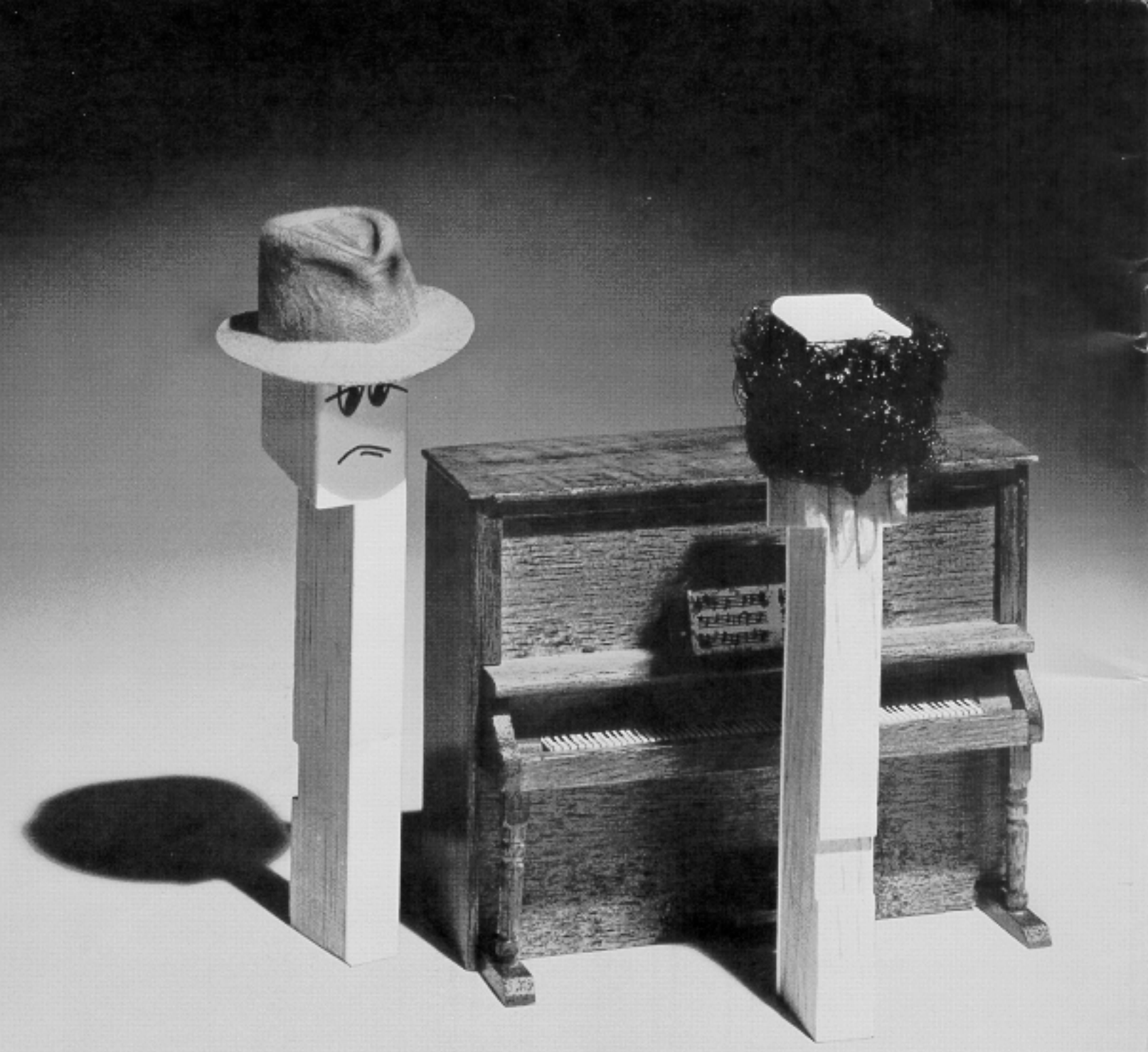
Piano Technicians Journal
OCTOBER 1980



Play it again, Sam...

As time passes, fads and mediocre performances tend to fade away and quality begins to be acknowledged.
Very few industries have been around as long as the piano industry, and within our industry, we are one of a handful of companies that can look back on two centuries of growth.
We'll continue to make keyboards and actions for you and you'll make and market the pianos.
As we are moving faster and faster towards the next century, quality and value are in greater and greater demand . . .
which is very promising for the piano industry and for us at Pratt, Read.

Pratt, Read & Co., Ivoryton, CT 06442
The future belongs to quality.

THINK Schaff AS YOUR SUPPLY HOUSE FOR:

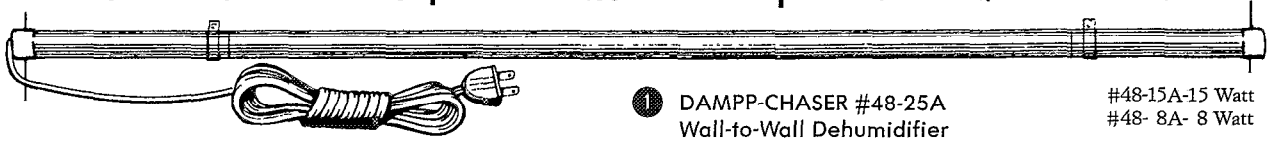
DAMPP-CHASER®
FourSeasons™
PIANO PROTECTION SYSTEM

YEAR 'ROUND DUAL-AUTOMATIC HUMIDITY CONTROL SYSTEM™ FOR ALL PIANOS

ENDS "DRY" PROBLEMS
LOOSE TUNING PINS
LOOSE ACTION
CRACKED SOUNDBOARDS

ENDS "DAMP" PROBLEMS
STICKING KEYS
SLUGGISH ACTION
RUST

STABILIZES TUNINGS
TUNING WILL NOT HOLD
OR STAY ON PITCH
WITHOUT FREQUENT TUNINGS

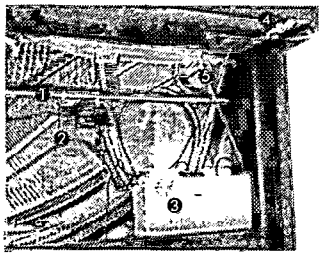


7F-25 Watt 36"
5F-15 Watt 36"
5GF-8 Watt 36"

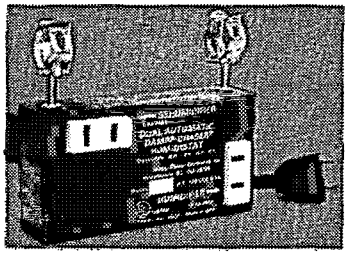
❶ DAMPP-CHASER #48-25A
Wall-to-Wall Dehumidifier

#48-15A-15 Watt
#48- 8A- 8 Watt

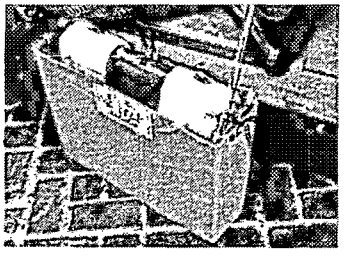
The wall-to-wall dehumidifier—provides a gentle heat which rids the piano of excessive humidity. Goes on automatically as needed when used with Humidistat. Simple "Pin-Peg"® installation.



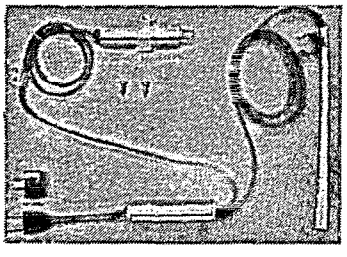
5-YEAR GUARANTEE



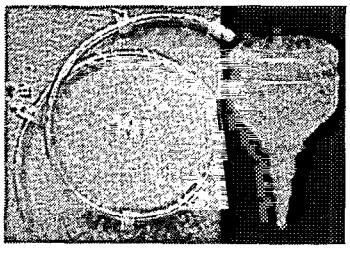
❷ DUAL-AUTOMATIC HUMIDISTAT #H-1
The Humidistat—is a dual-automatic control which cycles the humidifier and the dehumidifier on and off as needed to maintain ideal piano humidity conditions.



❸ 1½ GALLON HUMIDIFIER #HM-IST
The Humidifier—automatically adds humidity to the piano during dry spells especially during winter heating season. Self-contained reservoir.



❹ NEW AUTOMATIC LOW WATER WARNING LIGHT #LWL
Automatic Low Water Warning Light, fits all piano humidifiers and all pianos. Simple 10 minute installation.



❺ NEW "EASY-WATERING" KIT #WK
"Easy-Watering" Kit makes it safe and easy to add water to humidifier when warning light indicates level is one gal. low.

OUR LARGER PLANT ALLOWS US TO BE THE LARGEST DISTRIBUTOR OF THE COMPLETE 5 PART DAMPP-CHASER SYSTEM FOR YEAR 'ROUND PROTECTION

THE HOUSE DEDICATED TO SERVICE

Schaff PIANO SUPPLY COMPANY

(312) 438-4556

451 OAKWOOD ROAD, LAKE ZURICH, IL 60047

Official Publication of the Piano Technicians Guild/October 1980 Volume 23 Number 10

Piano Technicians Journal

CONTENTS

COVER... On our cover this month is an early barrel-operated piano (circa 1840) manufactured by Theodore C. bates and Son of London. At the time, the Bates company, which made both barrel pianos and organs, had established a reputation for high quality instruments. Instruments like the one shown are commonly called "street pianos" by collectors today. Photo is from the "Encyclopedia of Automatic Musical Instruments" by Q. David Bowers, published by Vestal Press.

THE PIANO TECHNICIANS GUILD, INC.
113 Dexter Avenue North
Seattle, Washington 98109

Telephone: (206) 283-7440
682-9700

Office Hours: (Pacific Time)
8 am-5 pm
Monday-Thursday

8 am-Noon
Friday

Messages may be left after office hours by calling (206) 682-9700. Your call will be answered by a tape recording machine.

PIANO TECHNICIANS JOURNAL, the official publication of the Piano Technicians Guild, is published monthly and issued to members. Annual subscription price: $60 per year; $108 for two years; $5.50 per single copy. *Editorial Offices:* 113 Dexter Avenue North, Seattle, WA 98109. Telephone (206) 283-7440 or 682-9700. **Closing date for copy and advertising is six weeks prior to date of publication.** Advertising rates are furnished on request.

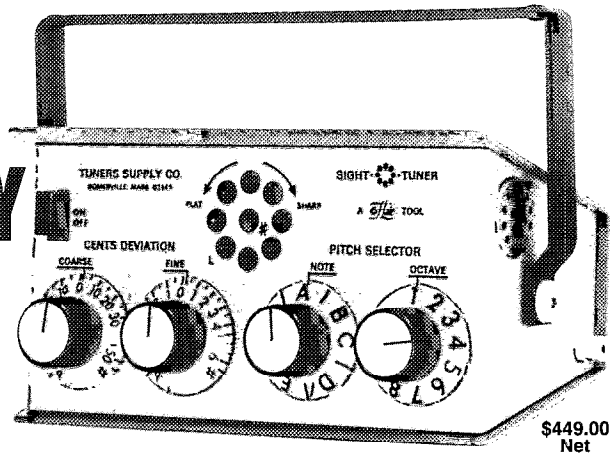
Reprints of most articles are available from the Guild home office, 113 Dexter Avenue North, Seattle, WA 98109. Price per page (plus postage): single copy, 25 cents; eight copies, $1.00, and 100 copies or more, $8 per hundred.

Second Class postage paid at Seattle. US ISSn 0031 9562 Foreign and Domestic.

HALE SIGHT-O-TUNER® WILL HELP YOU TUNE ANY PIANO FASTER AND MORE ACCURATELY

Piano Tools Hale and Supplies

SIGHT-O-TUNER®



$449.00 Net

No machine will ever fully replace a fine tuner's musical genius. But the Hale Sight-O-Tuner electronic tuning device will complement your skills. It allows you to tune any piano faster and more accurately than you ever thought was possible.

Even in the noisiest environment, you choose which note you want to tune and it will tune that note *only*. Extraneous sounds won't affect the special tuning light on the HALE SIGHT-O-TUNER. You can also tune faint notes, from up to 30 feet. Or individual harmonics. Or wild strings.

The solid state unit is about as accurate as you can get, to ± ½ cent, over nine full octaves. Internal calibration makes tuning forks and line frequencies obsolete.

It all comes in a compact, self-contained package which is light enough (2 lbs.) and small enough (3½" high x 7" wide x 6" deep) to fit inside your briefcase. Bring it indoors or outdoors. It's battery operated to eliminate line or microphone worries.

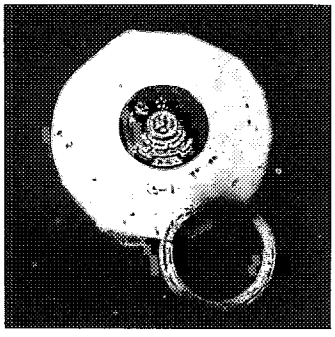
Every professional tuner, music or orchestra director could use and should have one.

Let the HALE SIGHT-O-TUNER make your tuning easier. Join the thousands of people, including the late Arthur Fiedler, who already have.

TUNERS SUPPLY COMPANY

Serving the Music Industry Since 1884

EASTERN BRANCH: 94 Wheatland Street, Somerville, MA 02145 • (617) 666-4550
WESTERN BRANCH: 190 South Murphy Ave., Sunnyvale, CA 94086 • (408) 736-2355



NOW AVAILABLE!

FINEST QUALITY "Röslau"

CAST STEEL WIRE

EXTRA QUALITY • BLUE LABLE • TINNED

Available in 1 and 5 pound Coils

SIZES 12 through 22 (Half Sizes) 12 through 20½

SMALLER SIZES

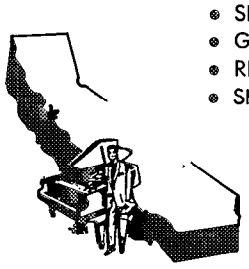
1/4 lb. COIL No. 00 through 11 *(Even Sizes Only)*

COMPLETE LINE OF TOOLS and SUPPLIES for PIANO REBUILDERS

SPECIAL TOOLS . . .

Designed to Meet the Technician's Requirements

- SPOON BENDERS
- GRAM WEIGHTS
- REPINNING TOOL
- SHIMMING KNIVES
- KEY BUSHING TIGHTENER
- STRING HEIGHT GAUGE
- GRAND KEY LEVELING LEADS
- STRING HOOKS (2 Types)



Write: BOX PTJ

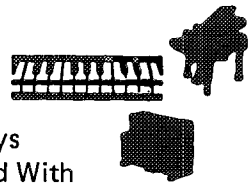
PACIFIC PIANO SUPPLY CO.

P.O. Box 9412 • North Hollywood, Calif. 91609
Phones: (Area 213) 877-0674, 769-2490

How to Buy a Good Used Piano

Problem Areas Illustrated
30-Page Book-$3.00

Willard Leverett
8206 Yarrow Court
Arvada, Colorado 80005



Piano Keys Recovered With

ART IVORY

Over 50 years of continuous service to dealers and tuners

WRITE FOR COMPLETE PRICE LIST

O. E. SHULER CO., Inc.

149 E. HARRISON ST.
PARAGON, INDIANA 46166

EDITORIAL

Don L. Santy,
Executive Director

Do you remember the editorial in the June 1980 issue of the *Journal*? It had to do with leadership, responsibility, and representation at the annual council meeting. When we were faced with a slow response for the convention registration, I changed the editorial in order to help push attendance.

I would like to return to the theme of leadership and continue that thought in this issue.

I am convinced that the single most vital ingredient of any organization is the quality of its leadership. Those leaders who keep the pot bubbling and the membership motivated almost always head up the most effective and progressive organizations. The delicate chemistry which separates success from failure can be found in the courage, the skill, the wisdom and the energy of the elected leadership.

One definition of LEADERSHIP is that quality found in human beings which makes it possible to move forward with determination and grit, unmindful of the crowd, independent of the masses and single-minded in purpose. In other words, one who knows where he or she is going, and goes about getting there. Others just naturally follow.

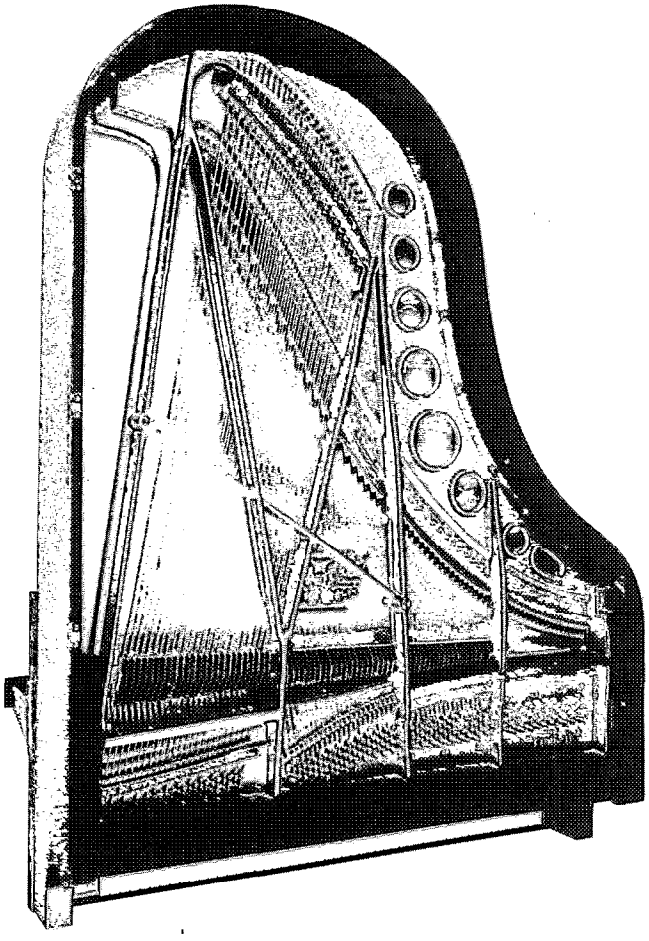
The word most compatible with leadership is *responsibility*. Those who accept responsibility almost always wind up as leaders. Too few will step forward to accept the task. Good leaders make it possible for their organizations to reach high plateaus of effectiveness, achieve great triumphs for their industry and more worthwhile benefits for their membership. Good leaders protect their members, serve their members, inform their members, energize and enthuse their members. Good leaders kindle the flames of excitement in their members and make being a Piano Technician a fulfilling and worthwhile profession. Good friend **Chris Robinson**, in his Connecticut chapter newsletter the *KEYBED*, had some interesting observations on the subject. He writes:

You are responsible! Responsible for what, you ask? You are responsible for keeping your trade association active and sensitive to the needs of its members. If you don't provide leadership, then sooner or later you can be darn sure that nobody else will either. If you don't replenish the ideas which capture the imagination and enthusiasm of your associates, then meetings will become a purposeless bore and a waste of time. If you do not take the first step in actually putting into motion the work behind those ideas, you can rest assured that there will be a veritable stampede behind you, as well. If anyone feels that there are mountains to be climbed or rivers to be charted, let him or her step forward and begin the process. If we see no unfamiliar terrain, then we must be in a wasteland indeed.

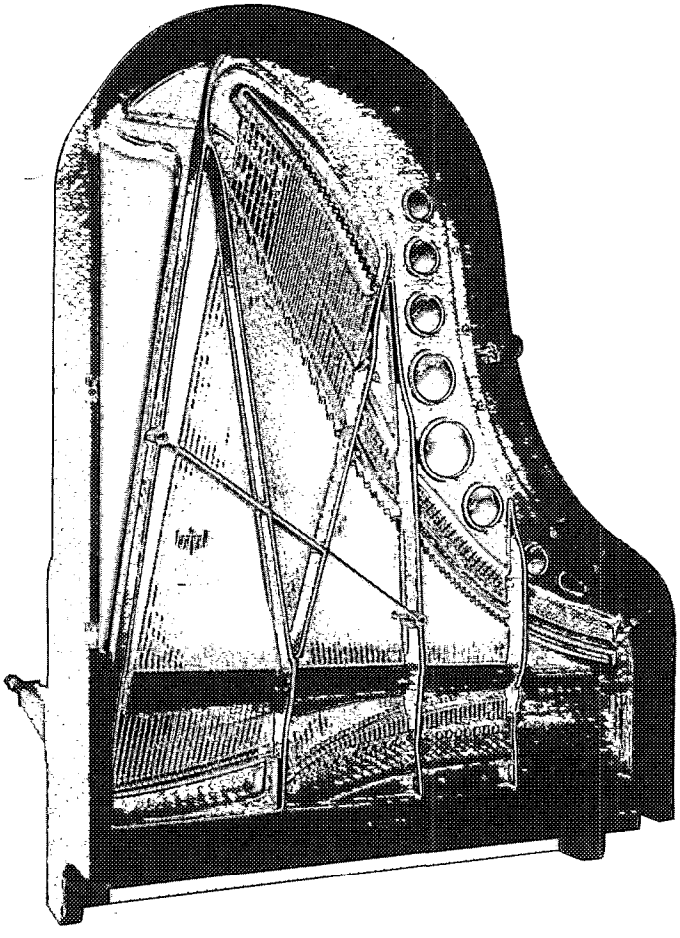
Imagery aside, it is very important that we all take an individual commitment toward providing for our organization the kind of leadership and immediate involvement that is required to produce an active, vital group of people who are of lasting personal and professional value to each other. It is a very great mistake to rely upon the energies and imagination of a few active members who may at any time tire of their burden or exhaust their concepts. What happens when they ask for a rest? Also, is it really a constructive idea for an organization to assume the personality of just a few of its members? No, it is not. Petrifaction will be the ultimate result of such a policy. A group of people with a common interest requires a common input of fresh ideas and stimulation to keep its body alive. To back up those ideas must be the will to see the work done and energy spent which will produce the resultant product. Commitment is the common denominator here; each of us adding what he or she has to offer so that we might take away that which we most need. But it can only work if each of us says, "I am responsible!" — **Chris Robinson** □

The Resemblance Is Obvious!

The Kimball 6'7" Grand



The Bösendorfer 6'7" Grand



Look into a Kimball Grand Piano and you'll see a striking resemblance to the world renowned Bösendorfer. That's no accident.

The same touches of greatness previously found only in the Bösendorfer can now be found in the Kimball. Like the same distinctive plate pattern. Or the same gleaming polyester finish, the only finish of its kind on an American made piano. Plus, every Kimball Professional Grand also features the famous European Schwander Action, and a totally new scale design. All the things which make a piano a joy to play, and a joy to work on.

Kimball Grand Pianos. Take a look and you'll see our quality is obvious.

KIMBALL®

A beautiful way to express yourself

Kimball Piano & Organ Co.
1549 Royal Street, Jasper, Indiana 47546
A Division of Kimball International, Inc.

PRESIDENT'S MESSAGE

Bob Russell, President

I would like to take this opportunity to thank a very special group of people for the support they offer the Guild — The Piano Technicians Guild Auxiliary. Without their support and help our Guild would lack the little extras that make seminars, conventions, and chapter meetings so pleasant and meaningful.

If your chapter does not have an auxiliary you don't know how nice it is. Along with their own programs the auxiliary shares helpful hints concerning piano technicians lives such as business tips, shop tips, interesting experiences, etc. After all, the better we are understood, the happier we are, the more work we accomplish and the better the financial gain.

Your local auxiliary can play a big part in planning social events for your chapter, provide refreshments for chapter meetings if you so desire, create centerpieces for banquets, share warm hospitality with guests, and help with registration for seminars and conferences. In other words, the auxiliary is a most important asset for an outstanding event.

Nationally our auxiliary helps to provide entertainment and friendship for spouses attending our convention. Auxiliary members also help with registration, hospitality, and without their attendance our banquets, luncheons, and meetings would lack the graciousness we have learned to enjoy. We have also received monetary gifts from the auxiliary that have helped the Guild provide membership services for each and every one of us. One that comes to mind immediately is the chapter program directory that they helped to fund. And who can forget the fun we all had with their cook book and idea book? A household must!

Of course, everyone knows that business partners, even though they happen to be our spouse, have the legal right to tax-deductible seminars and conventions when they attend classes to better themselves and/or the business. What a great way to plan vacations and trips by planning them together.

We have always received the support of our auxiliary and we appreciate it. Many thanks to the people who have worked so hard over the years lending their support to the auxiliary in their projects to support our Guild. □


"Baldwin is a piano that will set forth my playing exactly as I conceive it. Its response to my touch, my emotion, my innermost feelings about the selection at hand, is quite unlike any other piano I've played.
I also feel that Baldwin helps bring out the best in my students. Helps them to realize their own musical, emotional, and pianistic potential.
It's today's great piano".
Jorge Bolet.
Head of the Piano Department,
Curtis Institute of Music, Philadelphia
BALDWIN
Baldwin Piano & Organ Company, 1801 Gilbert Ave., Cincinnati, Ohio 45202
BALDWIN
The great accompanist

THE TECHNICAL FORUM

Jack Krefting, Technical Editor

We have always encouraged our readers to write to us, either with questions or comments on previously published material. Sometimes we get a lot of questions, but this month we received quite a few comments. Some of these will be controversial, but we have decided to publish them anyway in the interest of allowing every reasonable viewpoint to be aired.

But before we get into that, here is a little quiz:

GRAND REGULATION QUIZ

The average technician spends the majority of his time servicing verticals, and might waste valuable time trying to troubleshoot a specific malfunction in a grand action. With that thought in mind, we present a short refresher quiz here. Pencil in the probable cause of each malfunction, and then check the answers given near the end of the Technical Forum in this issue.

1. Key dip is correct, but aftertouch is insufficient: _____

2. When playing staccato chords, adjacent keys bounce: _____

3. When playing staccato chords, adjacent hammers bounce or dance: _____

4. Piano plays normally at soft to medium volume, but hammers won't respond to a hard blow: _____

5. Piano plays normally at soft to medium volume. The hammers respond to a firm blow but the keys are very hard to depress; yet the keys and action parts return freely to rest: _____

6. A hammer occasionally drops below the normal hammerline and will not respond to the key; yet when lifted with a hook to the hammerline it will play: _____

7. The hammer stays at the hammerline, yet will; not respond to the key after a slow release: _____

8. After the hammerline and repetition springs are adjusted to specification, the hammerline goes out of alignment whenever the piano is played. The capstans are again regulated, but the hammerline becomes uneven again when the piano is played: _____

SQUARE PIANOS — ANOTHER VIEW

Our first controversial letter is from a New Yorker who obviously takes exception to some of my remarks regarding squares. Here is the letter in its entirety:

Dear Mr. Krefting:

I'm used to seeing concescending, ignorant remarks about square pianos and turning a deaf ear, but your short peroration against them in response to a perfectly legitimate stringing question in the April 1980 issue of the Journal was a little too irritating for me to ignore completely.

I'm a specialist in the area of restoration of 19th century American-built pianos, particularly square grands; I've done research, restoration, lectures, performances, etc., on square grands for museums, historical societies, private owners, and fellow technicians. As is the case with 20th century pianos, a fine maker builds a fine piano, irrespective of its shape.

The 19th century makers who built square grands until their demise around 1890 had, by the middle of the century, brought them up to the standard of design that we associate with grands and uprights of the late 1800s.

The problems associated with putting square grands into mint condition have nothing to do with the methods of their construction but with the extreme degree of deterioration a piano suffers in a century's time, with the total lack of any present-day understanding or appreciation of the methods and rationale of their construction, and (not least) the persistence of attitudes such as yours, which have been typical of the piano industry since their obsolescence (which came about for economic, not musical, reasons).

Without belaboring the point, I can state categorically that the square grands I have had the occasion to restore completely have been remarkable musical instruments. In most cases, the wood used in these pianos was so scrupulously aged that the ne-

cessity of fitting a new pinblock is almost never the case. In fact I would say that putting a laminated, kiln-dried pinblock into such an instrument is an outright disservice.

Square grands are probably the most misunderstood keyboard instruments ever built, almost completely because of the smear campaign launched against them by the piano industry when they discovered that the upright was cheaper, easier to build, and more compatible with assembly line production. The burning of them in 1903 in a petty, irresponsible attempt by the piano industry to convince an unhappy buying public that they were no good is nothing short of unbelievable. Why this attitude should persist nearly 100 years later is completely beyond me.

If you are really interested in enlightening your readership, rather than perpetuating outdated prejudices, I would be more than happy to share with you the considerable body of information I have collected on the design specifications, the restoration, regulating, and general maintenance of square grands.

Sincerely,

Roland Loest

With all due respect to Loest's opinion, I still feel that the design of the square leaves a lot to be desired. The soundboard is tiny, the keys are of unequal length, the treble scaling is questionable at best, the damper system is shaky, and there is no repetition lever except in the 20th century Mathushek squares. The upright may well have been less expensive to produce, but was also inherently a better instrument in many respects, at least in my opinion. If any other readers wish to offer further ideas or material on this topic, we will certainly consider publishing it. As a matter of fact, Loest has written an excellent article on square regulating which will be published if interest warrants.

TIP OF THE MONTH

Replacing a broken string in the tenor section of a vertical, especially a spinet, requires either a lot of extra work or a little ingenuity. Some months ago we published Larry Laravela's idea of using a trash bag tie (those paper-and-wire things that close the top of a plastic bag) when replacing a wound tenor string. For those who missed it, the idea was to insert the tie through the loop of the new string and wrap it loosely around a neighboring string so the new string would slide right down into position. Others have suggested the use of a safety pin for the same purpose.

But what if the broken string is a plain wire string, with no loop in the end? The new string inevitably refuses to go behind the action and bass strings without getting tangled, and valuable time is lost. Norm Peterson of Rochester, Minnesota, suggests the use of an old curtain rod as shown in **Fig. 1.** Make the U-bend in the string, insert it into the curtain rod, and poke the rod down behind the action and bass strings.

I might add that I have found it helpful to have a spring clamp handy when doing a tricky string replacement. Once the bottom end is on its hitchpin, keep it there by clipping the spring clamp onto the hitchpin.

GRAND REGULATING — ANOTHER VIEW

Here is a letter from David Merrill, a craftsman member from McMinnville, Oregon. Merrill takes exception to some of the points raised by David Pitsch in a recent **Journal** *article:*

I'd like to make a few points regarding the David Pitsch article entitled "After Touch" in the June 1980 *Journal.* And I'd like to make it clear that my criticisms are not directed at the defamation of Mr. Pitsch, but rather are made in the interest of ever-increasing understanding and precision in the exciting area of action regulation.

First of all, I'd like to comment on the concept of aftertouch. Aftertouch is rarely if ever a component of piano touch; that is, a pianist (assuming he or she is not also a piano technician) will never complain of too much or not enough aftertouch. Aftertouch is merely a method of measuring the relationships in the action. On a medium-to-hard blow, letoff is not felt in the key; and if there is no letoff, there can be no aftertouch.

In any discussion of aftertouch, an important distinction should be made between *escapement* (the movement of the jack following contact of the tender with the regulating button) and *letoff* (the final separation between the knuckle and the top of the jack). Escapement happens before, during and after letoff, throughout the last small fraction of key travel; letoff occurs at a specific moment during escapement, when the knuckle drops off the top of the jack. These two separate elements are too often lumped together and mistaken for each other, and the wording of Pitsch's discussion did nothing to relieve or discourage such confusion.

I must totally disagree with Pitsch; the answer to Question One (Does regulating the jack height to the balancier affect the strength of the repetition spring?) is a definite NO. It is true that when the height of the balancier at rest is changed, the compression of the spring is changed; but it is not at rest that we measure repetition spring tension when regulating. With the hammer in check at full key depression, the regulating button at the back end of the balancier is suspended in mid-air, and its adjustment at that point could be changed at will without affecting the compression of the repetition spring. Upon release of pressure on the key, the balancier rises until its front end engages the dropscrew; but the regulating button is still in mid-air, and its adjustment therefore has no effect on the compression of the spring.

Since it is this button which regulates the height of the balancier relative to the top of the jack, it is obvious that its adjustment does not in any way affect the strength or operation of the repetition spring *during that part of the action cycle in which the spring comes into play.* (Note: For the sake of clarity, we do not regulate the jack height to the balancier, but rather we adjust the balancier

height in relation to the jack.)

I would also like to mention what appears to be a misinterpretation of the leverage change that occurs when the hook on the "butterfly type" repetition spring (Steinway, Yamaha, Bosendorfer) moves forward in its slot. If the spring force is applied farther from the pivot point (assuming that the actual weight of the balancier itself is negligible), the result will be increased pressure at the ends, rather than decreased pressure as Pitsch's wording suggests. This results in maximum upward pressure at maximum deflection — i.e., when the hammer is in check — and accelerated pressure reduction as the balancier rises toward the dropscrew.

I believe Question Two (Does regulating the letoff affect the backcheck distance?) deserves a more complete examination than Pitsch has supplied, and the result will again conflict with his conclusion.

The matter of backcheck distance contains a certain amount of ambiguity concerning the power of the blow. On a hard blow, the backcheck distance can be either greater or less than that on a soft blow, depending upon the *backcheck angle*. If the angle is high — that is, close to the angle of the hammer tail (or catcher in the vertical action) — at the moment of contact, the momentum of the hammer will drive it deeply into the check on a hard blow, and not so deeply on a soft blow. However, if the angle is low — that is, closer to the horizontal — then the effect is the opposite: on a hard blow, the front rail punching is crushed by the pressure on the key, which raises the backcheck higher and thus causes an earlier and higher catch, since the hammer momentum has less effect when the angle is low. (See **Fig. 2**).

It is possible and desirable to achieve a backcheck angle somewhere between the two shown, such that the backcheck distance will be the same on both a hard and a soft blow, the momentum of the hammer driving it into the check by the same amount that the backcheck position is raised by the crush of the front rail punching.

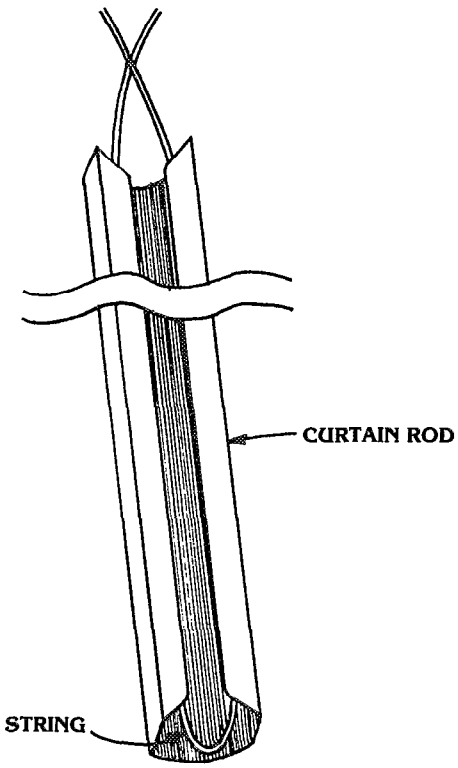


FIGURE 1

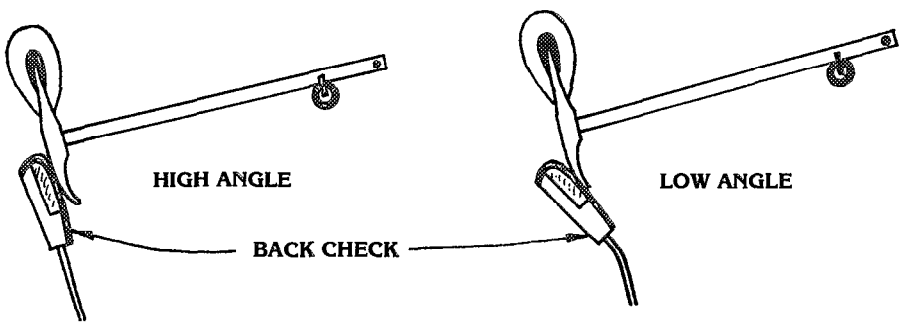
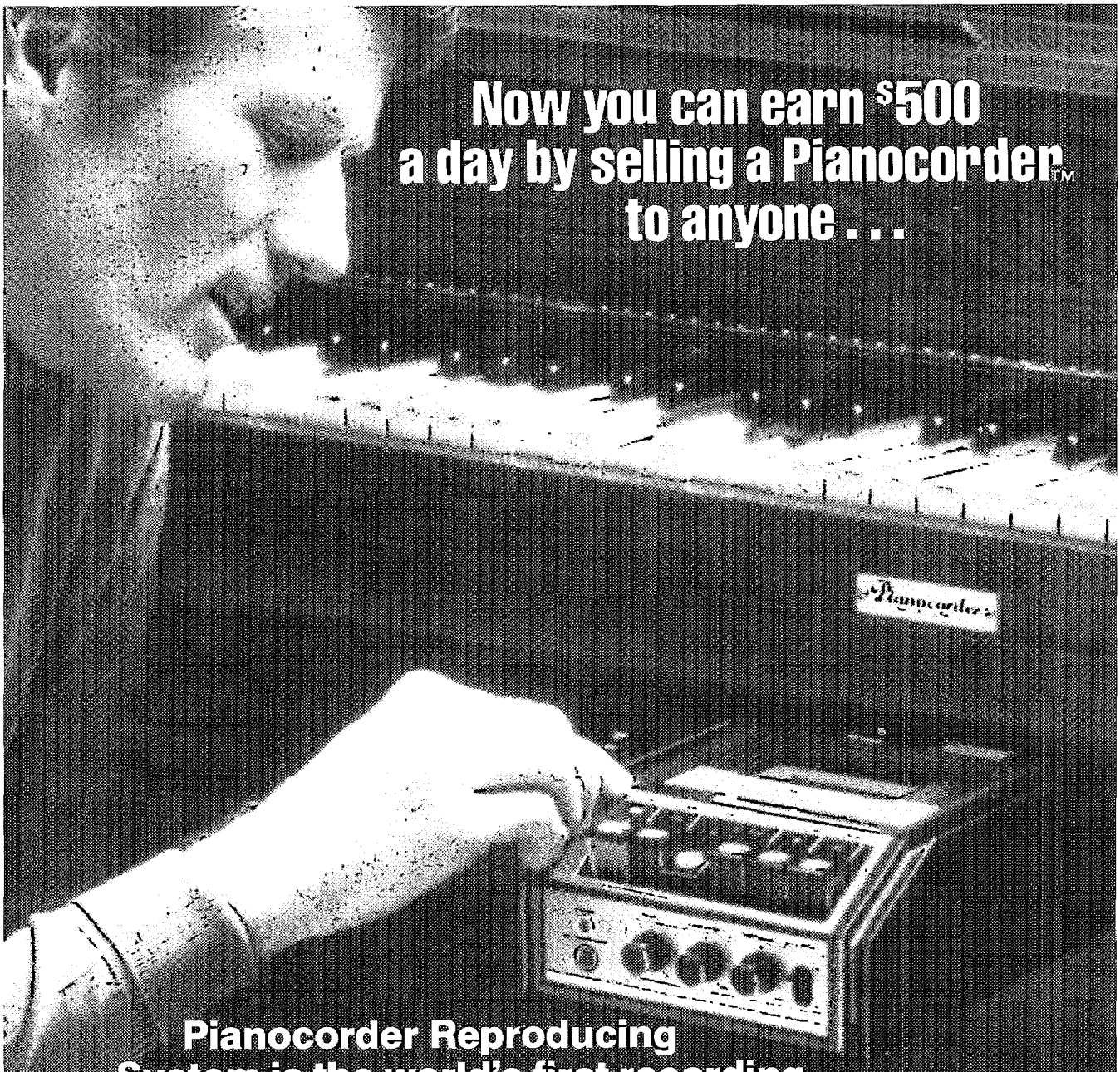


FIGURE 2



Now you can earn $500 a day by selling a Pianocorder™ to anyone . . .

Pianocorder Reproducing System is the world's first recording and reproducing piano completely controlled by computer programmed cassette tape.

Take advantage of this revolution in piano merchandising. This sophisticated electronic mechanism actually converts the piano from a limited, part-time instrument into a versatile, full-time home entertainment system everyone will love . . . even those who can't play or don't care to learn!

Imagine a piano that can perform "live" — all by itself — the immortal artistry of the world's greatest pianists as they played it. From classical to popular, ragtime to rock. It's like having the artist perform in your own home.

Wherever there's a piano . . . whenever a piano is sold . . . there's a market for the PIANOCORDER Reproducing System.

At about $500 profit on each unit, shouldn't you write for further information today?

Piano Tools Hale and Supplies

TUNERS SUPPLY COMPANY

Serving the Music Industry Since 1884

EASTERN BRANCH:
94 Wheatland Street, Somerville, MA 02145 (617) 666-4550

WESTERN BRANCH:
190 South Murphy Avenue, Sunnyvale, CA 94086 (408) 736-2355

The condition mentioned by Pitsch indicates a backcheck angle which is too high to achieve the goal of consistency, as it will result in more sensitivity to the momentum of the hammer and less sensitivity to the height of the backcheck itself. It is obvious that a change in letoff distance causes a change in hammer speed at the instant of string impact, and therefore a change in the momentum contained in the rebound. It is therefore just as obvious that, with the backcheck angle set as Pitsch has implied, a change in letoff must result in a change in momentum and a corresponding change in backcheck distance. However, if the backcheck angle is properly set, the effect of a change in letoff on the backcheck distance should be minimal.

I also feel compelled to enlarge on points 1, 3 and 5 in Pitsch's answer to Question Three. These discussions concern the effect on aftertouch of (1) key height, (3) jack alignment to knuckle, and (5) drop.

KEY HEIGHT. Insertion of a punching at the balance rail to increase the height of the key obviously causes a proportional increase in dip. However, in the grand action two other important changes take place as a direct result of such an increase in key height: (a) the capstan rises roughly half the thickness of the punching, which raises the hammer by a somewhat greater distance, and (b) the contact point of the capstan on the whippen cushion moves closer to the whippen flange. (The latter is also true of direct blow vertical actions, and especially those of the dowel-capstan type.) Even if a paper punching is inserted under the front rail felt to return the key dip to its former amount, and even if the capstan is turned down to bring the hammer back to its former blow distance, the effect of (b) above will still increase the aftertouch through the change in leverage.

JACK ALIGNMENT TO KNUCKLE. If aftertouch is defined as that portion of key travel which occurs between letoff and front rail contact (including the elusive crush of the front rail felt), then a change in jack alignment should not alter aftertouch, contrary to Pitsch's rather hasty conclusion. His error results directly from the previously mentioned confusion between escapement and letoff. The effect of jack alignment is to delay the beginning of escapement; but once escapement has begun, the jack alignment button is suspended in mid-air, and its position could be altered with no effect on letoff; nor, therefore, on aftertouch.

DROP. The conclusion drawn here by Pitsch — that the amount of drop is proportional to the amount of aftertouch — is patently incorrect. At the moment of letoff, the knuckle drops off the top of the jack (its rounded front surface pushing the jack slightly forward as it falls, if the key is depresed slowly), and the hammer then falls until the knuckle meets with the balancier. Even if the downward key motion were to stop at the moment of letoff, the knuckle would still drop all the way to the balancier, no matter how short or long the drop. Adjustment of drop does not affect the position of the key at which letoff takes place, and it is *that* position which determines the amount of aftertouch.

It should be noted that the drop adjustment actually determines the height to which the repetition lever will raise the hammer from the check position upon release of key pressure, and does not really affect escapement or letoff at all. — **David Merrill**

PLUGGING A PINBLOCK

QUESTION: *"In Altoona (at the Pennsylvania State Convention) I caught the tail end of a conversation and would like more information. According to what I could glean, instead of replacing the block, you drill out the tuning pin holes and plug them. If this is correct, where do you get the plugs? How much are they? What size hole do you drill to install them? What kind of glue? Do you need a special bit to drill the holes?..."* — **Jerry Held, Massillon, Ohio**

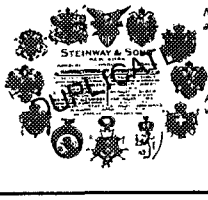
ANSWER: Whenever possible, I replace the entire block. This is a better procedure and, in most cases, is also easier and faster than plugging. But there are occasional instances where plugging might be advantageous, such as a mortised block in a grand or a bad spot in a vertical.

It should be noted from the outset that plugging is no panacea. It is not to be used if the block is delaminating, for instance, because the plugs must have solid wood for support. It does little good to glue a good piece of wood to a bad one, so it is a good idea to inspect the block for evidence of contamination by silicone, pinblock "restorers," and other chemicals.

When estimating such work, figure on replacing the entire block even if your intent is to plug it, unless you were just going to plug a few holes. Plugging can be as time-consuming as replacing the block, especially if you cut your own plugs, and that brings us to Held's first question.

Falconwood plugs are available from Cliff Geers in two diameters, ⅜" and ½", and are priced at 17¢ and 19¢ respectively. If you have a drill press, you can cut your own plugs with a plug cutter, available at better hardware stores and woodworking supply houses for about $25. It is important to keep the cutter cool with a jet of compressed air while cutting, because otherwise it will overheat and glaze the plugs.

Titebond is fine for this, as is hot hide glue. Cut a slight kerf vertically in each plug to relieve glue and air pressure if the hole doesn't go all the way through the block. The hole can be drilled with an ordinary bit, but if the pinblock is open and cosmetics are a consideration, a spur bit will make a cleaner hole.



Speaking of pinblocks, Stanley Lipson of Bellemore, New York, has this to say about doping:

I have found pianos that have had new pinblocks installed that failed after two or three winters. I have come across pianos that were "doped" and failed after two or three winters.

I have encountered pianos with pinblocks replaced over 10 years ago that were still good, and I've encountered pinblocks that were chemically treated over 10 years ago and are still good.

This leads me to the conclusion that it's not what you do, it's the way that you do it. I have also found a strange phenomenon. Some of our most expensive pianos do not have tuning pin bushings and their rate of failure after 10 to 15 years is rather high compared to new pianos with tuning pin bushings.

What is the longevity of a pinblock supposed to be? My experience is on Long Island, New York. Summers are humid and winters cold (with the heat in homes drying out the pinblock). Many homes have heating coils in the floors that roast the pianos; others have fireplaces that pull too much moisture out of the air. In recent years, air conditioners have been pulling moisture out of the air, too.

I am further bewildered by the fact that I've seen pinblocks over 60 years old that are fine. The more I've studied the situation, the more convinced I am that there can be no accepted area of agreement concerning the life and death of the pinblock.

I have also seen repinning jobs that have only lasted 10 to 20 years. I have chemically treated blocks that have lasted over 20 years. I have treated badly split and deteriorated blocks that are still functioning after many years.

My question is, doctor, must you operate? Is there any medicine that might help? How long can I expect to live if I have surgery? How long can I expect to live if I stay on medication without surgery?

There are different procedures required for different types of pianos. I have had 100 per cent success only with glycerine-based products on 400 or 500 pianos over the years, that I have treated. Since the piano does not have to leave the house, the customer does not have to be without a piano. Neither does the pianist have to tolerate an out of tune piano while the strings are stretching. In many instances, it is not economically feasible to repin or replace the block on a poor piano which needs a complete rebuilding job as well.

True, there is something more of a feeling of accepted accomplishment in replacing a pinblock. But, doctor, is the operation necessary? There are cases where the wire has lost its elasticity and due to string breakage or dead bass strings requiring replacement. There is no way that I don't insist on replacing a cracked or generally deteriorated block at that time.

At the first Guild convention in Washington, D.C., I remember more than one instructor saying, it doesn't matter how you do it, it's the end result that counts. Think about it.

In the May 1980 issue of the *Journal*, there are some pictures of pinblocks that have been treated with chemicals. I have some questions to ask. For a scientific in-depth analysis. I would have to see pictures before and after the treatment. Also how many years elapsed after the treatment before these blocks expired? What chemicals were used? I suspect photo no. 2 probably had the pinblock tightened with acid in it, but I'm only guessing. Photo no. 1 looks like the dirt on the plate that the chemical washed down and accentuates the splits and discolors the block. As for the lack of deep penetration of the chemical, that is the difference between doping and treating a pinblock.

Several years ago, there was a flurry of some respectability in regard to treating pinblocks chemically including a fine article in the *Journal* by someone whose name slips my mind. Also Ben Berman mentioned his method of heating the glycerine based product for deep penetration.

A long span of time has since passed and no further mention of the subject. Recently, a resurgence of anti-chemical material has started to surface. I would hope at some future time to write an article on my methods of treating various types of pianos." — **Stan Lipson**

We have one more letter to share on the topic of pinblocks, this one being on the subject of ill-fitted blocks. The author of the following is David Pitsch, a regular contributor to the **Journal**:

Six months ago, I sat down to tune a seven-foot grand of high quality manufacture. The pitch was already at A-440, so I proceeded to set a temperament.

My method of tuning is to mute the whole piano, leaving one string for each key to tune, then match the unisons to these previously tuned middle strings. After setting the temperament, I go down and tune the tenor, then up to the top treble, down the bass to the bottom, lastly tuning the unisons. On this piano I had set the temperament, tuned the tenor, and was working up the treble about two octaves above the temperament section where the major seventeenth test is used. All of a sudden my seventeenth tests went wild. The beats went way off from where they had been only a moment before. The tenths, octaves, and thirds were way off, too!

Two months later I was sent out on a different-make baby grand which had a warranty tuning problem. This instrument had been tuned every three months for the year and a half since it was sold. The customer complained that the piano did not stay in tune.

At first this was dismissed because the piano was new, the strings were stretching and going flat. But after 1½ years the customer still complained. So the dealer finally asked me to go out and take a look at it. In checking the pitch level it was found to be 20 cents flat, even though the instrument had been tuned six weeks earlier. I knew the tuner who had been working on the piano as he was a fellow craftsman, and I knew that his tuning was better than this. In checking the

torque on the tuning pins, they were very tight. No structural defects were to be found such as a cracked plate.

A month later, I had just finished tuning another large grand which needed to be pitch-raised about 40 cents. I pulled the action out to do some light voicing. As I was listening in the area about an octave above middle C, I noticed that the unisons were going out. This did not occur over the whole piano, but just in one small area, from F#58 to D66. Since I had just pitch-raised the piano, my first thought was that the bridge had rocked a little in this area and all that I needed to do would be to "touch-up" the unisons. However, after "touching-up," I found they were again going out of tune within a few minutes.

The problem that these three pianos had was the same. The pinblock had not been properly fitted to the plate flange in the factory. But these three were not the only pianos which I have found to be defective. In fact, within the last six months, I have found no less than 33 grands which have been manufactured with faulty pinblock fittings. These range from high-priced American makes to low-priced Asian makes, five different brands all told.

If a piano in the home has a history of tuning problems, or when servicing a new piano for a dealer or a customer, take a few minutes and pull the action out and check this vital area. You should be removing the action and look it over anyway on a new piano, since there is always something that can be made better. Using a small light and mirror, look at the under side of the pinblock where it touches (or rather is supposed to touch) the plate flange. The block must be fitted flush along the whole length. If a crevice can be seen, take a business card and run it up the space. Check to see how far up the card can be pushed. Sometimes the crevice is only at the very bottom of the pinblock, due to the unevenness of the plate casting, with the rest above it fitted flush. If this be the case, the pinblock is OK. But if the card can be run up the whole thickness of the block, then a problem has been found.

Some pianos have this defect in only a very small area. Others have a big void over the entire front of the block. I remember one Asian piano where the void was so big I could fit my thumb up it in one place, and could run a hammershank up and down the entire length in between the plate and the block. At the minimum, a pinblock should touch the plate every two inches over the entire surface. A void larger than two inches should be filled.

Don't be led into thinking the plate screws in the webbing area are strong enough to hold the block in place by themselves. I was told this by one factory representative when I called to discuss this warranty problem. These screws have good holding power over the length of their threads, but they cannot hold the pinblock in place with their tensile strength. This is the function of the plate flange. I have heard of pianos which had this condition for so long the tuning pins had moved so far forward as the pinblock moved from the tension of the strings, that the pins had made grooves in the plate at the front of the tuning pin holes.

When such a defect is found, first notify the manufacturer. Give him the courtesy of letting him know that his workmen are not doing their job correctly. Also give him the choice of either replacing the instrument or letting you repair it. Of course, the best means of correcting the problem would be to remove the trings, dampers, and plate and to fit a new pinblock, reinstall the plate, restring it, and reinstall the dampers.

A less expensive but still acceptable method for repairing misfitted pinblocks is to let the tension down on the strings, install hardwood wedges between the block and the plate, and to bring the strings back up to pitch. Again, the block must be in contact with

the plate every two inches, so make sure that you have enough wedges. Also be sure the wedges being used are hardwood, preferably hard rock maple, and that the grain is so oriented as to have the pressure on the edge grain. I had wedges sent to me for this purpose which were not only a softer wood, but they had been cut so that the side grain took the pressure, not the edge grain. These won't work.

I found it necessary to use an epoxy-like compound in conjunction with these wedges. Since the wedges are V-shaped, they contact the block and plate together only at the bottom. This leaves the upper regions of the block still unfitted to the plate. If this void is not filled, the block can still move, even with wedges pounded into it. The compound selected should be paste-like, so that it won't run out before curing. It also must have a high compressive strength. The substance which I used has a compressive strength of 15,000 lbs. per square inch. The curing time could also be shortened by using an infrared lamp. Clean up was quick with a wet rag and lacquer thinner.

Do this repair with the piano in its normal position. Turning a grand upside down to facilitate such a repair has resulted in plates breaking, so think twice. In the future, if a piano you are tuning doesn't hold its tune well, don't just shrug it off as a bad piano or to the fact that the piano is new and the strings are stretching. Try to find the cause of a problem, no matter what it may take to correct it. You will be a better technician for taking the time to find out. — **David W. Pitsch**

ANSWERS TO GRAND REGULATION QUIZ:

1. The hammerline is probably too low.
2. The balance rail glides are up too high, not touching the keybed.
3. The glides are turned down too far, lifting the back rail off the keybed.
4. The jacks are too far forward, skipping off the knuckles.
5. The backchecks are too close, catching the hammer tails on the way up.
6. The repetition spring is too weak.
7. The jack is too high in the repetition lever.
8. The jacks are too low in the repetition lever.

IN CONCLUSION

Please feel free to write to me with technical questions, comments, articles or tips. We can always use more material. We consider the sharing of information to be one of the primary benefits and responsibilities of Guild membership. Our thanks to this month's contributors. □

JOURNAL SUBSCRIBER SERVICE

Change of Address? Please give us 4 weeks' advance notice. Attach the label for your old address, write in your new address below.

Entering a new subscription? Check the box and fill in your name below.

Renewing? Check the box below and be sure your mailing label address is correct.

PLEASE SEND THE JOURNAL FOR 1 YEAR AT $60

☐ New subscription ☐ Renewal

☐ Payment enclosed

Name

Address Apt. No

City State/Province Zip/Postcode

Upright Pinblock Installation

by Michael Shapiro

This is a report of a seminar conducted by Edwin Trefz at the Piano Technicians Guild's New England Regional Seminar. The use of the term "we" is editorial, since the bulk of the work was done by Trefz.

ABSTRACT

We installed a new pinblock made from 1½" laminated maple stock. We removed material from the old pinblock to a depth of 1½" leaving a smooth surface of newly exposed wood. We glued the new stock to this surface.

PRELIMINARIES

Prior to the seminar the piano was checked for downbearing and was destrung. Before unbolting the plate, three holes were drilled through the plate into the supporting wood and three tuning pins were driven in to act as locator pins. This is done to eliminate play in the bolt holes. The pins were located at either side below the pinblock and at the bottom in the middle.

The plate was removed and measurements were taken of the old pinblock. A piece of 1½" thick stock was cut to shape.

PROCEDURE

We began the seminar by removing the plate. Locator blocks were attached to the sides and back. We then split the sides from the case using a chisel, and proceeded to examine the pinblock. If the glue joint between the pinblock and the posts and mullions was coming apart we would simply split this joint, saving a lot of work. Our new stock would then be built up to proper thickness and installed.

We took measurements and determined the back was of even thickness from top to bottom and from bass to treble. Almost all upright pinblocks are tapered from bass to treble. (See **Fig. 1**). Many pianos also have tapered posts (see **Fig. 2**).

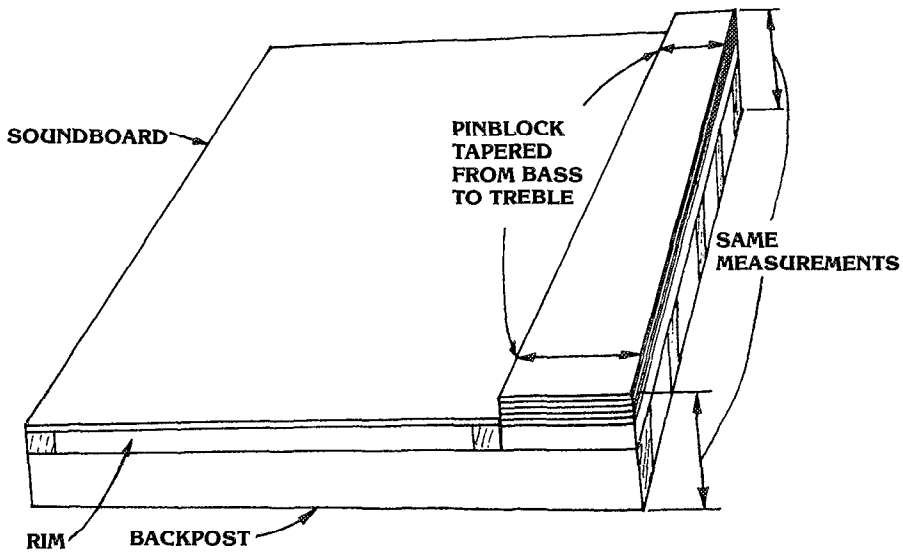


FIGURE 1

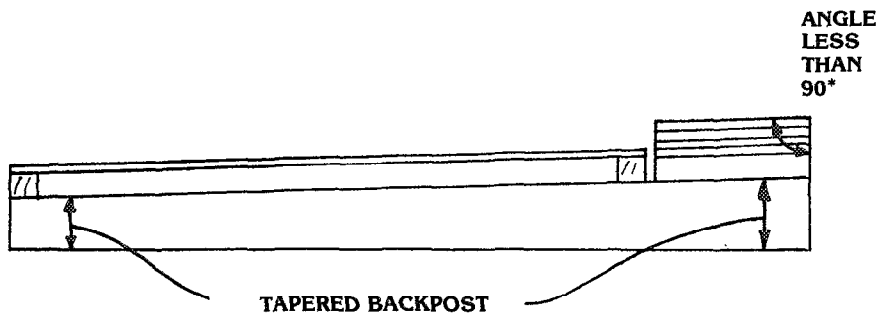


FIGURE 2

One fairly uncommon feature of this pinblock is that it did not underlie the soundboard. A common practice is to have the bottom plank of the pinblock extend under the soundboard. (See **Fig. 3**).

● ● ● ● ● ●

At this point Trefz advised the following practice, which we did not use. Take a block of wood thicker than the new pinblock. Hold it level with the surface of the old pinblock. Scribe a line under it. Later when the old material is removed and the new stock put in place, the block and the scribe mark can be used to check the height of the new surface. (See **Fig. 4**).

The top layer of the old pinblock had delaminated and was removed with a chisel. It came off quite easily leaving a sound surface from which to work. The top lamination was measured and found to taper from 13/64" thick at the treble to 15/64" at the bass. Trefz felt the taper was slight enough to ignore. We treated it as if it were ¼" thick and made our initial cut 1¼" deep. This was safe to do because it caused us to cut too shallow, leaving us a margin of safety.

This is a good place to note several things about the depth of cut. The depth of cut controls the height of the new surface which influences the height of the plate which controls the downbearing. Therefore, it is much more critical in the treble than the bass since a shorter string dropped the same amount will create a sharper angle. Since our piano had downbearing we would try to keep it as it was. However, in a piano with negative downbearing we might want to lower everything at most 1/32".

We used the skilsaw to remove wood to a depth of 1¼". Using an edge guide to get straight saw cuts makes the work neater and easier. We left three "islands" of uncut wood, one running down each side and one running down the middle. These islands may be ½" to ¾" wide. The saw kerfs were fanned out a little to imitate the taper of the block, and were cut approximately ¼" on center. (See **Fig. 5**)

If the bottom plank had extended

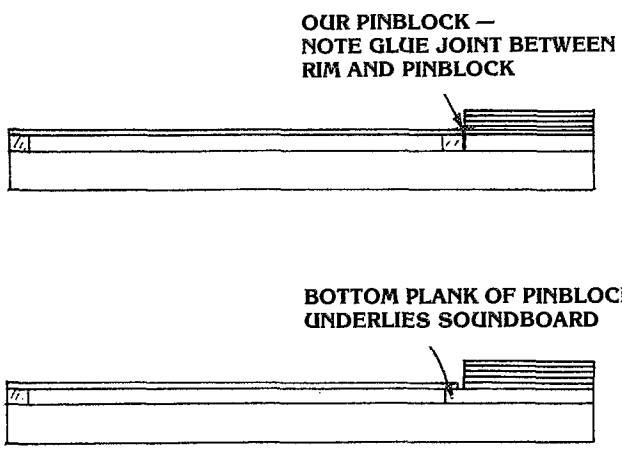


FIGURE 3

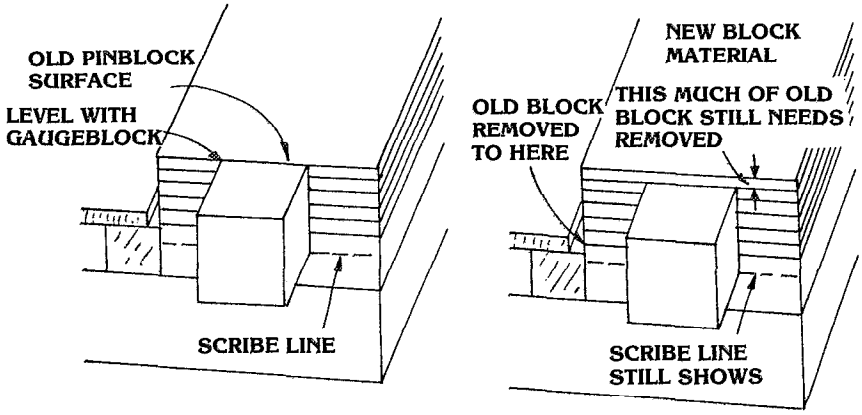


FIGURE 4

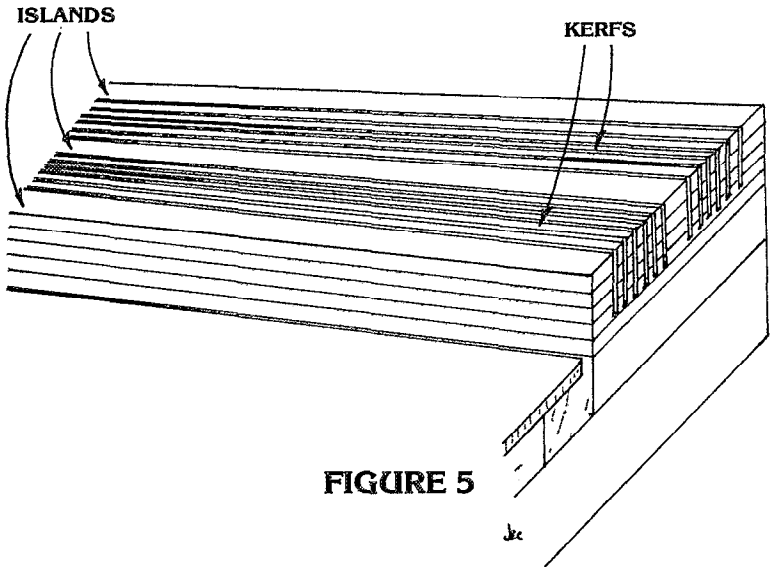


FIGURE 5

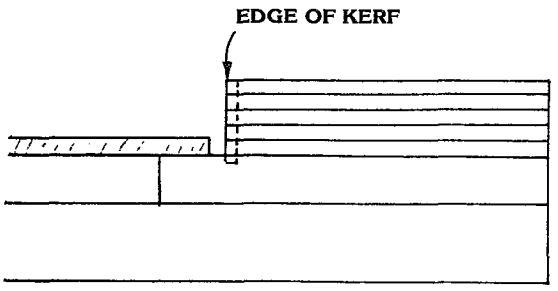


FIGURE 6

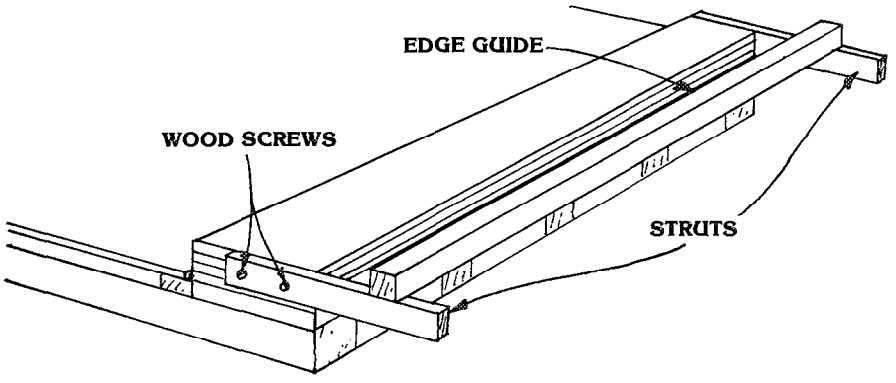


FIGURE 7

under the sound board our first sawcut would have been right to the edge of the upper plies. (See **Fig. 6**)

In order to allow room for the base of the saw to travel on the block, we rigged an "outboard" mounting for our edge guide. (See **Fig. 7**) Note that if you do this, you must either start and stop the saw short of its full travel to avoid cutting off your struts or use struts considerably deeper than the saw cut and locate the screws out of the saw's line of travel.

We then removed the bulk of the material remaining between the kerfs by digging it out with a chisel. It came out quite easily but left a very rough surface at the bottom of the trough.

Next, we removed the rough material with a router. The router base travels along the islands. We found one of our islands delaminating so we screwed it down to ensure a uniform depth of cut.

If the upper lamination which we removed had had a more extreme taper we would compensate for it at this point by tapering the islands using a plane. We would make saw cuts at several points to mark the thickness we wish to remove and then plane down the surface until the saw cuts vanish. (See **Fig. 8**).

We then removed the bulk of the islands with a hammer. This generally takes them down to the lowest exposed ply. Next we took them down with a chisel. The chisel should be wider than the island to help prevent it from going below the neighboring surface. Trefz uses a chisel which is slightly bowed upwards. (See **Fig. 9**).

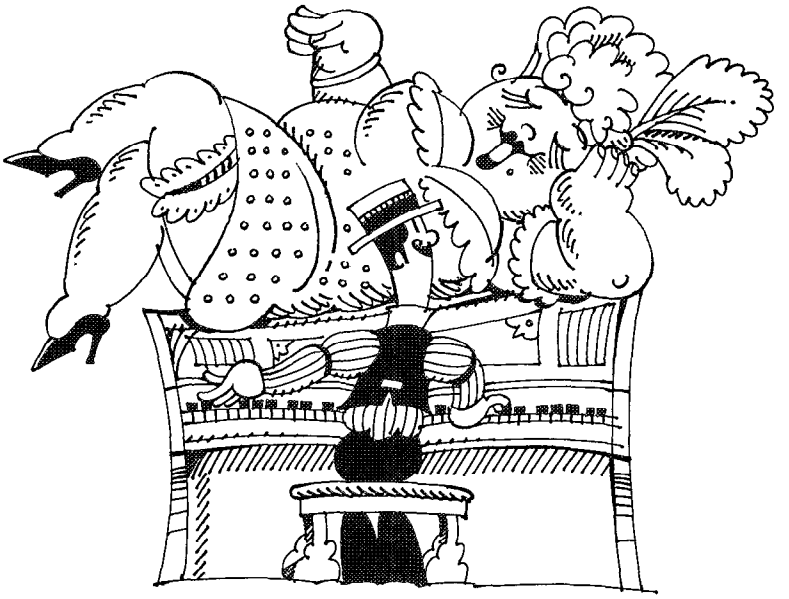
After removing most of the wood with the chisel we removed the remainder with a plane. We used a rabbet plane to get into the corner. We finally smoothed it with a cabinet scraper to provide a smooth surface for gluing.

We then put the pinblock in place and replaced the plate. Since the plate was bowed we clamped it in several places. We found we had negative downbearing. Leaving the plate in place we removed the block, allowing the plate to sit down a little and checked the bearing again. This looked better. By measuring the clearance between our newcut surface and the plate we decided we needed to take out an additional 7/64".

We removed the plate and proceeded to remove more wood using the router. We removed the wood from the old stock rather than the new to avoid cutting into the new material's glue joints. This involved mounting the router on wooden runners so the router base would clear the soundboard. This was finished by planing and scraping.

We now mark the block for 10, 3", #18 screws we are going to put in to hold it in place. We put them in around the edges where they won't interfere with plate screws, action bolts or tuning pins. They are partly for gluing and partly to hold it in place to let us make sure we are clearing our plate flange when we put the plate back in. They will be left in permanently for added strength. Trefz

Everlasting Everett.



The weight of time wears well on Everett pianos. That's probably why piano technicians keep finding old Everetts people want to keep tuned. And we think the pianos we build today will last even longer.

Standard features like solid Sitka spruce soundboards, Pratt-Read keys and direct-blow Pratt-Read actions, 15-ply hard rock maple pinblocks, one-piece leg construction, poplar laminated keybed, and Denro nickel-plated tuning pins have been added.

We also proudly boast of a new management team dedicated to our growth. But with all that's new, we still have the same uncompromising dedication to craftsmanship.

So next time a customer asks you to recommend a piano, remember Everett.

EVERETT

Noteworthy pianos since 1883.

Everett Piano Company, South Haven, Michigan. A division of Yamaha International Corporation.

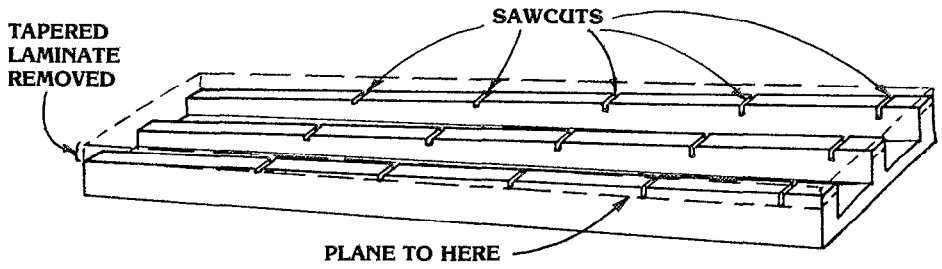


FIGURE 8

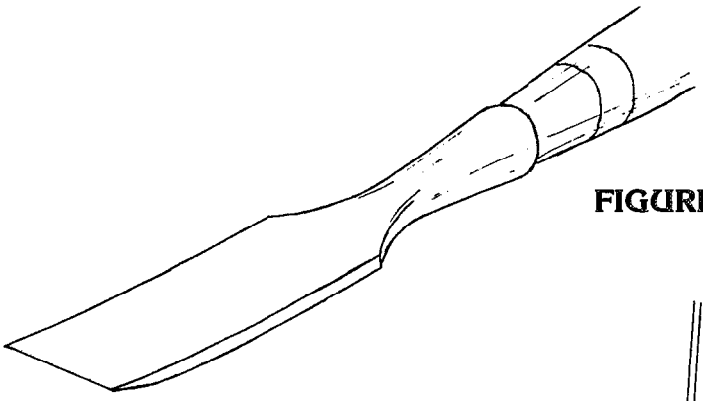


FIGURE 9

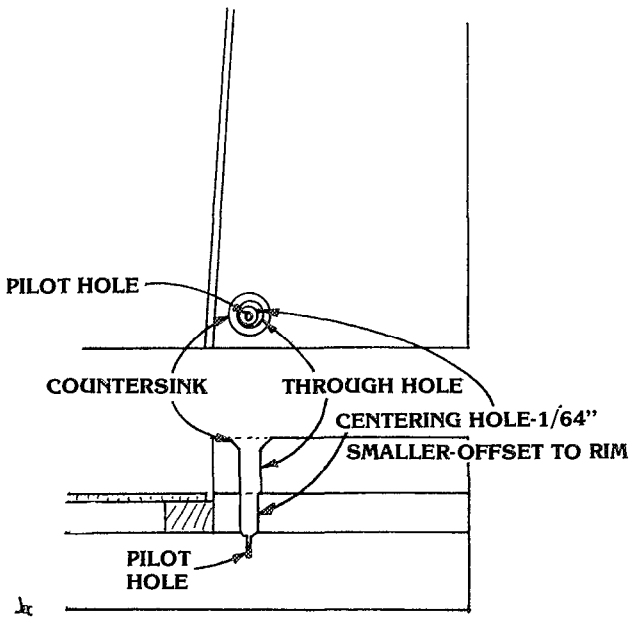


FIGURE 10

feels that intimate contact between the plate flange and the block is not necessary in an upright since the upright's plate is mounted directly to rigid structural members, while the grand's is not.

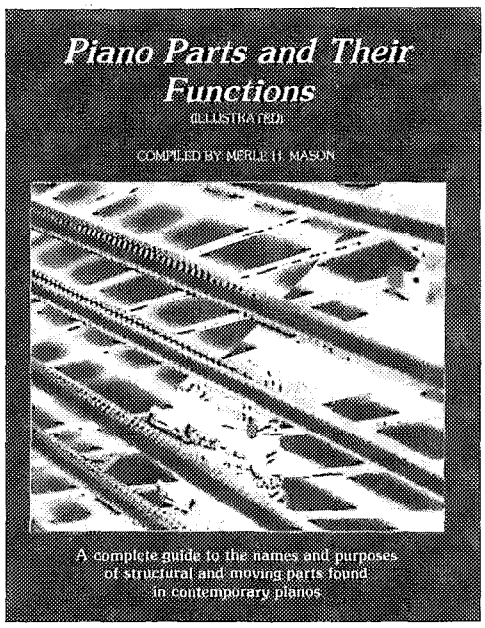
A detail of the fastening technique is worth showing. (See **Fig. 10**). This moves the screw 1/128" off center, causing it to force the new stock into a tight fit against the rim.

The block is screwed into place and the plate put in and clamped in place. We were able to see daylight between the plate flange and the block. This is our guarantee that the block is not interfering with positioning the plate. We checked the downbearing and found it adequate.

Since our tuning pins are not going to protrude through our new stock, we had a choice at this point. We could mark the block and drill blind tuning pin holes before gluing it into place. However, through holes would not be acceptable since glue would squeeze up through them. In addition, through holes should not be drilled through the glue joint until it has had one or two weeks to cure. Otherwise the drill would drag glue up into the hole. We decided to glue it in before drilling.

Finally, the plate was removed and the block was unscrewed. We glued it with Titebond using the 10 screws and 16 clamps for pressure. Trefz said in a shop situation he would heat the mating surfaces and use hide glue. □

ANNOUNCING A NEW EDITION. . . .



PIANO PARTS AND THEIR FUNCTIONS (ILLUSTRATED)

The official publication of the Piano Technicians Guild continues in its original 8½ × 11 format, completely reillustrated for easier reference and understanding.

INCLUDES

DIAGRAMS of the many separate parts of different types of pianos, accompanied by the English names commonly used to designate these units.

AN ALPHABETICAL list of these names, together with the assigned numbers by which the corresponding parts in the drawings may be located.

A GLOSSARY *consisting of:*

1. Names of various parts of a piano not readily open to visual representation;
2. Names and descriptions of various mechanical functions of concern to both piano technicians and performers;
3. A list and definitions of many musical terms that are found in vocabularies of piano technicians and/or musicians at large; terms which often need clarification.

PIANO PARTS AND THEIR FUNCTIONS, The Piano Technicians Guild, Seattle, 1981

Please send me _____ copy(ies) of **PIANO PARTS AND THEIR FUNCTIONS**

My check in the amount of $ _____ is enclosed.

☐ **GUILD MEMBERS**

_____ $8.37/copy (paperback)

_____ $10.77/copy (hardcover)

☐ **NON-MEMBERS**

_____ $13.95 (paperback)

_____ $17.95 (hardcover)

Name _____

Address _____

City _____ State/ZIP _____

Kendall/Hunt Publishing Company
2460 Kerper Boulevard • Dubuque, Iowa, 52001

F80-364

VACUUM LINE

Raye McCall

Ever since this column made its debut in the *Journal*, my desire has been that it be a vehicle for communication. In order for communication to take place, there must be two parts: mine as well as yours. If this happens, then very probably the information presented herein could mean dollars in your pocket.

I know some of you are involved in players and automatic instruments a lot more than I. Also there are some very interesting and exciting things which you are doing but I cannot talk about them unless you tell me what you are doing or what it is that you need to know. Please do not be intimidated by what you think is a lack of journalistic skills. Just send me the facts or questions and I will take it from there.

Recently some requests have come for additional information in the daily service call category. The "What do you do when ..." type of question has been brought up for discussion. Let's see if some of these situations can be discussed and some answers given.

Usually, when the client calls you for service, they will make a classic statement such as "The tempo is uneven," or "The player is very hard to pump."

If you were paying attention when the second statement above was made, you just received your first bit of education about your new client — they have a foot pumper. A foot pump player with the kind of a problem which could be described by one of the above statements could either be one of the later model Aeolians or an earlier old upright player.

On the occasion of this first encounter with the client, I simply try to ascertain if they have an old player piano that is in need of restoration or one that has been working but now has developed a problem. If it is an old one in need of major work, I will guide the conversation to the point at which I can give the client the price for a complete restoration. Once the customer learns that, he or she will start gasping for air or immediately come back with more questions. If the client does the latter, then I will make an appointment and go to the home.

But this is off our subject. About all I try to find out during the telephone conversation are details pertinent to getting to their house. Most people are not familiar enough with their player to adequately describe its ills to you. When you arrive at the scene you will probably find that it is something entirely different than what you thought you heard the customer say.

Referring again to the above complaints about tempo and hard pumping, the first place to look is the air motor. The air motor is responsible for the consumption of one-third to one-half of the vacuum which is generated by the foot pump operation. Therefore, you can readily see that if it malfunctions, the "hard pumping" will occur very quickly.

All air motors have valves that must be seated and lubricated correctly. To see if the valves are seated, remove the motor from its mounting and position it between yourself and the light. Look at it so that you can see any light (should there be any) between the valves and the air motor face. If there is light visible, remove the valves, sand them very carefully, using 220 sandpaper, on a piece of plate glass or similar flat surface. When sanding, use a circular or figure-eight motion.

After sanding, they must be lubricated. The finest material we have found is a spray lubricant called McLube. It is clear, adheres to the wood well, and is very slippery. This product is one which we carry among our player supplies.

When you look along the valve surfaces and see no light, here are some other checks to make. See that all valve surfaces are well lubricated (NO GREASE). All bushed surfaces on the crankshaft must be free — almost sloppy.

Some valves have guides within which they travel. Should one of these get bent slightly the valve will bind. All movable pneumatic surfaces must have adequate clearance. Further, all pneumatic cloth must be securely and correctly glued in place— no leaks or stresses. If everything is correct and the air motor appears to be in excellent running condition, you may test it.

This is done by covering the vacuum inlet with your handkerchief and putting it to your mouth and inhaling. Watch the motor very closely to make sure it turns smoothly.

If all the tets and checks thus far are A-OK, the next place to check is the transmission. Look for anything that is binding or catching which could cause loss of power and a resultant sudden vacuum buildup.

The last place to look is the governor. About the only cause for malfunction here is if somebody played with the valving adjustments. There are two valves in the governor. One is connected to the lever marked "Tempo" and regulates the speed of the air motor during "Play." The other valve is connected to the lever marked "Play/Reroll." When this valve is opened on reroll, the speed regulatory portion of the governor is by-passed and the air motor responds directly to the pump. In case you are not sure where the governor is, simply follow the vacuum tube which connects to the motor, and the other end of it will be connected to the governor.

There is another side to the hard-pumping complaint. To some people hard-pumping means the same as fast-pumping.

"You have to pump it so fast but nothing happens."

Look for something that has suddenly opened up in the vacuum system, i.e., a hose that has come off. Every time you service the piano, you should check the function of the tracker device. To do this, cover all the note holes leaving the tracker holes exposed. Then using two fingers, alternately cover and open the tracker holes while you watch the tracker pneumatics. When a hole is exposed, do they move immediately or does the action seem a bit sluggish? If they seem to operate slower than they should, perhaps you need to do some cleaning.

The kind of a tracker which you wil find in the Aeolian players has dome-shaped brass screens which must be kept clean. They are very easy to service because they are very clearly marked. There is a cap to be removed which exposes the four screens. A word of caution: do not damage the gasket. When you put it back together, the gasket is necessary for an airtight seal.

At a later time, I will do some writing about the different kinds of tracker systems; but for now, be advised that they do need attention to be sure they are in good working order and properly adjusted. The function of the tracker is to keep the paper in correct alignment with the holes in the tracker bar during play. It does not function during reroll. When the paper is centered on the tracker bar, the double tracker pneumatics should be at center position which provides latitude of sufficient movement in either direction.

A few words of instruction with your client about proper roll care will be time well invested because it will build your esteem in their eyes. The paper on the rolls needs to be kept in correct alignment, tightly rolled and carefully rubberbanded. One of the roll ends is made to be removable. Pull it off and look at the end of the roll.

You will probably observe that the paper is uneven. To straighten the paper, it needs to be loose on the roll such as it normally is after it has been played and rerolled.

Tap the end of the roll from which you removed the spool end on a hard flat surface. As you tap it, tighten the roll. Continue doing this until the paper begins to squeak. At that point, stop, replace the spool end, put a rubber band around the roll at center (being careful not to snag and tear any of the paper), and put the roll away in its box. It has been my experience that salespeople give no instructions about roll care and keeping. The client is always grateful for anything you do which is in their best interest.

Keeping the tracker bar holes clean is very important. I always show the lady of the house an easy way to do that. Whenever she has her vacuum cleaner in use, just put on the crevice tool and run it along the row of tracker bar holes. □

Calculating Technician

Part XIV

Dave Roberts

Last month, we continued our somewhat protracted discussion of wound strings which started several months ago with formulas for tension, loudness, inharmonicity, etc., in both plain and wound unisons.

Since then, we've discussed the design of the unwound segments between the wrap ends and the bridge and agraffe terminations in order to minimize both inharmonicity and wildness in conventionally designed (swaged) wound strings. The length and extent of the swages themselves were factors in this consideration.

Of course, we also discussed the purpose of adding wrap to a string in the first place and the special benefits and problems involved in doing this on the treble bridge in the smaller grands and verticals.

We explained why it is necessary to use very lightweight wraps in making the plain-to-wound string transition on the treble bridge and suggested the possibility of using some of the five commercially available aluminum wraps, Washburn and Moen (W/M) gauges #24-#28. These give the same mass weighting as the ultrafine W/M copper gauges #35-#43, but are more rugged and possess greater holding strength.

One problem with aluminum, however, is possible long-term corrosion effects because of its contact with the steel core, although this is not necessarily a problem peculiar to aluminum. As anyone knows who has seen a plumbing joint between copper and iron fittings, dissimilar metals in contact corrode in the presence of excessive humidity or moisture.

Ordinarily, there would be no appreciable corrosion problem with either aluminum or copper on steel, as long as there is reasonable humidity control in the piano. This may not be the case in certain situations and the problem is greatly compounded if there is any salt spray in the air.

In Cleveland, where there is typically a variation in relative humidity from 35 to 60 per cent even in air-conditioned homes, I have not seen any corrosion problems with aluminum strings at least 10 to 15 years old. I mention all of this because one technician I know from Washington (state) seems convinced that aluminum wound strings corrode faster there than copper ones. Perhaps a humidity control system installed at the time of rebuilding/rescaling would help but, unless we get more input from other technicians around the country, the use of aluminum wound strings may remain controversial.

Last month, a list was given of the copper, iron and aluminum wrap gauges which are available today from American and Canadian stringmakers. Rules-of-thumb as well as formulas were given to enable a technician to determine equivalent wrap gauges in all three of these wrap materials. It was shown that the determination of such alternate wraps depends not only on the "weighting constant" for each wrap material, but also on the core size used and on the distortion suffered by the different wraps as they are wound onto the core.

This month, let's discuss a few more aspects of wound strings, including what happens when a new string is pulled up to pitch, string elongation and a method of predicting how to specify the winding length on a specially designed string so the unwound segments at the agraffe and bridge terminations have pre-determined lengths **after** pulling the string up to pitch.

First, what really happens when a wound string is first pulled up to pitch? Does the winding get looser or tighter? Why is the string at first unstable in its tuning? I think we can make some headway on this subject by first noting that a string changes in at least three ways when pulled up to pitch.

First, the string obviously changes its shape at the hitchpin, tuning pin and various bearing points.

Secondly, the string stretches out (elongates).

Thirdly, the string gets smaller in diameter. We can express the *fractional* elongation of the steel core as

$$f = 0.043\,T/d^2$$

where **d** is the core diameter in mils and **T** is the tension in pounds. The *fractional* decrease in the core diameter is just **f** multiplied by "Poisson's ratio," a number approximately equal to 0.3 for steel.

For instance, consider the two example strings discussed in the July 1980 column: (1) a short upper bass string in a small grand having $T = 170$ lbs and $d = 42$ mils; (2) a long string in a concert grand having $T = 360$ lbs. and $d = 63$ mils. In the first case, $f = 0.043 \times 170 \div (42)^2 = 0.0041$. In the second case, a similar calculation gives 0.0039, about the same. The fractional decrease in diameter of the core would therefore be about $0.004 \times 0.3 = 0.0012$ in both cases.

If you will recall, the first string had a speaking length $L = 35$", so the elongation in the speaking length would just be $L \times f = 0.14$", slightly more than 1/8". In the second case, $L = 80$", so $L \times f = 0.31$", about 5/16".

Even greater is the total elongation of these strings from hitchpin to tuning pin, which is the extra length of wire which winds around the tuning pin when pulling the string up from the slack position. We can express the elongation E_G of any string segment of initial (zero tension) length **G** when pulled up to tension **T** as

$$E_G = (0.043\,T/d^2)G$$

The symbol **G** could be the entire string length or just the speaking length **L** or any other portion of the whole string. The elongation E_G will have whatever units (inches, centimeters, etc.) you use for **G**, but you must express **T** in pounds and **d** in mils, as before.

The decrease in core diameter for the two example strings above is $0.3 \times f \times d = 0.052$ mils and 0.074 mils, respectively, which is less than one ten-thousandth of an inch! This is, however, more than nothing at all, so the question arises whether the wrap therefore tends to loosen as the string is pulled up to pitch.

The answer is not obvious because several other subtle factors are also at work. One of these is that the helical wrap turns decrease in diameter, but not enough to make up for the decrease in the core, especially for the lightly wound strings. However, this problem can be remedied by twisting the string in the direction of the wrap turns just prior to installation.

In the case of the two example strings above, I calculate (formulas not given here) that it would take about 1½ turns of the lightweight bass string and about ⅓ turn of the heavy string to make up for the difference in contraction of these respective cores and wraps. These calculated numbers do not take into account that, during the winding, twisting and chipping processes, there are inelastic as well as elastic deformations taking place, but the numbers above are nevertheless roughly in accordance with actual practice.

Although the changes in dimensions discussed above are very small, all it takes is the slightest loss of contact between the wrap and core to make a wound string noisy or lose its liveliness. Another factor causing a dead string is corrosion or debris. When a wound string is pulled up to pitch, the wrap turns separate slightly. This in itself is good, because the spaces between the turns make a wound string more flexible. However, if debris and/or corrosion build up in these spaces, it can not only decrease flexibility (increasing inharmonicity) but also absorb vibratory energy. Sometimes, shaking the debris from such a string will restore some liveliness, but corrosion will likely be left behind because it is concentrated between the core and inside surfaces of the wrap turns for reasons discussed earlier.

When a new string is installed, there is a noticeable tuning instability caused by a slow process of inelastic deformation called "mechanical creep."

This process can only take place in those portions of the string where the elastic limit has been exceeded. Except for the slight curve in the original wire due to coiling it up for packaging and storage, the only regions which have exceeded this limit are near the hitch and tuning pins and various bearing and string rest points.

As a string is first pulled up to pitch, a primary deformation process occurs near these points wherein the wire rapidly undergoes a change in shape due to the tremendous leverage inherent in pulling a wire around a fixed point. Then a slower secondary creep takes place wherein these bends gradually take on sharper definition and the slight curve in the original wire straightens out. This process slows down with time as these bends approach a stable configuration, and the mechanical advantage (leverage) for further bending is thus reduced.

Instability in new strings can be minimized by initially overtensioning via several well known methods. Pulling the strings a prescribed amount above pitch and later lowering to standard pitch is by far the safest method because you can calculate exactly what tensions you have. Most piano strings are between 35 per cent and 50 per cent of their breaking tensions, except at the various bends. Pulling them up 1 semitone increases tension by only 12 per cent, i.e., to 39 to 56 per cent of breaking, which most pianos should easily be able to withstand. Some technicians use pushing, pulling, rolling and rubbing methods on one string at a time, which can easily increase string tension more than just 12 per cent if one is not careful.

Let's finish this discussion of wound strings by giving the string designer's formula for the hitch-to-start-of-winding distance L_1 and the winding length L_2 in a slack string, assuming the speaking length is **L**, the hitch-to-bridge-pin distance (speaking side!) is **M** and you want the unwound segments at the agraffe and bridge ends to be **a** and **b**, respectively, *after* pulling the string up to pitch:

$$L_1 = (M+b)/(1+f)$$

$$L_2 = (L-a-b)/(1+f)$$

The quantity **f** was defined earlier. These formulas take into account that both L_1 and L_2 will get longer as the string is pulled up to pitch. All lengths (**L**, L_1, L_2, **a** and **b**) should be expressed in the same units (inches or whatever), but **f** should be calculated as described previously.

If you are redesigning all the unisons on the bass bridge, an easier way to give the stringmaker the information he needs than measuring all those **M** values and calculating all those L_1 and L_2 values is to make a paper (rub) pattern showing the hitch and bridge pins and agraffe or capo bar line. Then calculate the L_1 and L_2 values at the beginning and end of each section (monochords, bichords, etc.) and mark these distances on the paper pattern. Draw a line connecting corresponding points at each end of each section and instruct the stringmaker that these lines represent the ends of the windings *before* the strings are pulled up to pitch.

There are several other interesting aspects of string design and behavior we could discuss here, but I think we should get back to the subject of scale evaluation and modification, so stay tuned to this column .... □

Cross Over The Bridge

All New for 1980-1981

This year the booster club has a new format.

1. **POINTS** The point system for bringing in a new member has been changed to give members a simpler, fairer system. Three points will be credited for bringing in a registered technician, apprentice or allied tradesman and one point for sponsoring a member of any other classification. In this way, the point spread recognizes the fact that all who sponsor a new member are actively supporting the Guild.

Members who achieve fifteen points will be honored in the 1981 President's Club. Those who help bring a former member back into the Guild will be honored in the 1981 Restorer's Club.

2. **PRIZES** This year as a special feature every member who brings in three members will receive a flashlight pen and every member who brings in seven new members will receive a Journal binder as a gift.

To be sure all points are properly recorded, please check all new member applications carefully.

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. The **Journal** *goes to print some weeks ahead of mailing.*

5. The first figure after each name represents the number of points earned. The second figure shows the number of new members brought into the Guild for the year 1980-81.

President's Club

DRAINE, Robert ..... 24 ... 8

Booster Club

AFFLECK, Don ..... 1 ... 1
ANDERSON, Albert ..... 6 ... 2
BITTINGER, Dick ..... 4 ... 2
BROOKSHIRE, Jerry ..... 1 ... 1
BROWNFIELD, Gary ..... 3 ... 1
CALLAHAN, James ..... 1 ... 1
CLEVENGER, Wayne ..... 3 ... 1
DeARMOND, C. E. ..... 6 ... 2
ERDMAN, James ..... 1 ... 1
EVANS, Dan ..... 3 ... 1
FINGER, Chris ..... 3 ... 1
FLEGLE, Sr., Richard ..... 1 ... 1
FROST, Jack ..... 6 ... 2
GARLICK, William ..... 3 ... 1
GILLER, Evan ..... 4 ... 2
HANSON, Frank ..... 9 ... 3
HARMON, Clayton ..... 3 ... 1
HEDRICK, Ralph ..... 4 ... 2
HERBERT, Curtis ..... 2 ... 2
KIMBELL, Michael ..... 1 ... 1
KINGSBURY, Richard ..... 3 ... 1
McGUIRE, Michael ..... 3 ... 1
ODENHEIMER, Fred ..... 3 ... 1
OSBORNE, James ..... 3 ... 1
PETERSON, Gerald ..... 3 ... 1
PREUITT, Ernest ..... 3 ... 1
REITER, Michael ..... 1 ... 1
REQUE, Styrke ..... 1 ... 1
RUSSELL, Bob ..... 4 ... 4
SAAH, Joseph ..... 3 ... 1
SKOLNIK, David ..... 3 ... 1
SVEC, John ..... 1 ... 1
THILE, Scott ..... 1 ... 1
WAGNER, Lloyd ..... 3 ... 1

New Members

REGISTERED TECHNICIANS

Edmonton, AB, Canada Chapter
DUNDASS, JIM F.
59 Starling Drive
Sherwood Park, AB T8A 0A6

WIENS, RICK P.
5511 35th Ave.
Edmonton, AB T6L 2C7

Hutchinson, KS Chapter
FREEMAN, JIMMIE L.
1827 Barham Blvd.
Dodge City, KS 67801

Minnesota-North Iowa Chapter
NUTCHINGS, STEVE W.
502 Main
La Crosse, WI 54601

Wichita, KS Chapter
SCHMIDT, MARK E.
728 May
Salinas, KS 67401

APPRENTICE

San Francisco, CA Chapter
JOHNSON, CHRISTOPHER R.
1660 Sunnyvale Ave.
Walnut Creek, CA 94596

ASSOCIATES

Central Florida Chapter
PREDOVIC, MILTON J.
1343 N. Aia
Apt. 5B
Satellite Beach, FL 32937

Montreal, P.Q. Canada
ESMONDE-WHITE, OLIVER L.
1219 Woodside Drive
Dollard Des Ormeaux, PQ H9B 1R1

South Central Pennsylvania Chapter
WILLIAMS, MARK L.
106 Allegany Avenue
Coudersport, PA 16915

Texarkana Chapter
YOUNG, LONNIE R.
1503 East 43rd
Texarkana, AR 75502

STUDENTS

San Francisco, CA Chapter
HAYES, Dennis A.
1434 Jones #3
San Francisco, CA 94109

HEYMAN, IDA J.
32 Hopkins Court
Berkeley, CA 94906

San Diego, CA Chapter
GABER, DANIEL H.
5077 Rockford Drive
San Diego, CA 92115

Santa Clara Valley
MENDEL, MARK J.
734 San Rafael
Sunny Vale, CA 94046

AFFILIATES

MEMBERS-AT-LARGE

CARRIZO, JORGE A.
APDO 2111
Panama 9A, R. of Panama

CAUGHT, ANTHONY G.
12 Yarramie Ave.
Banksa Park, So. Australia

PEARCE, GEORGE H.
4 Greenhill Road
Leicester, England LE2 3DJ

Reclassifications

Registered Technician
MICKEL, Christi S.

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 **which may be obtained from the Home Office.**

October 5-7, 1980
FLORIDA STATE CONVENTION
Jacksonville, Florida
Contact: Barney J. Johns
3546 Oleander St.
Jacksonville, FL 32205

October 11-12, 1980
OHIO STATE CONFERENCE
Cincinnati, Ohio
Contact: Willard Sims
c/o Baldwin Piano & Organ
1801 Gilbert Avenue
Cincinnati, OH 45202

October 16-18, 1980
NEW YORK STATE CONVENTION
North Syracuse, New York
Contact: Arthur W. Smith
13 Homeland Road
North Syracuse, NY 13212
(315) 458-6143

Oct. 16-19, 1980
New York State Convention
of Piano Technicians Guild
Contact: William Moonan
811 Amherst Drive
Rome, NY 13440

October 17-18, 1980
TEXAS STATE SEMINAR
Dallas, Texas
Contact: Martin Wisenbaker
808 Cordell
Houston, TX 77009

October 17-19, 1980
TEXAS STATE CONVENTION
Dallas, Texas
Contact: Martin Wisenbaker
808 Cordell
Houston, TX 77009

October 18, 1980
SALT LAKE CITY SEMINAR
Downtown Holiday Inn
Salt Lake City, UT

Nov. 7-9, 1980
CENTRAL WEST
REGIONAL CONVENTION
Wichita, KS
Wichita Chapter
Contact: Wayne Clevenger
518 W. 47th St. South
Wichita, Kansas 67217
(316) 524-3511

Jan. 16-17, 1981
ARIZONA STATE CONVENTION
Tucson, Arizona
Contact: Glenn J. Persons
42 E. Wetmore Road
Tucson, Arizona 85705
(602) 887-8569

Creative Tuning

Carl Wicksell

Having just returned from the Piano Technicians Guild National Convention in Philadelphia, where I was one of the private tutors, I feel inspired to make a few comments about the tremendous progress the Guild has made in recent years.

In reflecting back to the first convention where I did private tutoring (Portland, 1972), I recall what a terribly disappointing experience it was for me.

Some of those I tutored were wearing craftsman badges, and I felt they weren't qualified for an apprentice rating. I was convinced that many others really weren't interested in learning to become good tuners, but simply wanted to improve themselves enough so that they could go out and make a few extra bucks.

This year — what a contrast! One of them was good enough to probably qualify as an examiner for our new testing procedure, and yet he was seeking more help — mostly evaluation. Most of them were relatively young in age and were obviously dedicated to making this a profession. They were aware that they had some problems, because they were loaded with questions.

The new Sanderson/Coleman test, which is now officially the testing procedure for the Guild, is going to reveal many of these problems before they become entrenched, because in addition to being a very precise and accurate method for measuring the tuning which can't be questioned, it also provides an evaluation for the student that lets him know exactly where his problems are.

Just to set the record straight, I should point out that I am strictly an aural tuner, but I own a Sight-O-Tuner primarily to explore that mystical and unique property of a piano called inharmonicity. I also use it to evaluate my students' progress in somewhat the same way that the test uses it.

A word about inharmonicity. To many beginner students, inharmonicity is a dirty word because they realize that it's the cause of their problems. Wouldn't it be great if you could sit down at a piano with a visual tuner, and tune each note precisely to the theoretical value it is supposed to be in Hertz, and then know that you have a good tuning? Of course, you know you can't do that. Every single piano has to be tuned slightly differently according to its particular inharmonicity pattern.

I call my particular approach to tuning "Creative Tuning" to dramatize the fact that because of inharmonicity, we must *create* a pattern for tuning each piano that is peculiar to that particular instrument. Don't forget that this unique quality of a piano is what makes it the incomparable instrument that it is.

Dr. Earle Kent has said: "Inharmonicity in a piano is like seasoning in food — if you don't have any it's quite tasteless; if you have too much it's very disagreeable; but the right amount is beautiful."

What is the number one problem of most beginner students, and many experienced tuners? Tuning instability. Unfortunately, most of the time, they don't know they have the disease.

You might have been tuning for years and never had an occasion to work on a real fine piano. Then the opportunity arises and you are going to get to tune it once a week! Every time you go back to tune the piano, you find it's gone out quite badly. You're used to that because all pianos go out of tune, but then you begin to wonder if it should go out that much, that soon. You begin to be suspicious, you ask a tuner friend, and hopefully, you find out finally that you aren't tuning solidly.

Incidentally, tuning instability is dramatized beautifully in the new test. The problem is caused, of course, by leaving a string with unequal tension in the various segments of the string. If you can develop a technique to equalize the tension in each segment of the string, there's no way in the world you, or any musician, can knock it out. I developed a device called a Tensionometer to illustrate this technique to my students. It's described in detail in the September 1976 *Journal*.

Now, what is the second most serious problem that beginning

tuners have? Not learning to "walk backward" in the temperament.

Maybe you are quite new at this and you have practiced and learned very well what you consider to be a good temperament. The way you tune is to start out with step 1, then step 2, then step 3, etc., until you finally end up with an octave that is supposed to be in tune.

But the octave isn't quite right and, when you check, you find out that the thirds and sixths aren't progressing smoothly like they are supposed to. So, you know something is wrong. Okay, what do you do about it? You go back to step 1 and go thru the whole sequence again, hoping it will turn out better this time. But, it isn't much better! Well, maybe, after about 1½ hours of this, you might hit on a combination that is acceptable to you. That's certainly doing it the hard way.

What do I mean by "walking backward?" We need to develop the ability to start at the end and go back, or maybe the middle and work both ways, in order to find out what the trouble is more quickly rather than by "hit or miss." Also, we need to use tests that are tied to notes that we are reasonably sure are correct, rather than notes where there could be an accumulated error.

I like to compare setting a temperament to playing chess. One of the first things you learn in playing chess is that you do not move a piece without carefully anticipating what effect that move is going to have on other pieces, and also, what effect it's going to have on future plays. Whether you are playing chess or playing temperament, this is something you must learn to do if you want to be good at it, and when you do learn to do it, it makes both games much more exciting and rewarding.

Reader Feedback

Dear Mr. Santy:

I'm afraid Mr. P. K. Glumac missed the point of my July 1980 column "In the Field" ("Reader Feedback," September 1980). His interpretation of the article raises the question of promoting a lack of integrity.

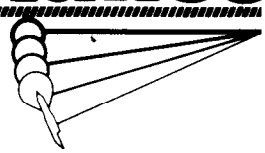
This was certainly not my intent.

The story of the dog and the white carpet was an attempt on my part at "gallows humor" — "The operation was a success but the patient died!" This was meant for piano technicians who would understand it, I hoped, and not to be read by the general public. Clearly, I do not advocate the dog and carpet story as a solution to a problem.

The story served as a lead-in to the key repair I devised to repair an example of my own klutz. I wonder if Mr. Glumac has any idea of the time, effort and agony that went into that repair? For me, a touch of sardonic humor forestalls the desire to weep over idiotic mistakes. I'm sorry Mr. Glumac didn't read it that way.

His letter did serve as an excellent platform for a discussion of ethics and integrity and on these points I agree wholeheartedly.

Ben McKlveen
Cincinnati, Ohio



VON DER WERKSTATT

Priscilla and Joel Rappaport

FROM THE WOOD PILE TO THE CONCERT HALL

Steinway Day! This was the day for which the 200 piano builders attending the European Piano Makers Convention held in Bad Bramstedt, Germany, last May had been waiting. This day included an extensive visit to Steinway's Hamburg factory, a sightseeing tour of the city and an afternoon concert presented by the winner of a local piano competition.

A fleet of buses whisked us from our hotel to the factory where we organized into smaller groups. Each group was guided through the production by a member of the factory management who described the procedures in each department and graciously answered our questions. The tour was most interesting and all of us were very impressed.

The tour started outside in the huge woodsheds where the wood is cut into planks and stored in what looked like an exploded view of a log. We progressed to the mill and then into the factory where all the parts are transformed into pianos, passing through all the different departments.

We were given a little bit of background which put this well-known company in perspective in relation to world history. Almost everyone knows Steinway & Sons is an American company with a branch factory in Germany, not the other way around. But H. E. Steinweg built his first instrument in the kitchen of his home in Germany in 1836. He built 482 more instruments before emigrating to the United States in 1850. One of those instruments is in Steinway Hall in New York City.

After moving to the U.S.A. and changing the spelling of his name, Steinway and his sons established their company in 1853. By 1909, operations were underway not only in New York, but back in Europe in Hamburg, Berlin and London. William R. Steinway was named general director of these European branches, but had to leave in 1939 as World War II broke out.

As the U.S.A. entered the war in 1941, the Hamburg plant was declared "property of the enemy" and put under German direction. Steinway pianos could be bought only with written permission of the German government in the time around 1942.

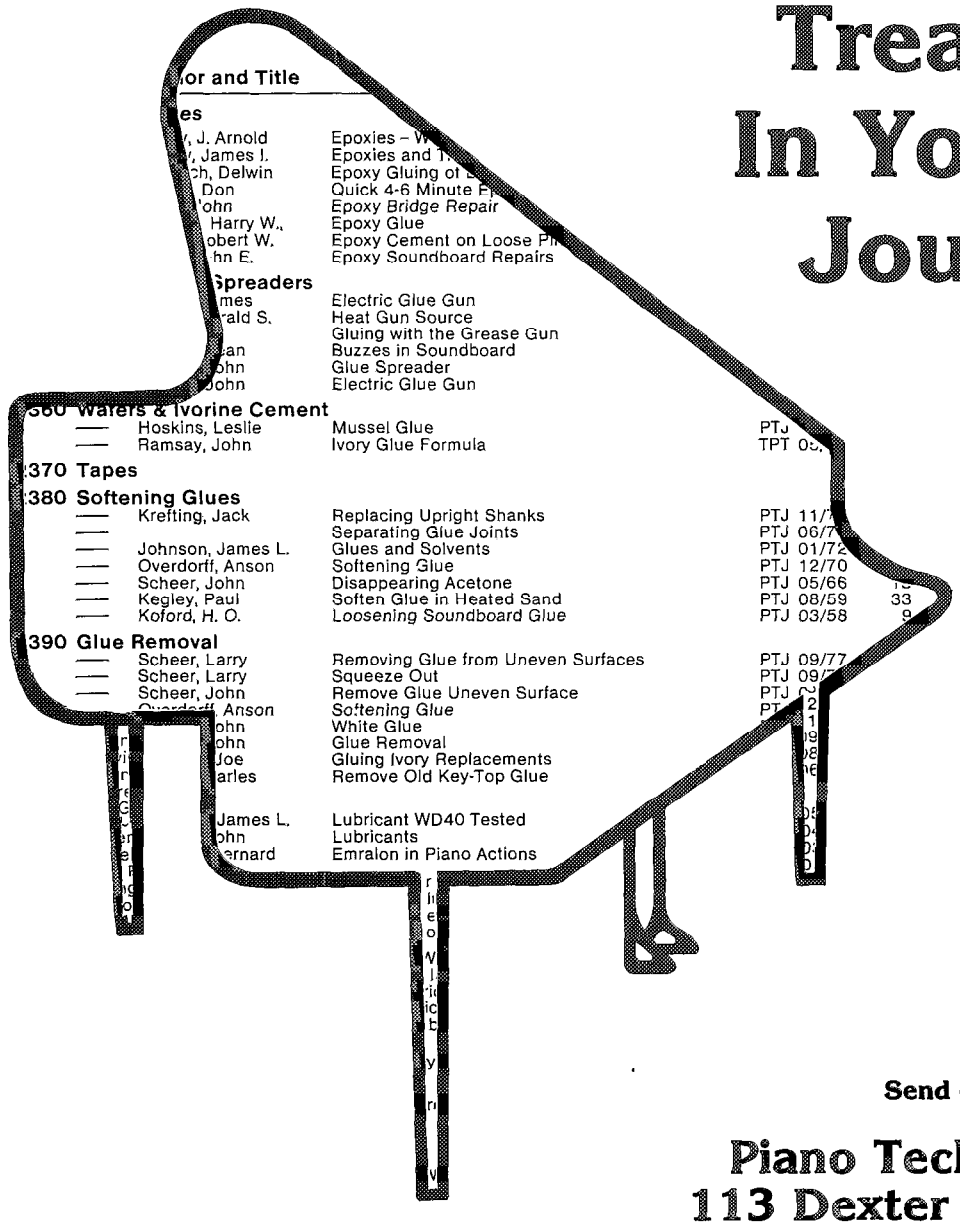
All during the war, wood from the company yards was appropriated for building bomb shelters, airplane parts and other war material. The two buildings out of which the company was operating were hit by bombs. Production had to be halted in 1944 because of the damage. When the British took Hamburg in 1945, Steinway-Hamburg was put under their direction. It wasn't until 1948 that production started up again. Including this interruption, the Hamburg plant has been in existence 100 years as of 1980 and they are still making pianos essentially in the time-honored tradition but using help from some modern machines and developments.

Wood for manufacturing pianos comes from all over the world. The U.S.A. contributes importantly by providing much of the maple and whitewood to the manufacturing process. There are various other softwoods and hardwoods and veneers. When trees are felled, care must be taken that the logs do not dry out unevenly or too quickly. The ends of the logs are very sensitive to splitting since moisture is lost faster at the end of the log than in the middle. We saw the ends of logs painted with a moisture-proof substance. Cracks that had started were held in check by hammering huge "staples" into the end of the log.

In the mill the logs are sawn into thick planks for drying. They are then stacked properly with spacers and are dried in sheds or out in the open air for several years. When wood reaches the desired moisture content and is ready for manufacture, it is then cut for the production.

In another area long strips of 3mm-thick hard maple are laminated together in big presses forming the correct shape and curves of the treble bridges. Bass bridges are made near by. After the bridge body is cut to height, the cap, also of hardwood, is glued. Around the corner, massive pieces of maple are cut and glued to form the legs. The legs are then cut to shape and assembled with their tops. Lumber for keybeds and all other case parts are cut and planed to size by massive saws and planers. There are bins and racks full of smaller parts and rods for action rails which are all ready for assembly. Each piece has its special place in the production.

NOW! A Map to the Treasures In Your Old Journals



$25

Send check or money order to:

Piano Technicians Guild
113 Dexter Avenue North
Seattle, Washington 98109

Now, you can find the information you need — quickly and easily. It's all here in the "Classified Index to Published Piano Technology." This 293-page index can guide you to any one of the thousands of articles that have appeared over the years in the **Piano Technicians Journal** and four other publications related to piano technology.

All you have to do is look in the index under the subject heading you need. There you'll find listed all of the articles published on that subject.

You'll find out who wrote a particular article, the title of it, the issue in which it appeared, and the page number. Then, you just grab the issue you need, and the information is yours. Quick and easy.

And, the home office of the Guild can send you a reprint of any article listed in the index that you don't have. So, how can you afford to be without it? Order your index today.

We visited the basement where hundreds of outer rims are stored in a controlled environment to season. The rims are stored six to nine months according to model. There may be as many as 800 rims stacked here at one time. It is important to let the glued and laminated wood cure or dry out evenly before the instrument progresses through the production. Everywhere you looked there were rims stacked on top of one another.

The next stop was the metal shop where the cast iron plates are prepared. Roughness in the casting is ground away. Particular attention is paid to smoothing and shaping the Capo d'Astro. Since the plates come to the factory only half finished, holes must be drilled for the tuning pins and hitch pins. Agraffes get a tapped hole since they are screwed in by hand and carefully adjusted so that they will be perpendicular to the string.

A new development lately has been the Steinway logo which is cast into the plate. Before, New York had its unique logo and Hamburg used a slightly different one. Now, all the plates have a very clean looking casting which lists the company name and the locations of both factories. According to Herr Maczejewski, director of the Hamburg Steinway operations, this new logo is now common to plates cast on both sides of the Atlantic.

Much space was devoted to grand action assembly. Dowels are inserted into the tubular rails, and the rails are drilled automatically by machine. Different models may have a slightly different number of hammers in each section, making it necessary to run a series or a group of rails for a certain model. After the rails are drilled, they are soldered into the brackets at the correct height and width. If this is not done accurately, the entire regulation of the action is directly affected. What a mess that can be!

Keyboards come from another manufacturer, but are far from finished. Capstans are installed, the frame is cut to size and cleaned up, and the keys are eased and checked for defects. The sides of the keyframe are built up to proper height to fit the stack.

In the action preparation department, the hammers are drilled and glued on the shanks at the correct length which is 130mm for Steinway grands. However, some actions will deviate from this measurement somewhat. We observed a man glueing hammers for a Model A; we noticed one of the guide hammers slightly shorter than others. This created a slight curve to the hammer line, which in many pianos of various makes, is not all that uncommon.

When we asked the worker about it, he replied that if the hammer line of a series proved itself to be not straight, he received a note from the foreman of the action department instructing him to adjust certain guide hammers and glue the set accordingly. This is necessary in a production sequence such as Steinway uses where the hammers are glued onto the shanks without reference to the piano. Much trust is placed in the workers who make the case, glue in the board, set the bridges and position the plate.

Herr Goedeke, the factory's production manager, explained to us later down in the action department that if a standard hammer line does not fit the piano, certain hammers or even whole sections will be removed and reglued.

Most of the action assembly is done in an enormous room, full of pianos in the middle and workbenches along the wall. There are plenty of windows allowing natural light to be used for regulation of actions and dampers. Dampers do not come out of a box all finished and ready to install. We saw the damper heads with single, double and trichord wedges glued on in the preparation department. Wires were then hammered into holes drilled in the side of the head. As the damper action (underlever assembly) was built, the spacing for the lever flanges closely matched the spacing of the back of the keys and was also compatible with the damper guide rail holes.

In damper installation, care is taken to be sure that the felt seats properly on the string front-back and left-right. Workers pointed out that damper heads should be in a straight line from bass to treble. The height of the damper lever is determined in the following manner: When a key is depressed and the hammer is half way to the string, the end key felt should engage the damper lever. Workers set up a few correct levers in each section and adjust the rest of the dampers to rise at the same time. In addition, all dampers must rise simultaneously when the damper lift pedal is depressed.

In a jump in the production sequence, we went to the next floor of the building to see the stringing department. Steinway has joined most of the other German manufacturers by installing a stringing machine for plain wires. The business end of this machine is poised over a tuning pin into which the correct size wire has been inserted. When a foot pedal is depressed, the pin is spun around three times to make the correct number of coils and, at the same time, push the pin down to a predetermined height above the plate. Bass strings are installed in the normal manner — by hand — since they must be twisted as they are put on.

An older man in the department who has done stringing for many years pointed out that even after the machine was done, coils had to be raised and beckets squeezed. He maintained that considering all that work, he could string a whole piano and complete the finishing touches in less time than it took to do it with the machine. Considering the animation with which he described his job, we had no doubt that indeed he could.

The visit to the final regulation department was also interesting. Here both the action regulation and the damper regulation are thoroughly done again. Hammers are carefully spaced, burned and traveled. Keys are leaded so that they "weigh off" at the correct touch weight specified. Let off, drop, dip and aftertouch are carefully controlled, so that the action is as accurate as possible.

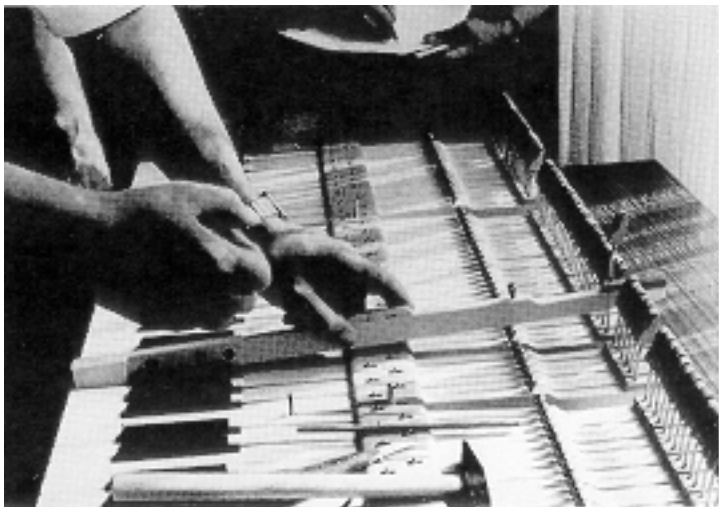
The action stack is removed from the frame and put back many times in this department. Steinway

Red beech lumber stored outside for drying. Spacers between the planks allow for air to circulate helping the wood to dry as evenly as possible.

technicians choose to keep the same screws going into the same holes, so they simply leave the screws in the metal brackets of the action stack as they take it away to work on the keys, for instance. When they put the stack back on the frame, the screws automatically return to the same holes.

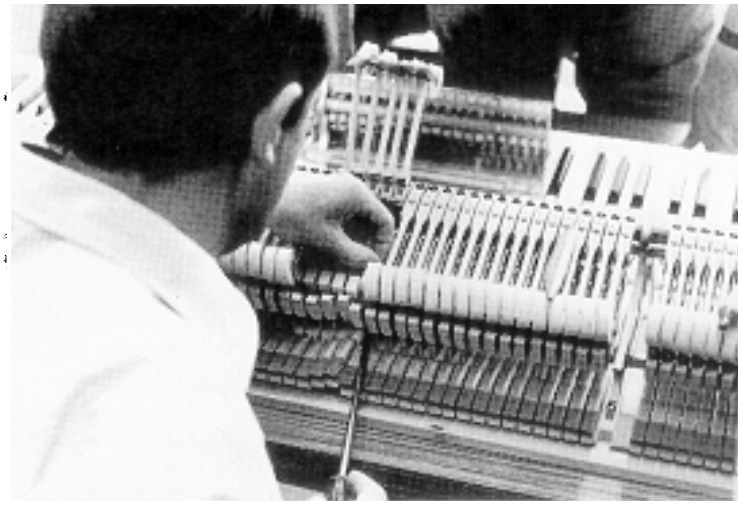
One of the most important departments in the production is the voicing department. Here the piano gets another fine tuning, hammers are filed, pre-voiced and final voiced. We had the chance to sneak into one of the voicing rooms and chat with a voicer. He told us that special attention is given to the kind of voicing desired. For example, a piano for the home is voiced differently than a piano for the concert hall. The voicer has the opportunity here to work with the instrument as long as he needs to achieve his goal, and they have a pretty good idea by the size of the instrument where it will be going.

On another floor, we had the opportunity to visit the finishing rooms where polyester is sprayed onto the cases, lids and other small parts. Polyester has two

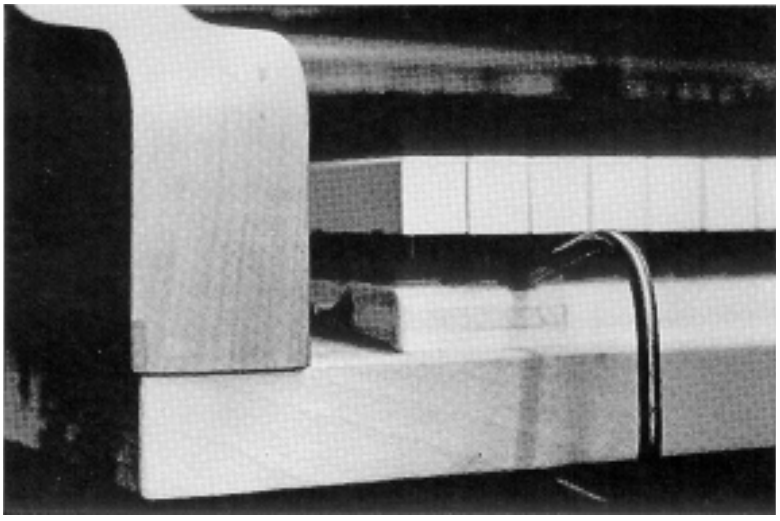


The balance rail hole in the bottom of the key should be adjusted so that the key **slides** down the pin. If the key **falls** down the pin, the hole is too big.

The wood inside the key around the hole is compressed slightly with a special tool, making the hole slightly smaller.

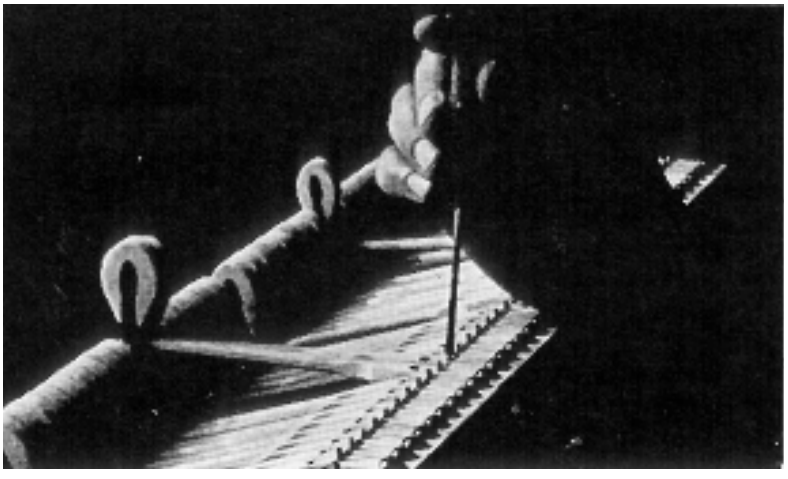


Using a mirror to monitor the spacing of the whippens over the capstans. The whippens are centered under the knuckles of the hammer shanks.



A clamp used to hold the ends of the action frame down while doing various steps of regulation in the piano.

Regulating key depth using the dip block. The depth of the key is adjusted by adding or removing front rail punchings. Class participation was an important part of the class. Factory specifications for grands up through Model B call for 9.5mm; Models C and D use 10mm.



Adjusting drop. This is done out of the piano. By slowly depressing the key, the hammer reaches its highest point: let off at 1 mm below the string in the treble. The drop screw is adjusted so that the hammer drops 2mm from the point of let off.

components: the polyester and a hardener. A certain amount was premixed and then used immediately. It is allowed to dry and harden. Later it will be sanded and then buffed to a high gloss shiny finish.

During the rest of the week-long convention, classes were held, four of which were directly related to Steinway service. We had the chance to observe, discuss and participate in the regulation of grands with two of Steinway's action regulators. We would like to share these highlights with you and will illustrate some of the procedures used in grand action regulation. Emphasis here was given to the fine points of good grand action regulation: the "feel" of the action, the correct amount of after touch, spring tension in whippens, height and position of the jack in the repetition lever. Accurate spacing and alignment were also stressed. Methods and procedures used in adjusting back checks and correct checking were demonstrated as well as how to refine techniques of burning, spacing and traveling of hammer shanks. When traveling Steinway shanks, paper is glued along the complete profile part of the flange; otherwise spacing of the hammer is affected.

The Steinway factory in Hamburg generously provided instruments for the regulating sessions. The first basic regulation of the action is divided into two parts: Regulation I and Regulation II. Expert regulators Herr Wolff and Herr Fingel went through the complete procedure as used in the factory and patiently explained details of each step as well as answering all the questions thrown at them.

Regulation I is directed towards getting the basics of the regulation in the ball park. The procedure shown us included spacing of hammers, blow distance, rough let off, drop, alignment, leveling, dip and back check installation. It was interesting to note that during the entire procedure for Regulation I the glide buttons are *up* and not touching the key bed. The frame is bedded front and back and held by two special clamps

along the front during leveling but the balance rail is free.

The Regulation II procedure refines Regulation I and includes a step for adjusting the glide buttons. With the action all assembled, the buttons are lowered to contact the key bed. If you can lightly lift up on the top of the glide button shaft with your hand and make the frame "knock," the glide button is correctly adjusted. Naturally, all the buttons should be consistent with one another and have similar contact tension between glide button and key bed.

Much attention was also given to damper work. Factory workers must have good eyes and good hands. The judgement, solely by eye, of good spacing and parallel lines created by dampers is extremely important. Sensitivity in the finger tips to judge the freedom or friction of the damper wire in the guide rail bushing is also necessary. The worker's eyes must be able to scan the entire underlever assembly quickly to detect the timing of the levers as they rise when the pedal is depressed.

In a good clean damper job all the levers will rise together, spacing of the dampers must be even and parallel with each other, wires must be free in the bushed guide rail and must not twist or shift when the pedal is depressed. The front and back of the damper head must rise at the same time. This ensures good and efficient damping of the vibrating string.

Within the past year or so, Steinway in Hamburg has changed the design of their sostenuto system. The sostenuto rod formerly attached to the action is now mounted into the case in front of the damper assembly. This change has worked very well and makes sostenuto adjustments less time consuming, say the damper regulators.

Another class dealt with Steinway voicing procedures. A finished voicing requires six prerequisites at Steinway:

1) a first class regulation
2) a solid tuning
3) exact damping
4) even strings within each unison

Regulating angle of backchecks so that the hammer tails catch correctly.

Backcheck regulation. Backchecks should be directly behind hammer tails, evenly spaced and straight up and down.

The backcheck should catch the hammer so that the hammer is 15mm from the string.

5) the hammer must strike all strings in each unison evenly, and
6) a solid contact between strings and bridge.

Voicing is done in three stages by three different people in three different rooms. This procedure minimizes prejudices from people or room acoustics. Two methods of filing were demonstrated:

1) gang filing in the extreme treble section with a wide piece of sandpaper, and

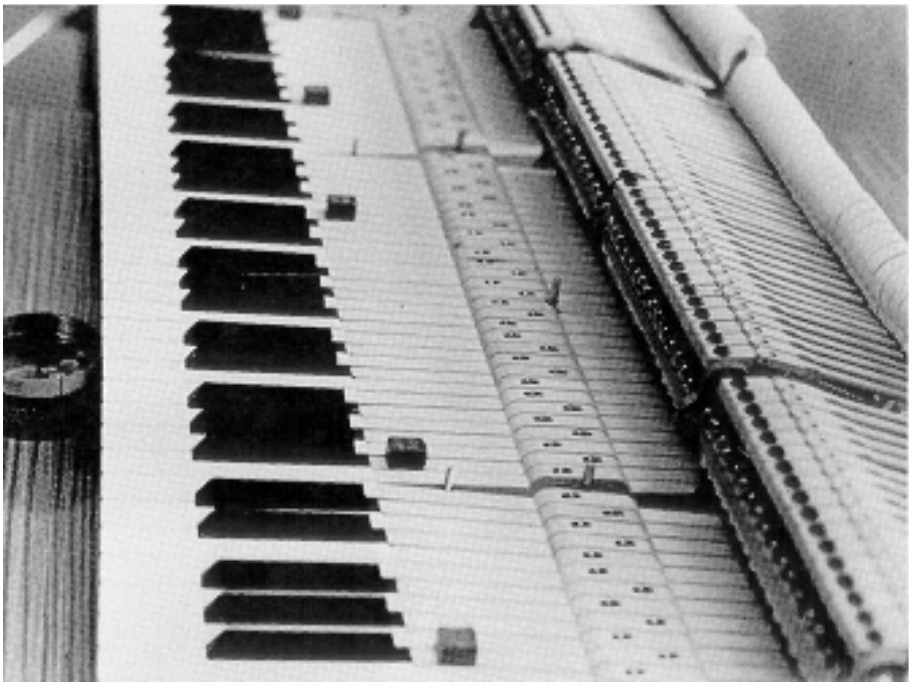
2) combined shoe-shining technique and filing hammers individually, such as is used in the middle and lower sections. Hammers are then lightly ironed by a heating rod with a flattened piece of brass attached to smooth the sides, making a smoother surface.

Voicer Frank Buarque from Steinway showed us his procedure for the first voicing. Preliminary steps included marking exactly where the keyframe placement is on the keybed, confirming this by testing the hammer placement in the treble and getting to know the instrument by playing with hard blows. Very loud notes are indicated by a chalk mark on the key, in front of the key button. All of this is done before a voicing needle is brought out. This first voicing step involves needling about 1 cm into the shoulders of the hammer to give the hammer elasticity. How many times the hammer is stuck is a matter of judgement left to the voicer. The top of the hammer is never touched at this stage and the last three octaves will not be included in needling at this time. Where needling is done, the front and the back shoulders are stuck equally.

Later voicing involves much closer listening and evening out into a line of sound from bottom to top. All hammers are voiced if needed, and the voicing is checked with the shift pedal. Needles are stuck closer and closer to the strike surface but not so deeply.

Two more classes dealt with Steinway service out in the field: Master Piano Builders Lothar Thomma and Emil Olbricht gave classes on "Steinway Regulation on a Repair Job" and "Special Tuning Problems on Steinways," respectively.

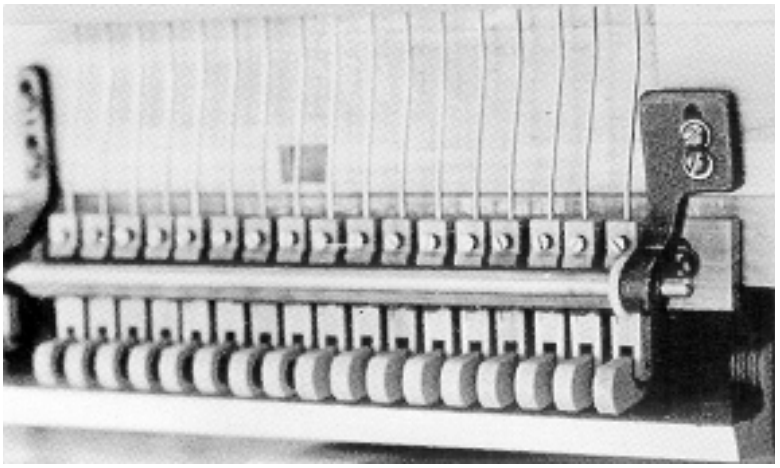
Spring tension adjustments. Spring tension should be adjusted so that the hammer rises at the correct speed when the depressed key is released slowly. If the spring tension is too strong, the hammer will jump up which is noticeable to the player.



The keyboard is weighted at 47 grams downweight for all grand models through some B's. In order to get efficient repetition of the action, an upweight of 20 grams is necessary. For other Model B's, Model C's and D's, the following weighting is used:

Keys	Grams
1-13	52
14-25	50
26-49	49
50-61	48
62-88	47

This picture shows the different weights at their appropriate starting places.



New Steinway sostenuto system. The sostenuto rod is built into the case in front of the damper action.

A concert grand was taken out of the production for use in the voicing class. Although the action was ready for voicing, the instrument had not yet gone through the finishing department. Class size was limited to 30 people, making it possible for everybody to see demonstrations and take part if they desired.

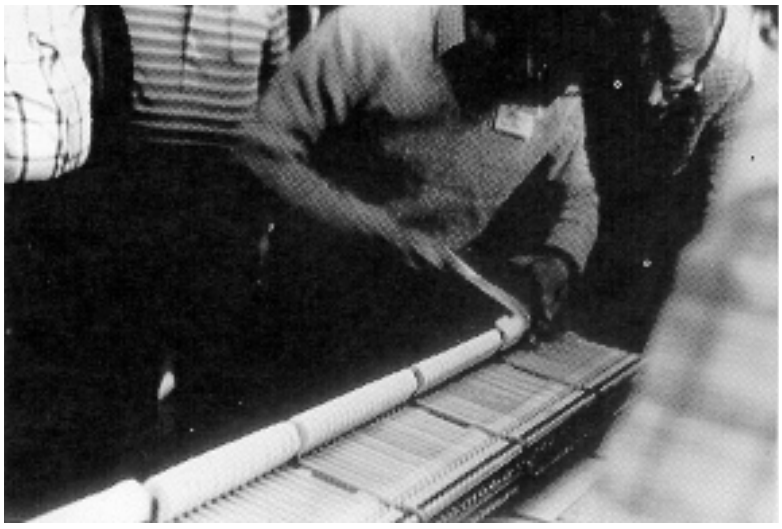
Older whippens positioned the jack front-back by letting the jack rest against a small piece of felt. When that felt is worn out, the jack must be repositioned by replacement of that felt. Better still, if the cost can be justified, replace the whippens with a new set so that the jack is fully adjustable, Thomma said.

When overhauling older Steinway actions, care must be taken to check the distance from shank flange pin to whippen flange pin. Thomma told us that in the 1930's Steinway changed the positions of the tubes in the action. It may be necessary to move all the whippen flanges back slightly if the whippens are replaced. He suggested two methods for this: heat up the solder holding the whippen flanges, twist the tube backwards and solder it tight again. Of course, this *lowers* the tube, lowers the whippens and *raises* the hammers and shanks. Therefore, the action brackets must be shimmed up to lower the hammers again.

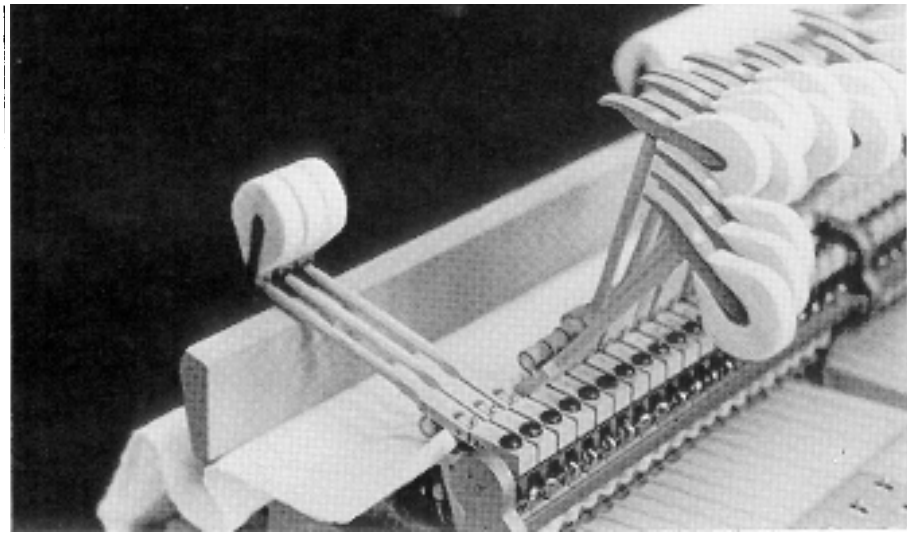
This may be too complicated and dangerous if you start changing primary action parts such as the tubes, he warned. So it is also possible to set the whippens back by placing veneer strips between the flange and the tube, doing a whole section at a time. After an adjustment like this, the whippen spacing, under knuckle placement, over capstan placement and jack position must be checked again.

Another tip was to regulate the spring tension *after* let off, drop, dip, blow distance and backcheck adjustments are made because the parts are then in a particular position and will give a true picture of the strength of the spring.

Olbricht's class used a new Steinway Model V Upright. One major difference Steinway pianos present is the lack of plate bushings. This does not actually affect torque directly, but there is a tendency for the pin to bend more without moving in the block without the support of a plate bushing. Because of this, more attention should be given to tuning hammer placement. Olbricht recommends placing the hammer only between the 10 o'clock and 1 o'clock posi-



Gang filing of hammers in the treble section.



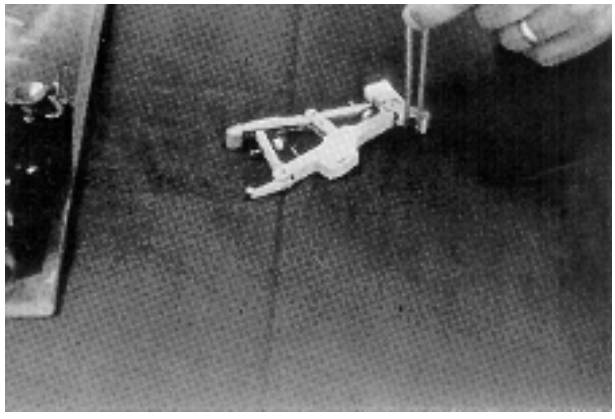
Wooden hammer rest. When the hammers are filed, the shanks are supported. This wooden rest is custom shaped so that it fits down into the action between backchecks and whippens.

Filing in the middle section: these hammers are done individually.

The hammers are lightly ironed by a heating rod with a flat brass paddle on the end.

Herr Baurque shows us that only below this point on the shoulder of the hammer should deep needling take place.

Voicing procedures. Participants in the class look on.



Two strips of veneer 1 mm thick are added between rail and whippen flange. This will move the whippen 1 mm away from the player, thereby placing the jack 1 mm more under the hammer shank knuckle.

Herr Thomma explains to a technician from Norway the effects of moving the whippens 1 mm toward the back of the action. Action relationships and the feel of the action are directly affected.

tions while tuning uprights. Similarly, grands should be tuned with the hammer as close to the 12 o'clock position as possible.

In any upright where the bass strings tend to sound as other notes are played, even with the dampers resting on the strings, Olbricht showed us that a rolled up magazine by the bass strings (in back of the hammers) eliminates the ringing strings so that tuning can progress without that interference. It was not clear whether this trick would work even if the magazine were not printed in German.

We also talked about pitch level. The general agreement was that, for pianos designed at A=440, that is where they should be tuned. For requests above that (by symphonies or conductors, for instance), a double or triple tuning fee should be charged since extra tunings would be needed to stabilize the instrument back to the correct level later. To show the absurdity of this type of request, one of our Danish colleagues related being asked to tune up to A=443½!

Foreign visitors to our Guild conventions have been impressed with the variety of classes and knowledge shown by our technicians. How could this European convention be different from ours? Next month, we will describe a class on bass string spinning where there were two machines on which we had a chance to try out what was taught. And there was an upright action class where we put together an action from a kit. The kit was produced by apprentices from blueprints as a learning project. □

THE AUXILIARY EXCHANGE

Luellyn Preuitt

Greetings from President Jewell — "I have just returned from another spectacular convention, held in the 'City of Brotherly Love,' Philadelphia. The 23rd Council elected me to serve again as president of the Piano Technicians Guild Auxiliary for 1980-1981. I thank you. Our two outgoing officers, second vice-president Kathryn Snyder and treasurer Dessie Cheatham, have served faithfully and well. We welcome two very fine persons to fill these offices, second vice-president Shirley Truax and treasurer Belva Flegle. Both are outstanding people and I'm sure you will find them excellent officers. It was an honor to serve you as president this past year and I shall try to uphold your trust during the coming year. Jewell."

Again, our efficient and prompt recording secretary, Bert Sierota, has given us a summary of auxiliary business activities during the convention.

"Open Assembly — July 15, 1980 — Jefferson Room — Benjamin Franklin Hotel.

"Open assembly commenced activities at 9:15 a.m. President Jewell welcomed all attending and introduced Walt Sierota, local host chairman. Walt greeted all and assured them of his endeavors to make their stay a pleasant one.

"Shirlie Felton presented President Jewell with a model sailing ship named 'Welcome.' President Jewell thanked Shirlie and explained that Welcome was William Penn's ship and the first to sail into the port of Philadelphia. She intends to sail the Welcome around the Horn to San Francisco, site of the next Guild convention.

"The Board members as well as the parliamentarian, historian and 'Auxiliary Exchange' editor were introduced. Shirlie Felton asked all past presidents attending to rise. President Jewell read a list of honorary life members and introduced Kathry Snyder who presented a beautiful memorial for those no longer with us. Board members read their activity reports.

"Shirlie Felton introduced auxiliary members from the Pennsylvania area and thanked them for their support and cooperation. The Philadelphia Chapter could never have planned the Auxiliary activities without them (Reading/Lancaster, Central Pennsylvania and Pittsburgh chapters).

"Bert Sierota called for a roll call by states. Seventy-five answered roll call from 22 states, the District of Columbia and Canada.

"Julie Berry explained membership policy and asked all new members to come forward and introduce themselves. She also announced that two new chapters would be receiving their charters at the President's Tea. President Jewell explained the program and answered questions.

"President Jewell asked Ruth Pollard to come forward. Ruth presented to the auxiliary old history books from the original auxiliary to be preserved and on view for all to see. President Jewell reminded all of the Auxiliary Exchange forum at 1:30 p.m. Immediate Past President Helen Pearson led the group in the B.B.A. song. President Jewell thanked all for attending, and adjourned the meeting.

"**Member-at-Large Meeting,** July 15, 1980.

"Meeting called to order at 10:50 a.m. in the Jefferson Room. Twelve members answered roll call — Arlene Paetow, Donna Fornwalt, Agnes Huether, Valerie Kerber, Dottie Bunch, Louise Strong, Nancy Foster, Jean Huffman, Joannie Morris, Minnie Slocum,

1980/81 Auxiliary Board

Officers

JEWELL (Mrs. Jack) SPRINKLE, *President*
6033 North 19th Road
Arlington, Virginia 22205

JULIE (Mrs. Ronald) BERRY, *1st Vice President*
6520 Parker Lane
Indianapolis, Indiana 46220

SHIRLEY (Mrs. Richard) TRUAX, *2nd Vice President*
628 Florida Avenue
York, Pennsylvania 17402

BERT (Mrs. Walt) SIEROTA, *Recording Secretary*
5201 Whitaker Avenue
Philadelphia, Pennsylvania 19124

AGNES (Mrs. Charles) HUETHER, *Corresponding Secretary*
34 Jacklin Court
Clifton, New Jersey 07012

BELVA (Mrs. Richard) FLEGLE, *Treasurer*
1920 South 1st Street #904
Minneapolis, Minnesota 55454

GINGER (Mrs. James) BRYANT, *Parliamentarian & History*
1012 Dunbarton Circle
Sacramento, California 95825

Editor, Auxiliary Exchange

LUELLYN PREUITT
4022 South Fuller
Independence, Missouri 64052

Ginger Bryant and Beverly Thomas. President Jewell explained that delegates and alternates were to be chosen to represent each area at Council from the group assembled. Delegates/Alternates chosen to attend Council were: NE region-Arlene Paetow, del., Donna Fornwalt, alt.; SE region-Louise Strong, del., Valerie Kerber, alt.; CE region-Jean Huffman, del., Joannie Morris, alt.; CW region-Minnie Slocum, del.,; West region-Ginger Bryant, del., Beverly Thomas, alt.

"**Executive Council Meeting** — July 16, 1980.

"Meeting called to order by President Jewell with Bert Sierota recording. President Jewell appointed Kathryn Snyder pro tem in the absence of Dessie Cheatham. Twenty voting delegates and 11 non-voting alternates responded to roll call thus establishing a quorum. Five observers were also present.

"President Jewell appointed Lu Preuitt as social reporter, Ruby Stiefel as installation officer, Ginger Bryant as parliamentarian. Minutes of the 1979 Council meeting were read and approved. Kathryn Snyder gave the treasurer's report. Officer expense reports were presented.

"Julie Berry presented a report on the Norman Rockwell print 'The Piano Tuner.' It was suggested we display print at the Flea Market. After discussion it was decided that the auxiliary man a booth at the Flea Market and sell the prints, cook books, idea books and auxiliary pins. Ginger Bryant volunteered to man the booth.

"Helen Pearson read a letter from Ethel Novinsky, treasurer of the Wichita Chapter, requesting that Dessie Cheatham be made an Honorary Life Member. Council agreed to that request.

"The secretary read our proposed budget and it was adopted by Council. President Jewell explained the change of fiscal year. It was moved and seconded that our fiscal year now be from January 1 through December 31. It was also decided that there be no half-year dues charges from now on.

"Agnes Huether, nominating committee chairman, read the slate of officers for 1980-1981. There being no nominations from the floor, Kathryn Snyder moved we accept the slate as presented. The Board for 1980-81 is: Jewell Sprinkle, president; Julie Berry, first vice-president; Shirley Truax, second vice-president; Bert Sierota, recording secretary; Agnes Huether, corresponding secretary; Belva Flegle, treasurer. President Jewell explained that because of high postage the first vice-president will now be responsible for mailing by-laws instead of parliamentarian. President Jewell suggested a by-laws revision committee be formed to correct present by-laws book. President Jewell appointed Esther Stegeman as chairman with Arlene Paetow and Ruth Pollard members.

"Lu Preuitt brought before Council the results of the Auxiliary Exchange forum chaired by Julie Berry. The consensus of opinion as to placement of the Auxiliary Exchange column are as follows: 1. Column is to remain in the main body of the *Journal*; 2. Update pages be used for specific data of importance to take advantage of 30-day deadline.

"President Jewell requested nominations for nominating committee for 1980-1981. The nominating committee is as follows: Julie Berry, chairman, with Helen Desens and Mabel Hiatt members. President Jewell thanked all for their support and cooperation."

* * * * * * * * * * *

"The Piano Tuner," a print by Norman Rockwell, is available to you in a special printing for the auxiliary. Produced in 1947 by Norman Rockwell for the *Saturday Evening Post* cover, it depicts a gentleman tuning a grand piano with one of Rockwell's red-headed boys looking on. While you may have seen this picture in a book or on a jigsaw puzzle, until now it has not been available as a print. Last summer the auxiliary convinced the Norman Rockwell Museum to print some tear sheets for us of this great print. You can order them from the auxiliary c/o Julie Berry, 6520 Parker Lane, Indianapolis, IN 46220. Please include a check for $3.50 per print (that includes postage and handling). They are 8" by 10" and make great gifts. You probably should order several since they are not readily available and once we run out we may not be able to get any more.

* * * * * * * * * * *

The Los Angeles chapter of the auxiliary has included in its yearly report such activities as Christmas baskets for members of two convalescent homes; cloth, silk roses made by members for their own use; a plant exchange, and preparation of refreshments for the men following each monthly meeting. While doing all this, they enjoyed "good fellowship."

* * * * * * * * * * *

Bert Sierota, following the auxiliary luncheon during which we received such interesting and beautiful gifts, sends along this information: "The Kimball Company contributed some beautiful hand crafted cutting boards for door prizes, and Roger Weisensteiner informed me they are available to any one interested in purchasing one. Interested parties can obtain a price list and some color leaflets by contacting Kimball International, Inc., att'n.: Mr. J. A. Loftus, 1549 Royal St., Jasper, Indiana 47546. Did you happen to see one? They are really beautiful and would make great Christmas gifts."

* * * * * * * * * * *

As you saw in summary of minutes, this writer was asked to be social reporter for the convention. Of course, just being in Philadelphia, "where it all began," was a thrilling experience for many of us. Especially to be acknowledged are the walking tours organized and led so capably by Shirley Truax. How many of you took advantage of the opportunity to "print your own money" at the United States mint? Of course, you went to see the Liberty Bell!

The evening walking tour and light show of historical Independence Square were enjoyed by many of us. All these, and many more such activities, were serendipity to the social functions of the auxiliary held in the Benjamin

Franklin Hotel. From the opening session on the evening of July 14, followed by that wonderfully jammed, noisy tour of the exhibit area, we were swept along in a swirl of activities planned for our enjoyment. Anyone who attempted to keep up with everything going on found it to be an impossible task. Many times people were found in the Auxiliary Hospitality room "just resting up," and enjoying looking at the new auxiliary banner which will be embroidered in the shape of the auxiliary pin.

One of our special activities, this year for the second time, was the talent show. Each performer had a unique talent to contribute. We thank Helena Momas for her "My Tribute," and the auxiliary song trio, Ruth Juhn, Jean Huffman, amd Ginny Russell, for their bringing us their version of the B.B.A. song (composed, made three-part, and accompanied by Helen Pearson). Ruth then contributed her talent as a soloist. Marge and Ken Williams took us on a trip down Chestnut Lane, with Ken assuming several different personalities in the process. Lu Preuitt contributed some early American songs, and was joined by Virginia Seller for a duet of "Amazing Grace." For our grand finale we sang it again, joined by cast and audience. Ginny Russell was our capable organizer for this event.

The President's Tea which followed allowed each past president to preside over her own tea table. During the tea we were happy to honor Dessie Cheatham with life membership in the auxiliary.

The luncheon and installation service for officers for the year 1980-1981 was a very enjoyable one. Treasurer Belva Flegle has kindly furnished your writer with a copy of the installation service for inclusion here. Ruby Stiefel of the Pittsburgh chapter is the author and was the presiding installation officer.

"From long ago, women as well as men, have played a significant role in the history of Philadelphia and this nation. Had it not been for women who stood behind their husbands, this nation would not be what it is today. Women such as Martha Washington, Dolly Madison and Betsy Ross, just to name a few. We can look back with pride on their accomplishments. Philadelphia was once the seat of our government. It is fitting that we should meet in this city to pay tribute to them and gain inspiration for our lives from them. Like them, we support our spouses, Guild and nation in their activities.

"Long before most of our ancestors came to America, William Penn came to these shores to help pave the way for liberty and freedom. There were others who followed him such as Thomas Paine, Thomas Jefferson, George Washington, John Adams, Nathan Hale, Patrick Henry, and of course, Benjamin Franklin.

"In the late 1800s the nation of the Statute of Liberty, standing in the harbor of New York with hand extended and lighted torch, welcomed oppressed people to this nation. Like these, the PTG Auxiliary extends hands in welcome greetings to each other. We in turn can welcome the new and continuing officers in the service of the auxiliary of the Piano Technicians Guild. An installation is neither a beginning nor an end for any organization. Each installation marks another step in the continued progress of the group.

"In our installation, we will use the colors of the rainbow and corresponding jewels to give our welcome to our continuing and new officers.

To our treasurer: **Belva Flegle**, we wil assign the "C" in Welcome. She must be conscientious. The "C" is green, for she must have faith and provide growth for our auxiliary. Her gem is the emerald, standing for "success." Belva must take care of the money and pay the bills and keep accurate account of her financial activities.

"The corresponding secretary: **Agnes Huether**, has the "W" for willingness and red for vigilance to the corresponding needs of the auxiliary and the garnet for constancy of purpose which reflects in her duties.

The recording secretary: **Bert Sierota**, has the "E." She must put in a great deal of effort in performing her duties, taking and keeping the minutes of the annual and special meetings, keep documents and lists, issue notices and sign chapter charters. The "E" is orange for power and loyalty. The jewel is topaz for fidelity.

"The second vice president: **Shirley Truax**, has the "L." She will be loving in assisting the first vice-president by obtaining and distributing printed auxiliary letterhead stationery for the president. The yellow is for strength and unity in binding our organization together.

"The first vice president: **Julie Berry**, has the "O" for order. The "O" is blue for truth and wisdom and the aquamarine is for courage. The first vice-president shall, if necessary, take the place of the president. She seeks out new members and chapters for the auxiliary.

"To the president: **Jewell Sprinkle**, goes the "M" for her many merits and many duties. Her "M" is purple or violet for royalty. She is the leader presiding at the meetings, co-signing checks, assigning duties and appointing those necessary to a smooth running organization. Her jewel is the amethyst for royalty, the highest in our organization.

"One letter remains: the "E" for "Everyone" of us and our enthusiastic response to the leadership of these, our officers.

"Your duties are given in more detail in the bylaws and standing rules. Will you promise to fulfill them to the best of your ability? (Each answered "I will"). "GAVEL — I now return the gavel to our president, each letter representing an attribute: G-gracious, A-amicable, V-versatile, E-enthusiastic, L-loyal in all things at all times. Congratulations to our president and officers."

Each officer was presented with a needlepoint of the word WELCOME, with her letter in her color.

* * * * * * * * * *

Next month we shall bring you personal sketches of our two newest board members, Shirley Truax and Belva Flegle. They are two very interesting ladies! □

SALES ORDER FORM

Item	Quantity Ordered	Total Price
BUSINESS AIDS		
Ballpoint Pens – gold, writes blue and red-1/$3.50-2/$6		
* **Billing Pads** – 2-part with logo imprint, 50 per pad-1/$2.50-3/$6		
Bumper Stickers – yellow/blue/white $1 each		
Coffee Mugs – white pedestal/blue logo 1/$4-2/$7.50-4/$12-6/$16.50		
Dash Cash – emergency coin dispenser, white with blue logo-$1.75 each		
Flashlight Pens – gold, comes with battery-1/$4.50-2/$8		
JOURNAL Binders – brown with gold letters-$6.50 each		
Key Ring – heavy plastic with laminated blue/gold logo-1/$1.50-3/$4-6/$7.50		
* **Logo Cut Prints**–*all styles 50¢ ea. sht.*		
* **Logo Emblem Patches** – colorful 3" sew-on patches, all are priced the same: 1/$1/75-3/$3-6/$4.50. Indicate colors: blue/white, blue/gold, black/gold		
* **Logo Metal Cuts** – reusable metal on wooden blocks – all sizes are priced the same: $15.00 each. Indicate size/type: 1¼" round, ⅝" round, ½" round, 1¼" piano or ⅞" piano		
* **Logo Rubber Stamps** – mounted on wooden handle, all sizes are priced the same: 1/$3.75-2/$6.50-3/$9.50. Indicate size/type: 1¼" round, ⅝" round, ½" round, 1¼" piano or ⅞" piano ...		
* **Logo Stickers** – peel-off backing, blue/gold/white – A and B styles. A – for inside glass B – regular 8½" logo-1/$3-2/$5-6/$10 ..... 3½" logo-1/$1.50-2/$2.50-6/$5.50 1½" logo-10¢ each (Min. order 10) (B only)	*Show A or B*	
Piano Service Appointment Forms – small, green 5-part – 50/$4.50-100/$8-500/$30		
Piano Service Contract – letter-sized, 3-part 20¢ each		
Piano Service Sales Agreement – letter-sized, 2-part 10¢ each		
* **Pocket Protectors** – white vinyl with blue logo-3/$1.25-6/$2		
* **Service Stickers** – red and blue with logo. Plain-100/$4-200/$6-500/$12 Imprinted with your name/address-$45/1000		
Teacher Recital Program Covers – 100 for $5 (special price)		

Item	Quantity Ordered	Total Price
JEWELRY		
* **Membership Pin** – lapel-type, gold with blue and white logo-1/$3-3/$6-12/$18		
* **Tie Clasp** – bar type, gold with blue and white logo-1/$3-3/$6-12/$18		
* **Tie Tack** – gold with blue and white logo-1/$3-3/$6-12/$18		
PUBLICATIONS and MISCELLANEOUS		
Chapter Publicity Manual – $5 each		
Pamphlets – 10¢ ea.-100/$8-500/$35		
A-440 and Your Piano		
Baldwin Postcard		
Care of Your Piano		
"How Often SHould My Piano Be Tuned?"		
Piano Pointers		
Reminder Cards		
"Should I Have My Piano Tuned in the Summer?"		
The Tuner To Turn To		
The Unseen Artist		
Piano Action Handbook – by Merle Mason-$2.50 ea.		
Piano Parts and Their Functions – by Merle Mason Members-$14 hardcover, $10 softcover Nonmembers-$18 hardcover, $14 softcover		
* **What is a Registered Piano Technician?** – card with Code of Ethics – 7¢ ea.		
All items below are available free from the Home Office.		
Lending Library List		
Magic Kingdom Club Application ...		
Members Benefit List		
Reader's Digest Reprint: "The Other Masters of the Keyboard"-limit 10 per order		
Serviceability Improvement Suggestions Form		
"Thank You for Your Membership Inquiry"		
The Piano Technicians Guild - "The Facts"		

* **For use by Registered Technicians only**

SUBTOTAL

ADD SHIPPING AND HANDLING

If order totals:	Below $5.00	$5 to $9.99	$10 to $14.99	$15 to $24.99	$25 or More
Add:	$1.00	$1.50	$2.00	$2.50	$3.50

Washington State residents only add 5.3% sales tax

ORDERS UNDER $10 MUST BE PAID IN ADVANCE

Enclose check or money order for this amount **TOTAL U.S. FUNDS**

Name _____

Address _____

City/State or Province _____

Zip/Postal Code _____ Phone _____

Chapter _____ Nonmember _____

Member's Number _____

MAIL TO: PIANO TECHNICIANS GUILD
113 DEXTER AVENUE NORTH
SEATTLE, WASHINGTON 98109

PLEASE FEEL FREE TO PHOTOCOPY THIS ORDER FORM

PTG Form 7
8/1980

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.

The Journal does NOT provide blind box service. Please include a mailing address and/or telephone number with your ad.

Ads appearing in this journal are not necessarily an official endorsement of the services or products listed.

FOR SALE

ZUCKERMANN HARPSICHORD KITS — A real challenge for the interested technician. Factory direct shipment at factory prices. Troubleshooting and advice for kit builders. Authorized Agent: **Yves A. Feder R.T.T. Harpsichord Workshops, 2 North Chestnut Hill, Killingworth, CT 06417, Telephone (203) 663-1811**

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 W. Washington Blvd., Los Angeles, CA 90018. Telephone: (213) 883-9643**

KEY RECOVERING MACHINE — Build your own key recovering machine. All parts and/or completed machines now available. Send $10 pp. for accurate machine drawing instructions, photos. to: **Solenberger Piano Service, 1551 Lynn Court, Santa Rosa, CA 95405 or (707) 542-1756**

QUARTERSAWN 5-PLY Vermont rock maple pin blocks. Resorcinol glue. **Call or write: George H. Wheeler, R.T.T. 11 Cherry Hill, Springfield, Vermont 05156 (802) 885-5325**

STEINWAY UPRIGHT 1882. Good case. Action rough but repairable. $500. Two Ivers and Pond Uprights, 1880s. One Premier Grand. Good shape. Was player. $1,750. Call or write: **The Piano Shoppe, 51 N. Main St., Pittston, PA 18640, (717) 655-8473**

WANT TO DOUBLE OR TRIPLE YOUR INCOME? Placing **The Piano Owner's Guide** by Carl D. Schmeckel with customers has helped hundreds of tuner-technicians to do just that! Hardbound: $6.95; Softbound: $3.95. Wholesale discounts; terms. **Apex Piano Publishers, 2621 S. 8th St., Sheboygan, WI 53081. (414) 458-4489.**

STROBO-TUNER used three times in shop for chipping. Mint condition. $275. **Roland Grittani, Jr., 427 Waterloo St., London, Ontario, N6B 2P1, (519) 434-0027.**

TUNING BUSINESS FOR SALE: Wilmington, Delaware, area. Over 2,500 active customers, 17 years updated on file. Asking $2,500. Contact: **Ernest Thompson, 1913 B. Skyland Road, Atlanta, GA 30319, (404) 634-9301.**

THREE GRAND PIANOS: Mason-Hamlin Screw Stringer, Duo-Art Steinway, Welte-Mignon Player Grand. **Gerald Becker, N.W. 920 Charlotte, Pullman, WA 99163, (509) 332-8363.**

McMORROW A.E.A. QUARTZ AUTOMATIC PITCH ANALYZER. Mint condition. Paid $675 one year ago. Asking $500 or best offer. Write: **Bruce M. Conlye, 4316 Knott St., Beltsville, Maryland 20705, or call (301) 937-1231.**

ESTABLISHED TUNING AND REBUILDING SHOP in northern Arizona. Ideal year-round climate. Approx. 375 accounts. **The Piano Shop, 541 S. Granite, Prescott, AZ 86301.**

HELP WANTED

HELP WANTED — Artist piano-rental company seeks trainee. Work with the greatest pianos and artists in the world. An apprentice or novice technician is sought for long-term training and employment in New York City, with possible relocation to San Francisco or Los Angeles. Must be willing to embrace with equal zeal the following: tuning, rebuilding, truck driving, refinishing, piano moving, regulating, shop remodeling, voicing, road touring and sometimes long and unusual hours. Benefits: work with the world leader in concert piano preparation and provision, all types of artists, all types of music. As a reward for long-term loyalty, profit sharing or other bonus could apply. **(212) 582-6798**

FULL-TIME PIANO REBUILDER WANTED. Must be able to completely rebuild and refinish pianos. Send resume to **The Piano Loft, 45 W. 29th St., New York, NY 10001.** Include salary history.

TUNER-TECHNICIAN WANTED. Must be expert in all areas of tuning, voicing and rebuilding. Full-time. Contact: **Bernard Comsky, Artist Pianos, 5818 W. Pico Blvd., Los Angeles, CA 90019, (213) 931-1611.**

PIANO TUNER-TECHNICIAN NEEDED. Experienced. Wanted for Seattle firm in the beautiful Pacific Northwest. Send resume to **3616 N.W. 64th, Seattle, WA 98107.**

WANTED. Full-time piano tuner-technician. Old-line dealer on Florida Gulf Coast. Finest lines and reputation. Only highly qualified technicians need apply for permanent position. Send complete resume to **Reynolds Music, P.O. Box 608, Pensacola, Florida 32593, (904) 438-1628**

REPUTABLE PIANO STORE (since 1961), incl. over 100 rented pianos and stock, good income & location. Price on agreement. **K. Burger Pianos, 220 Hamilton Ave., Palo Alto, CA 94301, tel. 415/321-6166.**

WANTED

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**

WANTED TO BUY — Ampico, Duo-Art and Welte piano rolls. Any rolls other than regular 88-note rolls. Also want parts for Ampico or Duo-Art players. **Brady, 4609 Cranbrook, Indianapolis, IN 46250; (317) 259-4305. After 5 p.m. 849-1469**

PIANO TECHNICIAN seeking job opportunities; willing to relocate; registered craftsman member. Please write: **Walter F. Gramza, Jr., P.O. Box 201, East Rochester, New York 14445**

WANTED — Sight-O-Tuner. Used or New. **Vern Stromberg, (414) 871-0857. 4657 W. Medford, Milwaukee, WI 53216.**

QUALIFIED TECHNICIAN desires full or part-time position with music store, rebuilding shop or school music department. Prefer Long Beach or Southwestern Orange County. **Ronald Pridonoff, L.B. (213) 425-5572**

23rd Annual Convention and Technical Institute July 14-18, 1980

CASSETTE TAPES ORDER FORM

The following programs were recorded at the Convention on standard cassettes.

Copies are available by mail order from Cassette Recording Company.

- ☐ **Aftertouch in Grand & Vertical Pianos** LaRoy Edwards, Jack Caskey, Kenzo Utsunomiya (2 cassettes) **$11.00**
- ☐ **Tuning Techniques** Ben McKlveen **$6.50**
- ☐ **Servicing the Teflon Bushings** Fred Drasche ... **$6.50**
- ☐ **Aural and Visual Tuning** George Defebaugh, James Coleman, Sr. (2 cassettes) **$11.00**
- ☐ **Vertical Servicing & Regulation** B. Corey, B. Hill, L. Herwig, C. Anderson (4 cassettes) **$22.00**
- ☐ **Hazards of Piano Tuning** Walter Pearson..... **$6.50**
- ☐ **The Behavior of Strings** James Hayes..... **$6.50**
- ☐ **Humidity Control Insulation** Allen Foote, Wendell Eaton **$6.50**
- ☐ **The Customer and You** Dick Flegle **$6.50**
- ☐ **Servicing the Aeolian Player Piano** Robert Snyder (2 cassettes) **$11.00**
- ☐ **Grand Hammer Installation** Willis Snyder, Homer Wagman, David Snyder (2 cassettes) ... **$6.50**
- ☐ **Inharmonicity & How to Deal with It** Dr. Albert Sanderson (2 cassettes) **$11.00**
- ☐ **Harpsicord Maintenance** Kyle Greenlee **$6.50**
- ☐ **Basic Piano Refinishing** Wayne L. Clevenger (2 cassettes)..... **$11.00**
- ☐ **Servicing the Rhodes Piano** Horst Absmann.... **$6.50**
- ☐ **Lubricating - When, Where and How** John Ford..... **$6.50**
- ☐ **Grand Regulation** Roger Weinsensteiner, Eric Johnson (3 cassettes)..... **$11.00**
- ☐ **Polyester Finish & Touch Up** Lee Sankey **$6.50**
- ☐ **Piano Hammer Construction & Preparation** Bob Johansen, Ray Negron..... **$6.50**
- ☐ **Soundboard Soundings** Mathew Slaats **$6.50**
- ☐ **Toward a Better Tuning** Gary Schultz..... **$6.50**
- ☐ **Electronic Instrument Overview** Kathryn Nickerson (2 cassettes)..... **$11.00**
- ☐ **Rebushing Workshop** Evan Giller..... **$6.50**

☐ **CONVENTION SPECIAL** – Any 16 or more cassettes listed above receive a 10% DISCOUNT. This includes a FREE 16 pocket Piano Technicians Cassette Album.

YES, YOU MAY CHARGE IT:

☐ master charge ☐ VISA

MY BANK CREDIT CARD NUMBER IS:

INTERBANK NO (Master Chg. only) _____ EXP. DATE _____ Mo. Yr.

Name _____

Company _____

Street Address _____

City/State/Zip _____

Area Code/Telephone No. _____

TAX DEDUCTIBLE EDUCATIONAL PROGRAMS

Order Total _____

Mail orders add 5% postage and handling (min. $1.00) _____

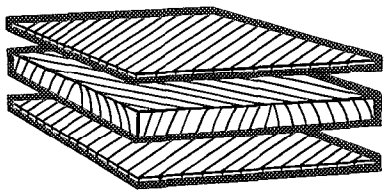
Ohio customers add 5% Sales Tax _____

Amount Due _____

Make checks payable to: Cassette Recording Company

PAYMENT MUST ACCOMPANY ORDER

Cassette Recording Company, Inc.
34 North Main Street
Suite 1444
Dayton, Ohio 45402
(513) 223-5380

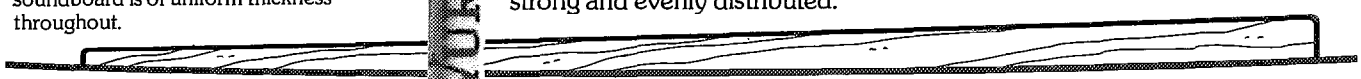


The grain of the wood in both top and bottom layers of the new soundboard runs parallel to the general direction of the treble bridge. The fine grain of the inside layer runs in the direction of the ribs.

Picture below shows relationship of crowned rib to soundboard. Putting a crown into the underside of the ribs holds a crown in the soundboard. This soundboard is of uniform thickness throughout.

Pencil point proves performance of new Wurlitzer Soundboard

Wurlitzer's new all-spruce Duraphonic Multi-radial™ Soundboard transmits string vibrations more efficiently than any other.
To prove its responsiveness, touch the point of a sharp pencil to any area of the board and strike a note as you hold the pencil gently against the surface. Test it top, bottom, sides and center. You will feel vibrations that are both strong and evenly distributed.

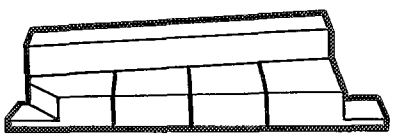


That is because Wurlitzer now uses three separate layers of mountain-grown spruce in all of its finer pianos. These layers are placed at scientific angles so they transmit string vibrations (which travel mostly with the grain) to all corners of the board. The result is more volume, richer tone, and greater dynamic range. Crowning of the soundboard is achieved by crowning both ribs and soundboard liners. The soundboard itself is of equal thickness throughout and is therefore more capable of equal response in all areas.

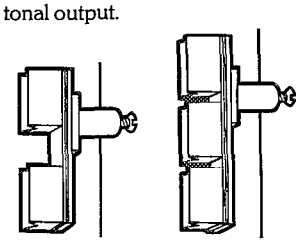
Of still greater interest to technicians, this new soundboard is more stable, with a coefficient of expansion/contraction that is 80% lower than that of solid spruce. This means truer tuning and fewer problems caused by moisture or temperature variations.

If you would like assistance from Wurlitzer technical staff, call 800/435-2930 toll-free between 8:00 AM and 4:30 PM. For parts, call Code-A-Phone 800/435-6954. In Illinois call 815/756-2771.

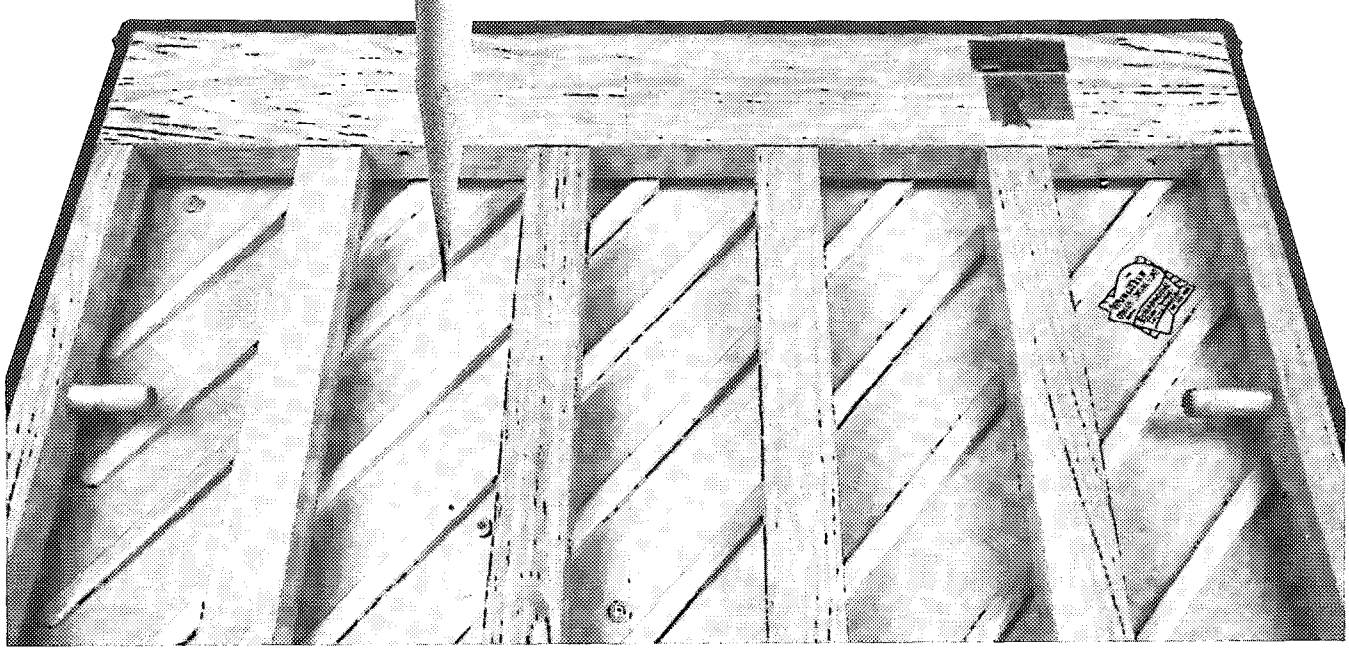
Further enhancing tone production is a new Quadrasonic™ bass bridge built in four sections. Low notes do not oscillate the whole bridge, but transmit more directly into the soundboard.



Dynamic response of the new soundboard is so much greater, Wurlitzer has increased the damper size by 30% to control the greater tonal output.



WURLITZER®
The Music People
DeKalb, Illinois 60115



PIANO TECHNICIANS GUILD
OCTOBER 1980 UPDATE

The Steve Jellen Library and Memorial Fund

Earlier this year the PTG Board of Directors established a memorial fund with all contributions to be placed in the new Steve Jellen Memorial Library.

Members are invited to contribute to this fund in the memory of a friend, a Guild member or other special person or to commemorate an event of importance.

The funds will be used to expand the Guild library and so make the contributions not only a record of remembrance but a gift of continuing value to present and future Guild members.

The first contribution was made by CWRVP Ernie Preuitt in memory of Paul Cheatham, past national officer. All contributions will be published in the *Journal* and a special Steve Jellen Memorial Library Book will also record the donations.

Chapter Dues Collection

The new form for chapters who want to request the home office to collect chapter dues was included in the September chapter mailing.

The home office will collect chapter dues only for those chapters who return the completed form. Deadline for receipt of the form is October 15 as the information has to be entered into the computer and checked before the regular annual dues billing is printed.

Special Note: The home office will date stamp the returned form and send a photocopy to the chapter officer who is named to receive the chapter dues payment. PLEASE CHECK RECEIPT OF THE PHOTOCOPY AS THIS IS THE CHAPTER'S ASSURANCE THAT CHAPTER DUES WILL BE COLLECTED.

September Chapter Mailing

The September chapter mailing contained:

1. Chapter dues collection form with attached explanation paper and addressed return envelope.
2. Examination and Service Standards Committee letter with new form for Application for Tuning Test.
3. Copies of the new yellow Sales Order forms.
4. List of member resignations.
5. List of those dropped for non-payment of dues.
6. List of those dropped for other reasons.
7. Mail to individual chapters was included to avoid a separate mailing that week.

Chapter Achievement Program

Net month, Marshall Hawkins, chairman of the Chapter Achievement Committee, will report on the winners of the 1979 and 1980 Chapter Achievement program. He will also explain the new 1981 program and the addition of special awards.

* All chapters participating in the Chapter Achievement Program are asked to keep a copy of the monthly activity report in the chapter files.

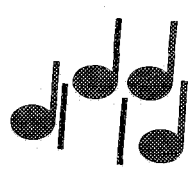
* The original is to be mailed directly to Marshall Hawkins each month. Mail to him at P.O. Box 10386, Oxon Hill, MD 20021.

International Association Of Piano Builders and Technicians

Dan Evans, PTG vice president and Kelly Ward, past PTG president have sent the $10 contribution to the IAPBT to the PTG home office. The new international association will vote on accepting individual members at the meeting to be held in Switzerland next Spring.

When the individual membership category is approved, both Dan and Kelly will be eligible for charter membership in the IAPBT which will be open only to registered technicians.

Send in your $10 contribution now if you are interested in becoming a charter member.



Dues Dues Dues

By the end of this year all members with the exception of students, will be on an annual dues billing schedule. Student dues year runs for 12 months from the date of joining the Guild and is renewed on the anniversary of the date of joining.

The annual billings for all members (except students) will be in the mail in November this year, especially early to avoid the Christmas mailing rush. The billings will be sent to all members of record as of the end of October 1980. Payment is due January 1 and all chapter dues collected by the PTG home office must be paid in full with the Guild dues payment.

The 1981 PTG dues schedule as approved by the delegates in Philadelphia council session:

Registered Technicians, Apprentices and Allied Tradesmen	$96.00
Associates and Affiliate Members	$48.00
Students ..... (billed on anniversary of joining)	$60.00
Chapter sustaining Members ..... (dues paid by the chapter)	$32.00
Chapter Dues Waiver .... (dues paid by the chapter)	$32.00

The PTG Journal on Cassette

The PTG *Journal* on cassette, read by George Defebaugh, is sent free of charge to all members who are listed as visually handicapped on the Guild records and who have requested the tapes.

Chapters are asked to check that their visually handicapped members are aware of this and encourage them to send in the request for the cassette.

Recently some packages of tapes have been returned to the home office because the labels were undecipherable. If anyone has missed an issue, please request another set of the tapes.

The July and August tapes are being reproduced and will be in the mail shortly.

News About Two Members

George Lockhart is now at Wishing Well Manor, 520 W. Main Street, Northville, Michigan 48167, and **Aubrey Willis** is recovering from heart surgery. His address is P.O. Drawer 15190, Orlando, FL 32808.

Handbook Started on New Tuning Test

The exam committee has started work on a handbook for giving the new tuning test. If you want to suggest things to be included in this instruction manual you should contact Ron Berry, committee chairman, or any member of the committee right away. Once the book is published it will be made available to Certified Tuning Examiners and others who will be helping to administer the standardized tuning test across the country. Committee members are: Ron Berry, Chairman, Indianapolis, IN; Olan Atherton, Sherman, TX; Jim Coleman, Sr., Tempe, AZ; Bob Erlandson, Omaha, NE; Ruth Ann Jordan, Silver Springs, MD; Don Morton, Northridge, CA; and Al Sanderson, Carlisle,, MA.

Correction

The photographs of the 1980 PTG convention published in last month's *Journal* were taken by John Bloch and Paul Joseph. Joseph was incorrectly credited as Paul Jordan in that issue. He is a member of the Philadelphia chapter. We regret the error.

All New A-440 Pamphlet

The A-440 pamphlet has been rewritten and redesigned. It is now printed in red and black on white crystal stock and cut to the preferred smaller size. Priced at $8 for 100, these are an excellent addition to your supply of handouts for your clients.

Back orders on file at the PTG home office will be filled at the old price.

JACK SEIDEL & COMPANY

14042 NORTHEAST 8TH STREET
BELLEVUE, WASHINGTON 98007
(206) 641-5963

THE PIANO TECHNICIANS GUILD, INC.

BALANCE SHEET — June 30, 1980

CURRENT ASSETS		
Cash on hand and in banks	$ 87,695	
Accounts Receivable	22,456	
Inventories	26,262	
Prepaid expenses	10,967	$147,380
FIXED ASSETS		
Furniture and Equipment	26,828	
Less accumulated depreciation	(15,989)	10,839
OTHER ASSETS		
Organization Costs		1,450
TOTAL ASSETS		**$159,669**
LIABILITIES AND FUND BALANCES		
CURRENT LIABILITIES		
Accounts Payable	$ 20,212	
Taxes Payable	1,591	
Contract Payable	1,567	
Deferred Compensation	6,000	
Unearned Dues	36,692	$ 66,062
LONG TERM LIABILITIES		
Deferred Compensation		38,500
TOTAL LIABILITIES		**104,562**
FUND BALANCES		
Contributed Capital	2,555	
Sustaining Fund	10,661	
Members Equity Fund	41,891	55,107
TOTAL LIABILITIES AND FUND BALANCES		**$159,669**
REVENUES		
Dues Income		$197,113
Other Income		15,446
Journal & Publications		41,911
		254,470
LESS EXPENSES		
ADMINISTRATIVE EXPENSE		
Employee Compensation	$ 52,174	
Office Administration	29,824	
Outside Services	7,451	89,449
PROGRAM EXPENSES		
Board Expenses	17,088	
National Committee Expenses	8,928	
Membership Service General	42,285	
Financial Expense	6,428	74,729
PUBLICATIONS EXPENSES		68,174
TOTAL EXPENSES		**232,352**
NET INCOME		**$ 22,118**

PTG Chapter Presidents 1980–81

5-001 Calgary, Alberta
Ray Hopland

5-002 Edmonton, Alberta
J. Aime Dery

1-010 Western Massachusetts
Allen F. Kelley

6-011 Vancouver, British Columbia
Gerald A. C. Caunter

6-012 Vancouver Island, British Columbia
John Wiley

1-021 Boston, Massachusetts
Gary D. Brownfield

1-029 Rhode Island
Alfred K. Butler

1-031 New Hampshire
William Ballard

1-040 Newfoundland, Canada
William Fanning

1-041 Maine
Joseph Meehan

1-050 Maritime Provinces, N.B.
Joseph H. Steele

1-054 Vermont
Thomas A. Roby

1-060 Montreal, P.Q.
Lloyd J. Wagner

1-062 Toronto, Ontario, Can.
Ray Anderson

1-064 Connecticut
Charles A. Nilson

1-078 New Jersey
William D. Marciano

5-091 Saskatchewan, Can.
Jake K. Neufeld

1-101 New York
Newton J. Hunt

1-111 Long Island-Nassau, NY
Gary H. Schultz

1-117 Long Island-Suffolk, NY
Roger B. Metcalf

1-118 Long Island Cristofori Br.
Richard Dante

1-122 Capitol Area, NY
Robert A. Reeves

1-131 Syracuse, NY
Albert R. Grenning

1-139 Southern Tier, NY
Wade F. Alexander

1-142 Buffalo, NY
Charles R. Erbsmehl

1-144 Rochester, NY
David J. Gaudieri

1-151 Pittsburgh, PA
Robert W. Wagner

1-165 Erie, PA
Tony Manna

1-116 Central Pennsylvania
Frederick A. Fornwalt

1-170 South Cen. Pennsylvania
W. Joseph Osborne

1-180 Lehigh Valley, PA
John J. Zeiner

1-191 Philadelphia, PA
Walter Sierota

1-195 Reading-Lancaster, PA
Wilfred F. Lain

1-198 Wilmington, DE
Wayne C. Jordan

2-201 Washington, D.C.
Ned M. Dodson

2-212 Baltimore, Md.
Arnold M. Sewell

2-217 Western Maryland, VA
John W. McClure

2-223 Northern Virginia, VA
Rodney Davidson

2-228 Blue Ridge, VA
John C. Clopton

2-231 Richmond, VA
Douglas K. Wurz

2-233 Hampton, VA
Roosevelt Porter

2-235 Norfolk, VA
James H. Graham

2-240 Roanoke, VA
Richard R. Ridenhour

4-251 West Virginia, VA
Paul Pannell

2-274 Central North Carolina, NC
David R. Duncan

2-276 Raleigh-Durham, NC
Melvin F. Frye

2-278 Pamlico, NC
Donald D. Bunch

2-292 Columbia, SC
Charles L. Lustig

2-294 Charleston, SC
Louis R. Cauette

2-296 Western N. Carolina, NC
Ambrose G. Owens

2-301 Atlanta, GA
Marion K. Robinson

2-309 Augusta, GA
Edward D. Barber Sr.

2-312 Macon, GA
William H. Krewson

2-314 Savannah, GA
Chester V. Anderson

2-319 Columbus, GA
Edward E. Cox

2-320 Daytona Beach, FL
Walter T. Pearson

2-322 Northeast Florida
Barney J. Johns

2-323 North Central Florida
Gary A. Bowser

2-324 Miracle Strip, FL
Anita M. Pizza

2-325 Northwest Florida
W. Harold Ackman

2-327 Central Florida
David L. Pennington

2-331 South Florida
Irving Freidin

2-337 Southwest Florida
Roberta D. Jacobs

2-352 Birmingham, AL
Norman E. Love

2-361 Montgomery, AL
Joseph A. Stone

2-372 Nashville, TN
John D. Fox

2-374 East Tennessee, TN
Elgin B. Bagwell

2-379 Knoxville, TN
James F. Ellis

2-381 Memphis, TN
Hugh W. Smith

2-395 Mississippi-Gulf Coast, MS
David M. Ethridge

4-401 Falls Cities, KY
Hans Ekkhart Sander

4-405 Blue Grass, KY
Keith M. Huffman

4-431 Columbus, OH
Albert E. Ensminger

4-441 Cleveland, OH
J. Albert Metz

4-445 Youngstown, OH
Clarke M. Houser

4-452 Cincinnati, OH
Robert D. Mollard

4-454 Dayton, OH
Harold T. Harris

4-461 Indianapolis, IN
Fred Rice Sr.

4-463 Northwest Indiana, IN
Allen J. Macchia

4-467 Indiana
William E. Balmer

4-474 Springs Valley, IN
Eric A. Johnson

4-481 Detroit-Windsor, MI
Calvin D. Champine

4-488 Central Michigan, MI
Dale E. Heikkinen

4-489 Lansing, MI
Thomas McNeil

4-493 Western Michigan, MI
Robert F. Lutzke

5-501 Central Iowa, IA
Gilbert T. Marten

4-532 Milwaukee, WI
Jonathan M. Moberg

4-537 Madison, WI
timothy M. Farley

4-543 North Central Wisconsin
Richard J. Hiorns

5-551 Minnesota-North Iowa, IA
W. J. Stegeman

5-553 Twin Cities, MN
Jonathan C. Nye

5-571 South Dakota, SD
Robert L. Schoppert

5-581 Minn-Kota
Douglas P. Lindemann

5-585 North Dakota, ND
Chester S. Hickle

5-594 Montana, MT
Richard A. Dightman

4-601 Chicago, IL
Dale L. Mensching

4-612 Tri-City, IA
James H. Higby

4-616 Peoria, IL
Dennis P. Cluver

4-625 Central Illinois, IL
Wallace H. Barnett

4-629 Little Egypt, IL
James H. Byassee

5-631 St. Louis, MO
William B. Reichert

5-641 Kansas City, MO
Stephen D. Berg

5-653 Ozark, M O
John C. Reid

5-671 Wichita, KS
Wayne L. Clevenger

5-675 Hutchinson, KS
Ralph S. Hedrick

5-683 Nebraska, NE
Robert W. Erlandson

3-701 New Orleans, LA
Nolan P. Zeringue

3-708 Baton Rouge, LA
James P. Varnado, Jr.

3-713 N. Central Louisiana, LA
Howard F. Jackson

3-722 Arkansas
Richard B. Poole

3-727 Northwest Arkansas, AR
Eugene B. Allen

3-731 Oklahoma, OK
James M. Marks

3-741 Tulsa, OK
Jack E. Frost

3-752 Dallas, TX
Fred T. Yonley, Jr.

3-755 Texarkana, TX
Tom A. Pollard

3-756 East Texas, TX
Walter A. Deptula

3-761 Fort Worth, TX
Cecil D. Parsons

3-763 Texoma, TX
Bruce D. Hale

3-767 Temple-Waco, TX
James H. Richards

3-771 Houston, TX
William J. Dorley

3-782 San Antonio, TX
Mark A. Hess

3-784 South Texas, TX
Albert Kline

3-787 Austin, TX
Karla Pfennig

3-791 Northwest Texas
Lawence B. Lowe

3-796 Abilene, TX

3-798 El Paso, TX
Julian Aguirre

5-801 Denver, CO
Christian Finger

5-809 Colorado Springs, CO
George W. King

5-820 Wyoming
Alan G. O'Kelly

6-830 Idaho West, ID
W. James Richardson

6-837 Idaho East, ID
Le Roy J. Andersen

6-841 Salt Lake City, UT
Ralph M. Barrus

6-846 Utah Valley, UT
Michael J. Reeves

6-851 Phoenix, AZ
Arnold D. Coleman

6-857 Tucson, AZ
Arnold D. Evans

3-871 New Mexico
Leslie R. Conover

6-891 Las Vegas, NV
Joseph Silva

6-895 Reno, NV
Bob Mc Clure

6-901 Los Angeles, CA
Richard C. Davenport

6-906 South Bay, CA
Lynwood Koford

6-917 Pomona Valley, CA
Charles Farinella

6-921 San Diego, CA
Ralph G. Tuckfield

6-926 Orange County, CA
Brian S. De Tar

6-931 Santa Barbara, CA
William J. Dye

6-936 Fresno, CA
Howard Dennis Scott

6-941 San Francisco, CA
Shawn Skylark

6-951 Santa Clara Valley, CA
Joseph S. D. Angelo

6-953 Modesto, CA
Robert E. Davis

6-955 Redwood, CA
James H. Stares

6-956 Sacramento Valley, CA
Yvonne M. Ashmore

6-968 Hawaii, HI
Richard J. Higgins

6-971 Portland, OR
Donald A. Person

6-974 Eugene, OR
Garey W. Leavens

6-975 Rogue Valley, OR
Jack A. Brown

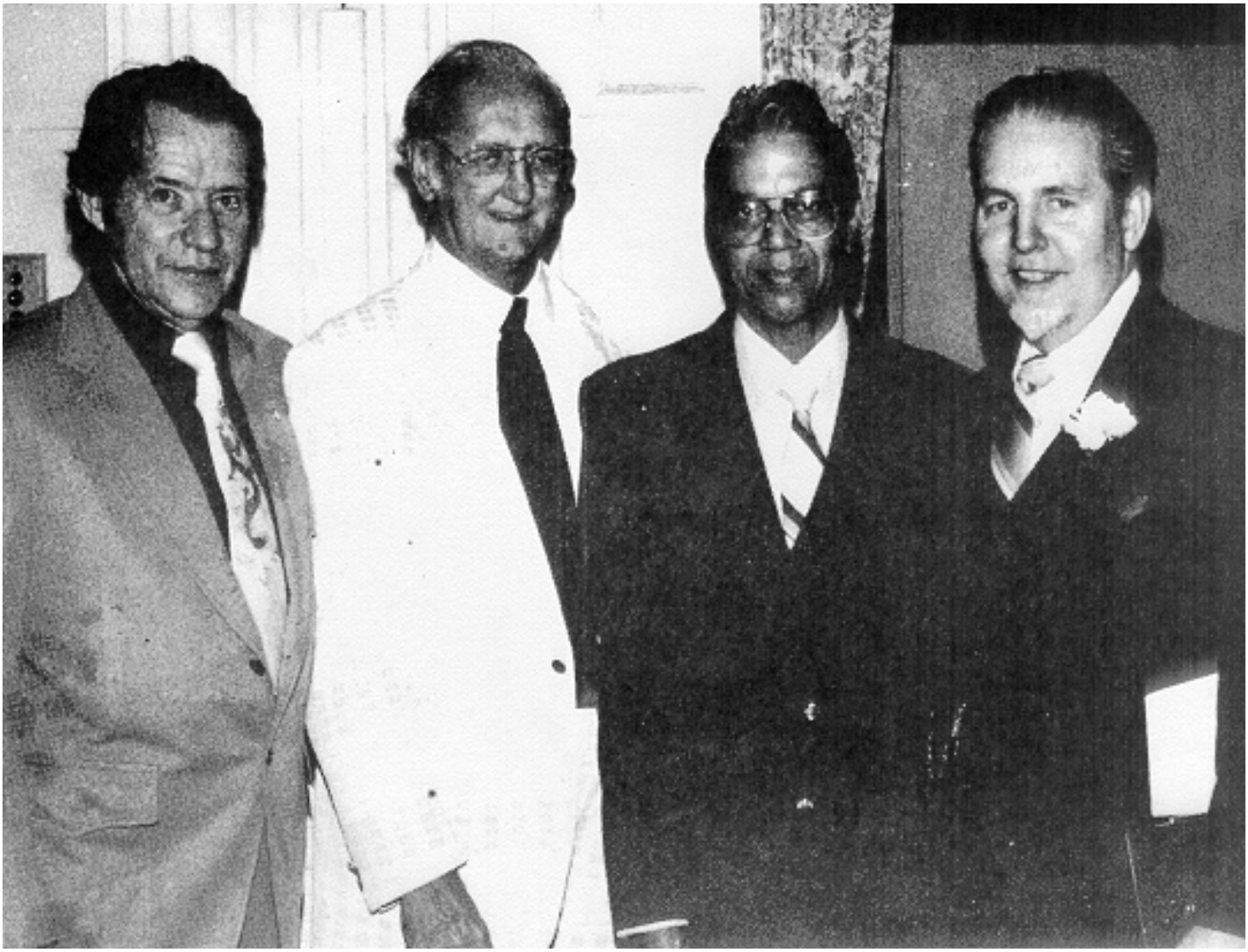
6-981 Seattle, WA
Stephen H. Brady

6-985 Puget Sound, WA
Michael D. Reiter

6-992 Eastern Washington, WA
David J. Severance

6-993 Central Washington, WA
Dennis Franz

6-996 Alaska
Albert Seitz



Ray La Motta (second from right) recently became the first person from the Virgin Islands to be accepted for membership in the Piano Technicians Guild. La Motta is shown here at the 1980 PTG convention in Philadelphia. Shown with La Motta are (left to right) Sidney O. Stone, vice president of PTG; Walter Kerber, southeast regional vice president, and Bob Russell, president of the Guild. La Motta is a resident of St. Thomas, Virgin Islands.

The Guild Library Films

Chapters are urged to send in requests for library materials anew as the backlog of orders is so great that the home office believes it would not serve the chapters if orders were filled in rotation. Some orders are more than a year old because the demand has been too great to catch up these past months.

PLEASE CONSIDER BACK ORDERS CANCELLED AND SEND IN YOUR REQUESTS FOR FALL AND WINTER LIBRARY ITEMS NOW.

BE SURE TO STATE MEETING DATE WHEN REQUESTING TAPES OR FILMS FOR A CHAPTER MEETING. The home office will let you know in advance the date you may plan on having the item so that you can publicize the program ahead of time.

Because the demand for the technical films is heavy, please return these expensive and valuable library materials promptly after the chapter meeting.

Remember: Reviews by chapter members after a film showing are extremely important. Your comments are recorded and used in considering future plans for library materials.

Stress – A Delicate Balance

Stress — an involuntary response of our minds and bodies to the demands, events and circumstances of our lives.

Stress is a condition of body alertness and not necessarily bad. It stimulates and we need a certain amount to thrive and progress. Monotony can produce some of the same symptoms as an overload of stress. It is said that "Stress is the spice of life, and the absence of stress is death." And stress can mean opportunity.

The challenge in life is not in avoiding stress, or in seeking it, but in harnessing stress to our personal advantage in our individual lives. To do this we have to know: how much is too much, how little is too little. And that is an individual condition for each of us to determine.

Actors, performers, speakers frequently experience stress before and during a performance. The accomplished ones use the stress to improve the performance. They feel 'hyped up' and in control. They have learned to harness the charge that stress brings. Most of us have heard instances of physically weak people who have transcended their ability in moments of great need. The small woman who saves a large man by dragging him from danger. The little man who lifts a car to rescue a child. They harnessed their stress and used the power productively.

Often conditions of high stress can be seen after the event as having produced fear, anger, misery, despair, jealousy, etc., and wasted hours or days of living on a matter which has proved simply not worth the overload. Friends who said "Look on the bright side," "don't worry about it," "forget it," meant well but what was needed was something else. Your own private stress control is an understanding of what is important to *you*; what upsets *you*; and what you can do to harness an overload to your advantage, or at the least, how to disperse the effects of the overload.

There are no right answers that fit everyone. Each of us must know more about ourselves if we are to manage the delicate balance of creating or controlling the right amount of stress in our lives.

What happens when stress hits? The brain sends a biochemical message to the body and stored sugars and fats pour into the bloodstream to provide quick energy fuel; breathing rate increases to meet oxygen need; heart rate and blood pressure soar; digestion is arrested; blood clotting mechanisms are activated to prepare for injury; pupils dilate and muscles are tensed for action.

We needed all that instant preparation for impending danger when humans lived in the stone age. Our brains and bodies still prepare in the same way now, even though the same dangers are no longer there. We prepare for terrible dangers when the situation is: an argument, a misunderstanding, personality differences, wanting something we may not be able to achieve, being "put down," being ignored, not being appreciated, being overworked, being a perfectionist, etc. For these situations we do need to learn how to control *ourselves* and the *effect* of the situation surrounding us.

Anything at all may prove to be the right answer! Here are some methods others have used with success. Slow, deep rhythmic breathing, stretching to loosen muscles, smiling, singing, humming, talking with a friend or loved one, physical exercise, including digging in the garden and chopping wood as well as jogging, tennis, etc. Finding a place away from people and yelling, kicking hard at a pillow placed in a corner of the room, writing a book, crying yourself to sleep, scrubbing the floor, cleaning a closet, reading, meditating, religion and faith. Promise yourself to eat right, sleep right, exercise right in future to keep yourself healthy and ready to handle stress — for it will surely come to all of us.

Missing Journal Issues

If you should not receive your regular **Journal** issues, please be sure that any change or correction of address has been reported in advance to the home office. **Journals** are mailed the month before issue to the address on record. Undelivered copies are not returned to the home office but destroyed by the post office and a fee of .25¢ each is charged for each notice of nondelivery the post office sends to the home office.

Members are asked to arrange for **Journals** to be sent on to a new address. The post office will be do this *only if* the additional mailing cost is guaranteed in writing on the change of address card. Since the Guild is no longer printing surplus copies of the **Journal** we urge everyone to make plans for continued delivery. The board of directors has adopted a new policy:

"The Home Office is to charge a postage and handling fee for mailing *duplicate* **Journal** issues to a new address." Duplicate issues can usually be mailed if the request is made promptly, within six weeks of month of issue.

Chapter Notes

The Southwest Florida Chapter recently elected Roberta Jacobs of Sarasota, Florida, as its new president. Now, the election of a new chapter president is not that out of the ordinary. What makes this election noteworthy is that Jacobs is the daughter of another PTG member, Robert Bleznicki of **the South Florida Chapter.**

The Cleveland Chapter recorded its largest attendance ever for a regular monthly chapter meeting when 55 persons showed up for its August meeting. Al Metz, editor of "Butts & Flanges," the chapter's newsletter, attributed the turnout to the presence of George Defebaugh, of Steinway & Sons. Defebaugh lectured the audience for 2½ hours on the fine points of Steinway maintenance.

The San Francisco Chapter held its September meeting at the shop of Sheldon Smith in Berkeley, California. Smith's shop, which he shares with two harpsichord Guilders, is housed in a former factory now called the Artisan's Complex. Smith presented a talk on the progress of his latest project — building a seven-foot piano. His primary focus was on building the pattern for the plate and his experience in the foundry where it was cast.

The Indianapolis Chapter began its 1980-81 meeting year with a gathering in early September at the home and shop of Barbara Martin. Over 30 persons met for the session that featured a technical discussion on string splicing and knot-tying presented by Ron Winter, the chapter's vice president.

A Special 'Thank You'

During the 1980 technical institute in Philadelphia a "special class" of complete grand rebuilding was held. Forty registrants and several instructors did something very unusual. They completely rebuilt a piano. The instrument was ready for display one day before the institute ended and the piano was sold during the closing luncheon for $2,700.

I would like to take this opportunity to express my special thanks to: Wally Brooks Jr., Scott Welton, Chris Robinson, Dave Betts and Rick Butler for instructing an excellent class, as well as Ronsen Piano Hammer Co. for a set of hammers, Frank Stopa for the replacement of a set of ivory keys and The Pratt Read Co. for the whippens, shanks and flanges used in the project.

Ernest Juhn,
Institute Director,
1980

English Uprights

... The **San Francisco Chapter** recently sent out a news release warning Bay Area residents about the hazards of "antique English pianos", often the least expensive pianos on the market. The chapter said the old English uprights, some with elaborate candelabra, often have beautiful exteriors that hide a useless instrument inside. Here's what the chapter said:

By Steve Mencher
San Francisco Chapter
Piano Technicians Guild

"Antique English Piano-studio upright. Good condition, but needs tuning. Beautiful inlaid cabinet. Call xxx-xxxx."

This ad, with minor variations, appears regularly in the classified sections of Bay Area newspapers. If you're looking for a piano this year, you might want to listen to some advice from the San Francisco Chapter of the Piano Technicians Guild (PTG) before buying an old English upright.

Many of these pianos are poorly designed and have been badly maintained. Frequently, they cannot be tuned to "concert" pitch, making them useless for ensemble playing and harmful to the ears of beginning music students.

Old English uprights often have an antiquated damper system activated by long wires in the piano's action. These can be seen when the piano's front panel is removed and their appearance gives the nickname "birdcage" to the piano and its action.

The damp English climate and a long sea voyage may leave the strings and tuning pins rusty. Usually, the pianos have been neither tuned nor cleaned for many years, and replacements for broken parts are hard or impossible to find.

Although these are often the least expensive pianos available, even with major work they may never be satisfactory instruments.

When shopping for used pianos, always consult a qualified piano technician. He or she will be able to give your prospective purchase a thorough inspection to insure that you get the best piano for your money. PTG-registered tuner-technicians must pass a qualifying test, and are trained in all aspects of piano tuning and repair. They can assure you that the used piano you buy will have a long and tuneful life.

In conclusion, although the cabinet may be beautiful and the price might seem right, that English upright is probably not a good buy if you're looking for a piano in 1980.

Another Special 'Thank You'

"Convention 1980 is now past and I am left with a collection of fond memories. Many wonderful people gave of themselves, their talents and support, to help make it a successful affair.

"I would like to express my gratitude to each of them. Special thanks to our president, Jewell, and her dedicated board who provided suggestions and guidelines. Others deserving recognition include (in alphabetical order): Betty Agnello, Celia Bittinger, Vi Chenowith, Lois Connelly, Agnes Huether, Betty Lamoreux, Bernice Lewis, Nancy Lewis, Betty McCullough, Pearl Kreitz, Connie Tilkington, Kathryn Snyder, Fran Trefz, Shirley Truax, and Barbara Zeiner.

"Special appreciation is extended to Bert Sierota, my Co-coordinator, without whose help and friendship would have made it an impossible task.

"To all of you who came from near and distant states, let us assure you that it was our pleasure to be your hosts for the 1980 Piano Technicians Guild Convention.

"CALIFORNIA, here we come. — **Shirlie Felton, Coordinator".**