Piano Technicians
Journal
September 1987

'Discovering' A Record In Toronto!

The Baldwin Piano...
You can see why it sounds better

The bridge is a critical component of the tone-producing system. It must precisely terminate the speaking length of the strings, and it must transmit vibration efficiently to the soundboard. In addition, it must be extremely strong to withstand the force of sidebearing and to resist splitting.

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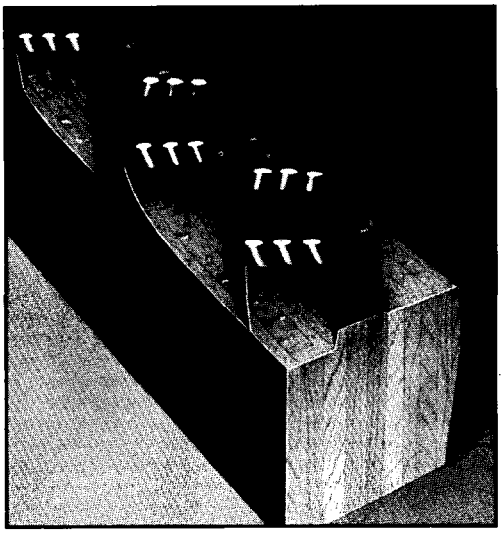
In addition, our research showed that eliminating the capping, in combination with the above changes, gave us a definite improvement in tone. We gained maximum tone quality, greater efficiency in transmission of vibration, and improved reliability. At the same time we eliminated problems previously associated with capping: (1) occasional loose capping, (2) checking and splitting of the cap, (3) grain direction which was not always parallel to the line of the bridge, and (4) the potential tone barrier of a horizontal glue joint in the bridge.



THE BALDWIN GRAND BRIDGE: Thin vertical laminations are bent for continuity of grain from one end of the bridge to the other without horizontal glue joints. Baldwin researchers have found this design contributes significantly to outstanding tone quality.

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

Baldwin. - *Leading the way through research*

JARAS

TOOLS FOR PRECISION CRAFTSMEN

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Mr. David Johnson
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Dear Dave:

In the last eight months since I have owned your JARAS tools, I have to admit that they are some of the finest tools I have used. The precision workmanship in the manufacturing of these tools goes right along with their use.

The five-in-one regulating rack is designed to take all the guess work out of grand regulating as it combines the measuring of the String Height, Damper Height, Hammer Travel, Let-Off, and Backcheck position. Each of the named items are an actual gauge in themselves. When combined with the JARAS Sharp and Key Dip Gauge, which takes care of both the leveling and the dip of the black as well as the white keys, a good regulating job can be performed by any Technician.

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The Piano Technicians Journal

September 1987

Official Publication Of The Piano Technicians Guild, Inc.

Volume 30
Number 9

IN THIS ISSUE...

PLUS...

THE COVER...

Instructor Claire Isaac teaches a hands-on class in installing hammers during the Guild's record-breaking convention in Toronto. *See page 12.*

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President's Message

M.B. Hawkins
President

There Is No Substitute For Momentum

The months leading to our most successful convention ever were filled with much activity by a large number of people. To begin with, the Institute Director, Dick Bittinger, was busy via mail and phone many, many months before the thought of attending the convention had ever come into the consciousness of most attending. The active enthusiasm of the host chapter and in particular John Lillico, the host chapter chairman, certainly assisted early on to develop momentum.

From the discussions held during the convention planning meeting with the hotel, the Auxiliary President Ginger Bryant, our able Director of Meetings Rosemary Hall, and Larry Goldsmith, our Executive Director, along with all the others involved, served significantly in the development of the momentum which helped make our 30th anniversary Convention and Institute the best-attended ever. If you noted in the last sentence, I said "helped make" because the other side of the coin reveals the part that really made it happen: namely those who attended and participated. You are the ones who put the cap on our convention with 1,161 participating. There is no substitute for momentum.

Webster defines momentum as "a strength or force that keeps growing." Each of us probably has his or her own definition for momentum. The exhilaration, the sense of purpose, as well as the sense of being on a roll certainly helps. No matter what our definition, there is no substitute for its effect on our organization.

To obtain, build, and maintain momentum, it takes motivation from within, and example from without. Now that we have this momentum, this is no time to lose it, so let me suggest one more thing that exemplifies momentum and can really benefit us a great deal in the future.

Momentum is promoting what you are aiming for, and not what you might settle for. This being the case, let's not settle for 1,161 being the largest number ever to attend a convention.

We have built the momentum with motivation from within but in order to maintain this momentum, it is absolutely vital that our membership increase our internal motivation. During our opening ceremony in Toronto, the question "What is PTG?" was briefly addressed. Viewed from just about any vantage point, one would have to conclude that the members make PTG the organization it is today. That statement being in place, let us not settle for any less in St. Louis at the 1988 annual convention than we had in Toronto.

This month finds the convention planning committee in St. Louis to begin setting the stage for the 1988 Convention/ Institute. Our aim is to do more than merely maintain the momentum developed this year. Our aim is to increase our attendance to 1,188 in '88

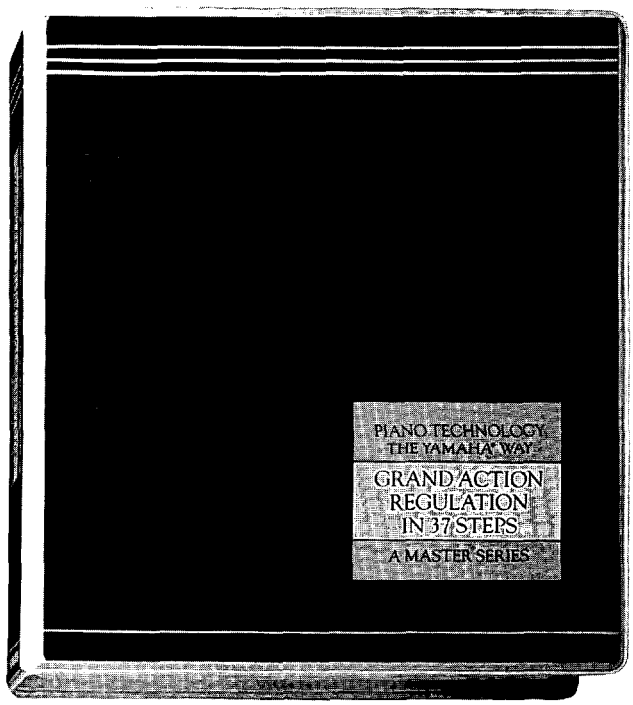
To do this we need you the membership to begin planning now also. We need you to make a commitment now to be among the 1,188 who will be in St. Louis in '88.

We have very strong examples of very strong momentum from without. The manufacturers and other exhibitors have shown their support of our efforts to continue the upgrading of the piano service field by their very generous contributions of personnel, time, pianos and talent to this end.

There is no substitute for momentum. Now that we have it, let's keep it.■

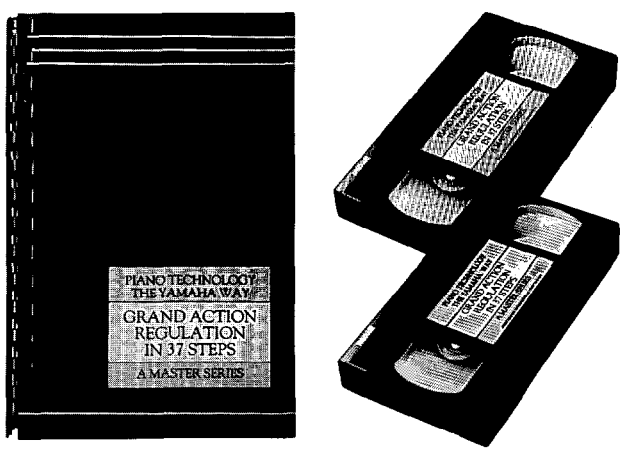
PIANO TECHNOLOGY THE YAMAHA® WAY

Yamaha is pleased to introduce this *Master Series* of instructional programs to the field of piano technology.

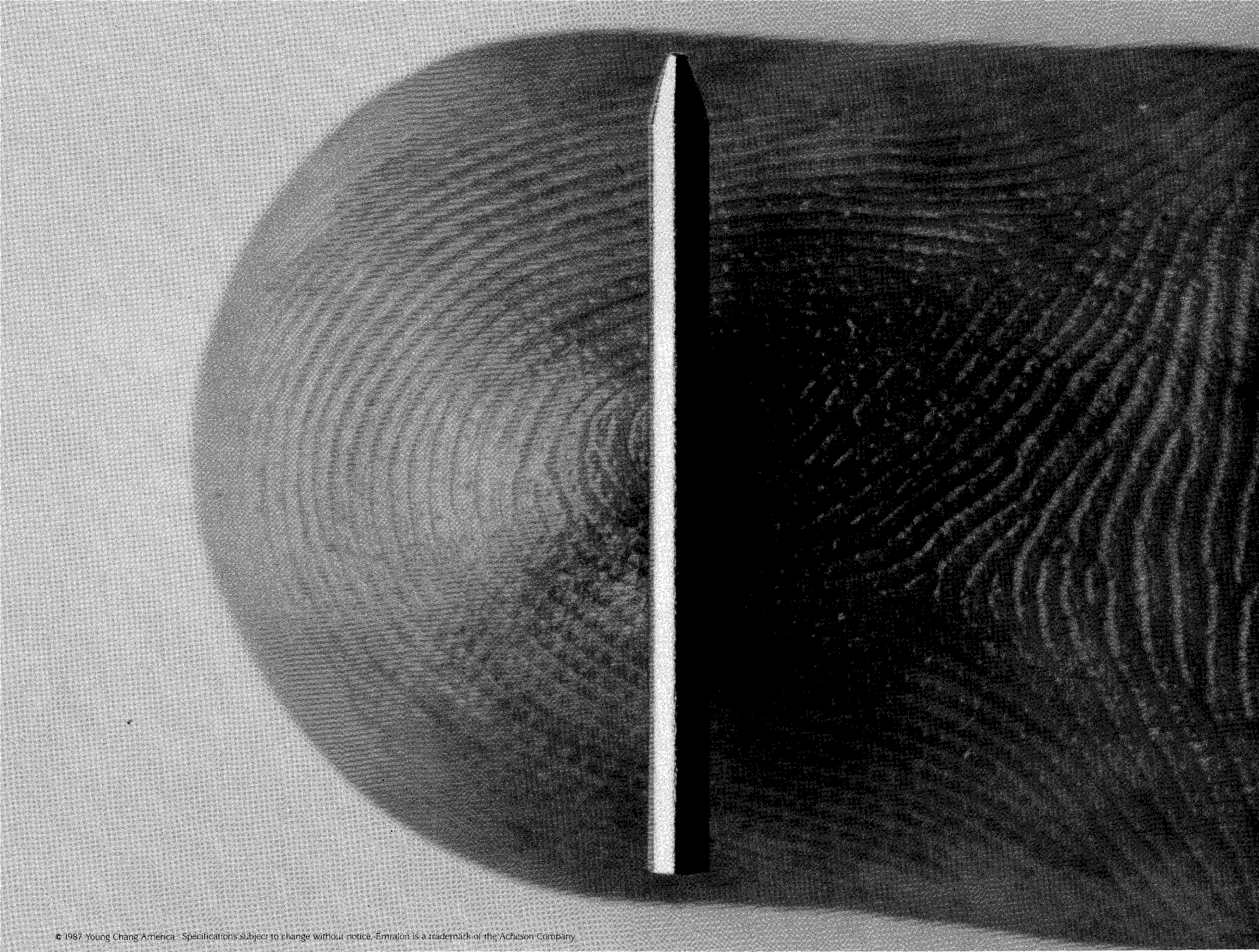


Through the medium of videotape, Yamaha now presents the first program in this series entitled *Grand Action Regulation in 37 Steps.* Included in the package are two videotapes (a total of 3 1/2 hours of instruction) and a printed copy of the entire text.

Future programs in this Master Series will include: *Aftertouch —the Secret of Ultimate Piano Performance, Vertical Action Regulation, Voicing, Grand Dampers* and other subjects.



To order this first program, call or write Yamaha Music Corporation, USA, Piano Service, P.O. Box 6600, Buena Park, CA 90622-6600, 1-800-854-1569.



At Young Chang, there's nothing too small to improve.

No one notices a center pin until there's a problem.

Most manufacturers make them out of brass. Eventually they tarnish, and can cause verdigris to form. But it usually happens after the piano has left the sales floor. And often after the warranty has expired.

At Young Chang, we make our center pins of non-oxidizing German silver. They don't tarnish. So they move freely for the life of the piano. Chances are you'll rarely need to repin or ream the bushings of a Young Chang action. And chances are our efforts will go completely unnoticed.

You also may not notice we coat many of our action parts with Emralon™ to reduce friction and noise and eliminate graphite penetration in felt and buckskin.

Or that we're using an improved premium English hammer felt that lasts longer and produces a bigger sound. Or that there's now whippen auxilliary springs on our 7′ and 9′ grands for finer touch adjustments.

Or that we've strengthened our grand keystop rails to prevent damage during moving, and steel-reinforced our grand keyslips to minimize warping due to changes in the weather.

We've also developed a moisture absorbent finish for our black keys, as well as a new satin case finish to bring out more of the natural wood grain highlights.

While these recent improvements have gone largely unnoticed, our 12 year *full* warranty is getting all kinds of attention. It's the kind of promise people understand. And the kind of promise no other manufacturer is prepared to offer.

Little by little, we keep refining our pianos. Because it's the little things that make the difference between a good instrument and an extraordinary one.

YOUNG ℄ CHANG

The best the world has to offer.

From The Home Office

Larry Goldsmith
Executive Director

Growing Stronger

It's exciting to be on the move. As President Hawkins says (page 4), we have a great deal of momentum behind us, with a record-breaking convention, an increasingly solid financial picture and stronger educational and testing programs than ever before. The only questions would seem to be how far this momentum will take us and in what direction.

This was my fourth convention. Since Indianapolis in '84, I've watched the wave build, as each annual gathering drew a larger group of friends who taught and learned, argued, compromised and moved forward together. It was only a matter of time until the magic number of 1,000 was shattered. That figure was an artificial goal that had been grazed many times, but never hit, especially not in such a decisive manner.

But it does bring up a question: where do we go from here? After reaching such a milestone, there is a great temptation to shrug the weight from our shoulders and say, "Jeez, we made it! We're really in the big time now."

The Guild has never been one of those organizations in which a large, placid membership sits quietly by, content to let a small group set the course for the association. In this organization, the "group" is ever-expanding, ever-changing, and anyone who wants to become involved can find a role. That's one of the Guild's main strengths — in fact, it's a necessity because the organization brings together such a variety of people and interests.

Looking at some of the products of the Toronto convention — stronger international ties, a large number of potential new members and increased member benefits such as additional life insurance, a credit card program (watch for additional information on these and other new offerings in the near future!), the Guild seems poised on the brink of some even greater things. It will certainly become even stronger and new opportunities will present themselves.

Before the glow of a successful convention fades, before winding down from summer and gearing up for another year of association activity, harness some of that energy and point it toward the future.

TRADITION AND TECHNOLOGY

Kawai's Digital Piano

From Japan's Master Builder of fine acoustic pianos comes the music industry's most complete selection of home digital pianos - The Kawai "P" series digital piano line.

From the quality and affordability of the P135 ($1295.00 suggested retail) through the concert grand sound of the P2000, Kawai's Digital Piano line covers all popular price points.

Kawai's new digital pianos combine sixty years of acoustic piano expertise with very sophisticated digital electronic technology. All of the digital pianos in Kawai's line offer, in addition to fine piano voicing, a full range of traditional musical sounds including electronic piano, harpsichord, vibraphone, and organ voices. Powerful speaker systems and a variety of MIDI functions are integrated into each digital piano. As an added feature, Kawai's digital pianos offer six Renaissance and Baroque temperaments at the touch of a button.

For more information about the music industry's most complete line of home digital pianos, see your local Kawai dealer or write:

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90224-9045

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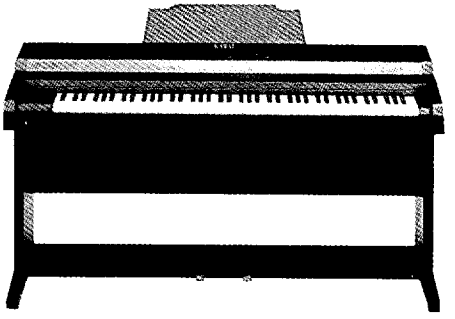


The International Scene

Fred Odenheimer
Chairman, International Relations Committee

The Importance Of Conventions

Having had a small part in the coordination of the International Association of Piano Builders and Technicians convention, I cannot help again but admire the tremendous effort that is involved in staging a convention.

We owe a lot of thanks to the Home Office, the Technical Director (this year Dick Bittinger) and his helpers, the instructors, the manufacturers and supply houses, the Toronto Chapter and John Lillico for an outstanding job. Despite this, the largest convention ever, you still find technicians who think attending a convention or seminar is a waste of money. Then they wonder why that "upstart" down the street has more income and customers than they do.

The mentality of "my grandfather did it this way successfully, my father did it this way, and that is good enough for me" may have some value. However, if that "upstart" is able to build a better "mousetrap," despite all my experience, I want to know about it and take advantage of added knowledge and experience. Why should I compete on uneven terms, with the unevenness on my side? I will never forget the words of our late, great, master, Warren Forgey: "Do not go the same route twice, because you might fall into a rut."

Learning is lifelong, and when you stop, well, I guess that is the finish.

For those of us who were in Gwatt, Switzerland in April of 1981, reading about this year's Europiano Convention and Technical Institute at the same place brings back fond memories. Rooms were very simple, the weather was cold with some snow; however, the location by Lake Thun was wonderful.

We enjoyed the hands-on classes but the excursion to the top of the Schildhorn was the high point of that week. Gorgeous weather for just one day and high mountains and glaciers all around. I understand the weather this year was much better. There were classes in tuning, voicing, general repairs, changing of touch, estimating and scaling. Too bad one cannot quickly take a trip and listen in on some of the proceedings.■

The 'Feeling' Was Discovered

John Lillico
Host Chapter Chairman

An all-time record attendance was recorded at the recently concluded 30th annual Convention and Technical Institute of the Piano Technicians Guild held in Toronto, Canada. At the closing luncheon, the Guild's Secretary-Treasurer, Robert Smit, announced an attendance of 1,161, just 39 short of this writer's prediction made last year in Las Vegas. The closing luncheon menu was roast Ontario turkey, not crow, as some might have expected.

The attendance record eclipses the previous high of 977 (Kansas City in 1985) by almost 20 percent and is more than 40 percent higher than the average over the past 10 years.

Members and non-members alike commented favorably on the quality of instruction and variety of topics offered throughout the week, a credit to Institute Director Dick Bittinger.

The Constellation Hotel staff were most courteous and cooperative and our own Home Office personnel worked with extreme dedication toward the success of this convention and its individual attendees.

Our Auxiliary kept the spouses on the go throughout the week with a most ambitious program of tours and guest speakers. No participants in the Auxiliary program had cause for boredom whatsoever.

Your host Toronto Chapter was slow off the mark organizing bus tours, but came through in the end with two well- received outings. On Sunday evening, we escorted 96 delegates and spouses to Ontario Place, entering the facility by boat due to a road closure facilitating the second annual Molson Indy roadrace. On Tuesday evening, we chartered five buses and transported 236 convention-goers into the heart of Toronto. Some folk must have found Toronto a most interesting place as our numbers were slightly reduced on the return trip to the hotel.

All Toronto Chapter members pitched in at the Chapter Information Desk, selling tickets, dispensing information and generally making sure that your visit to Toronto would be a most enjoyable and memorable one. We regret that our Vice President, Thomson Lawrie, was unable to attend. Thomson had just been released from hospital and was resting at home during the convention week. Even our most distant members, some of whom we hadn't seen in years, were on hand to assist you.

Clockwise from far left: the Toronto Chapter celebrated a successful convention with sparklers. Institute Director Dick Bittinger was honored for assembling an outstanding institute. Yat-Lam Hong was among the entertainers. Many classes offered hands-on experience. The "Barbershop Chorus" was featured in a record number of performances.

Clockwise from top left: Austin Kitchen, who performed at the Guild's last Canadian convention in Calgary in 1968, made a return engagement. Manufacturers contributed a roomful of pianos for this year's Institute. Among the instructors was George Defebaugh. President Hawkins congratulated Toronto President Steve Jackson, right, and Host Chairman John Lillico on a job well done, and presented appreciation plaques to retiring board members James Ellis, William Moonan and Charles Huether. Founding Co-President Erroll Crowl was honored by a board resolution. A teacher seminar organized by the Toronto Chapter in cooperation with the Guild's Teacher Relations Committee featured a presentation by Lehigh Valley, PA, chapter members Pauline Fox and Fred Fornwalt. Among past presidents recognized during the opening session were, from left, Ken Kadwell, Ernie Preuitt and Wendell Eaton. (Staff photos by Sandy Essary, Mary Kinman and Larry Goldsmith)

A communications system was in place to iron out difficulties as they arose. Six two-way radios were used by Bittinger, assistants Ernie Juhn, Ben McKlveen, Jim Geiger, Ralph Onesti and your host chairman. This system proved invaluable on many an occasion, assuring pianos and A/V equipment were in the proper place (not to mention instructors), and even came to the rescue of a "communicator" caught answering the call of nature minus the tissue (We won't mention any names here, but this writer was awarded the "Golden Paper" award at the closing luncheon).

The tuning concert was a smashing success as 116 patrons crammed into an 84-seat theatre to laugh themselves silly. Jack Sprinkle is such a great sport and endured many of the annoyances and distractions we all face in our daily round of tuning pianos. This effort could well be back by popular demand.

Tutoring and testing facilities were strained to the limit as more than 60 tutoring requests were accommodated while Ruth Ann Jordan's team conducted about 20 tuning and recertification examinations.

Following the opening ceremonies in which the Toronto Chapter members made a spectacular entrance bedecked with sparklers and a banner proclaiming "1,000+" the Baldwin reception featured jazz great Marian McPartland.

The Steinway Social Hour, with a performance by another jazz great, Don Shirley, preceded the Convention Awards Banquet and festivities continued well into the evening. Banquet attendees were entertained by Yamaha recording artist John Arpin.

Arpin made a return at the Yamaha Party Thursday evening, entertaining in his "classical ragtime" style.

Continued on Page 16. For a review of two convention tuning classes, please turn to Tuning Editor Rick Baldassin's "Tuning Up" article on Page 25.

AWARDS: Recognizing A Tradition Of Service To The Guild

HALL OF FAME

"Long-term dedication to the causes, ideals and purposes of the Piano Technicians Guild; outstanding personal and professional integrity to the point of being an inspiration to others; outstanding contributor and implementer of ideas, programs, etc., resulting in a definite improvement and upgrading of the piano industry as a whole." (Presented at convention opening session).

Fred Odenheimer

Fred was born in Emendingen, Germany. He escaped from Germany in 1938, just prior to World War II, and came to America.

Very soon, Fred established his citizenship and enlisted in the U.S. armed forces. He served in the 10th Mountain Division and saw action in Northern Italy.

After the war, Fred enrolled in a piano technology course at Los Angeles Trade and Technical School taught by Willard Davis. When Mr. Davis retired, Fred took over the teaching position, which he held until the Los Angeles School Board discontinued the course in June 1967.

Fred was determined that this would not be the end of piano technology training in the Los Angeles area. With the help of George Defebaugh and Lew Herwig, he established the "Little PTG" at his store in Van Nuys for the purpose of training and assisting people who wanted to learn piano technology. His store was known as "The Little Piano Shop." A music school was conducted there, and a recital hall furnished for the convenience of piano teachers in the area.

For several years, Fred has been the chairman of the International Relations Committee of the Guild. In this capacity, he has fostered relationships between technicians here in the United States, and those in other countries. A large part of his contribution to the international scene has been the organization of tours for piano technicians to Japan, China, England, Korea, and Europe. His language skills have been an invaluable asset to all the participants.

Ernie Juhn

Since Ernie joined the Guild as a Craftsman member in 1965, many of the Guild's best educational offerings have born the mark of his handiwork. He has served as Institute Director for four of the Guild's most successful conventions: Denver in 1970, Cleveland in 1971, Philadelphia in 1980 and Kansas City in 1985. He is now involved in preparing for a fifth, the 1988 convention in St. Louis.

He has brought his more than 40 years of experience in piano technology to the classes he has presented at local and regional conferences and annual conventions, including the Toronto convention. His work with film and video techniques has also produced some of the best resources in the Guild's film and tape library.

Ernie was Northeast Regional Vice President for four terms and he earlier had served as president of the Guild's Long Island-Nassau Chapter for several terms.

For his efforts in promoting the Guild and improving the technical competence of its members, Ernie was awarded the Guild's Golden Hammer Award in 1980.

Resolution

Whereas: **Errol Crowl and John Travis were leading forces in the formation of the present Piano Technicians Guild, Inc. by merger of the American Society of Piano Technicians and the National Association of Piano Tuners; and**

Whereas: **Through the years, these two gentlemen have come to epitomize the spirit that led to the annual presentation of the Piano Technicians Guild's "Member of Note" Award; and**

Whereas: **On this thirtieth anniversary of its founding, the Piano Technicians Guild, Inc., desires to ensure that the legacy of their foresight and accomplishments becomes a continuing part of this organization;**

Be it therefore resolved **this 17th day of July, 1987, that this "Member of Note Award" shall henceforth be embellished by the addition of the names of these two illustrious men. Let it therefore be known from this day as the *"Crowl-Travis Member of Note Award."***

GOLDEN HAMMER

"Awarded to one member each year for outstanding service and dedication to the Guild over a period of years." (presented at convention awards banquet)

LaRoy Edwards

LaRoy Edwards is a native Californian. At age 17 he left home and moved into the back of a music store. There he learned musical instrument repair. The owner of the store bought used pianos, along with other instruments, and that's how LaRoy was introduced to the field of piano technology. He studied under the late Cecil Short and inherited much of his business when Cecil retired.

LaRoy was involved with the Los Angeles Chapter of the Piano Technicians Guild since its inception. Later, he became part owner of a music store in Pomona. This store, Ralph Pierce Music, was one of the early Yamaha dealers.

During that time, there was no such thing as Yamaha Piano Service, and LaRoy served as a part-time technical consultant. He would attend the dealer meetings and whenever there was a problem in the field, the Yamaha people would hand LaRoy the correspondence and ask him to handle it pretty much as he saw fit.

In 1969, Yamaha asked him to come on board full time, and since he was fairly busy with the store's responsibilities, his own piano service business and activities for Yamaha, he decided to go from three jobs to one. He established Yamaha's Piano Service Department and in 1971 developed and instituted the Little Red Schoolhouse program. Later he went on to become the manager over the entire service division. Being a piano technician and an educator at heart,

though, he later made arrangements with the company to become a full-time piano consultant. This allowed him to move near San Francisco and establish his base of operations from his home. Although you're not likely to hear him mention it, there's a long list of piano tools in daily use today that owe their existence to his ingenious yet practical mind. One easily recognized example is the set of brackets designed to support an upright action on your workbench. It was originally called the "Edwards Action Cradle."

And without a doubt he has instructed more people in this field than any other educator in the country. In fact, it's no exaggeration to say that many technicians attribute major elements of their success to things they learned while attending LaRoy's classes.

CROWL-TRAVIS MEMBER OF NOTE AWARDS

"Awarded to not more than four members each year for recent outstanding service and dedication to the Piano Technicians Guild." (presented at convention awards banquet)

Ron Berry

Ron Berry's more than 11 years of membership in the Piano Technicians Guild is a history of service to his fellow members. For a good part of that time, he has sat on the Guild's Board of Directors, first as the organization's Secretary-Treasurer and most recently as its Vice President. Previously, he had been active in the Educational and Test Standards Committee, where he played an integral role in the development of standardized examinations and procedures.

Charles Huether

At last year's convention banquet, outgoing President Charlie Huether was roasted. This year he received a Member of Note Award. A long-time member of the Board of Directors, he served as Secretary-Treasurer and Vice President before his term as President. Charlie also contributed greatly to the Guild's image throughout the world, helping to found the International Association of Piano Builders and Technicians, of which he is President, and the Piano Technicians Guild Foundation, of which he is Second Vice President. A piano technician for almost 40 years, Charlie has been a Guild member since 1960.

Joel Rappaport
Priscilla Rappaport

No convention technical institute would be complete without the names of Joel and Priscilla Rappaport on the program.

Through their joint classes emphasizing a precision approach to the tools used in piano work, and their popular series of Journal articles, "Von Der Werkstatt," which shared information gained in technical training in Europe, this duo has consistently worked to upgrade the level of technical competence throughout the Guild.

EXHIBITS:

Product, Service Displays Are Convention Highlight

Pianos and piano-related items ranging from parts and tools to computer software to courses of instruction to shop aprons were exhibited at the Toronto convention. The exhibit hall, located off the registration area, was a convenient place for registrants to spend time between class periods, get the latest information on new products or follow up on topics discussed in classes.

Those who exhibited at this year's convention deserve a big round of thanks from all who attended. In addition to their booths, many provided pianos, instructors or other assistance to the Insititute, and all brought a high level of expertise and service to the convention.

Here's a list of the exhibitors, their products and those who staffed their booths.

BALDWIN PIANO & ORGAN CO. (pianos)
PO Box 27, Highway 63 South
Trumann, AR 72472
Alan Vincent, Robert Cutshall, Del Fandrich, Charles Faulk and Rick Wheeler

BRONTE PIANO CO. (finishing materials)
2298 Belyea St.
Oakville, ON Canada L6L 1N6
Cheri and Dwight Pile

BROOKS, LTD. (tools, supplies)
376 Shore Road
Old Lyme, CT 06371
Vivian and Wally Brooks

DAMPP-CHASER ELECTRONICS (humidity control)
Box 1610
Hendersonville, NC 28739
Stephen R. Smith

FLEISHER PIANO CABINETRY (replacement music desks)
PO Box 618
Santa Monica, CA 90406
Junko and Paul Flesher

RUD. IBACH SOHN PIANOFORTE-FABRIK GMBH (pianos)
Mittelstrasse 34, 5830 Schwelm
Federal Republic of Germany
Evan Tublitz

INVENTRONICS, INC. (electronic tuning aids)
171 Lincoln Street
Lowell, MA 01852
Al and Mary Sanderson, Bob Conrad, Rick Baldassin

A. ISAAC PIANOS (hammers, strings)
308 Betty Ann Drive
Willowdale, ON Canada
M2R 1B1
Claire Isaac, Steve Pearson, Newton Hunt

KIMBALL PIANO DIVISION (pianos)
Box 432
French Lick, IN 47432
Roger Weisensteiner, Mary Jane Weisensteiner, Ray Reuter

McALLISTER PIANO SERVICE (computer software)
5021 Wayne Court
Huntsville, AL 35810
Richard and Roger McAllister

MUSEUM OF THE AMERICAN PIANO (non-profit museum)
211 West 58th Street
New York, NY 10019
Kalman Detrich

PERKINS SCHOOL OF PIANO TUNING AND TECHNOLOGY (instruction)
225 Court Street
Elyria, OH 44035
Dora and Robert Perkins

DON C. PETERSON (tools)
115 N. 6000 West
Highland, UT 84003
Don C. Peterson

WEBB PHILLIPS (tools, supplies)
222 Horsham Rd.
Horsham, PA 19044
Ruth Brown, Mike Carraher and Webb Phillips

PIANOPHILE, INC. (tools, supplies)
2591 Lapiniere
Brossard, Quebec J4Z 2M2 Canada
Jacques Lanteigne, Lorraine Lanteigne and Nicole Tardif

PIANOTEK, LTD. (supplies, tools)
1875 Leslie St., Unit #9
Don Mills, ON M3B 2M5 Canada
Paul Smith, Robert Marinelli, Alex Grieve, Wayne Davis and John Mathieson.

RANDY POTTER SCHOOL OF PIANO TECHNOLOGY (instruction)
61592 Orion Drive
Bend, OR 97702
Randy Potter, Martha Cobble, Don C. Peterson

REITER SHOP APPAREL (fabric products)
902 185th Street Ct. East
Spanaway, WA 98387
Jennifer Reiter

SAMICK MUSIC CORP. (pianos)
14235 Lomitas Ave.
La Puente, CA 91746
Bob Loewen, Robert Beck

SOHMER & CO. (pianos)
Main Street
Ivoryton, CT 06442
Gary Green

SOJIN PIANOS/DAEWOO INT'L (pianos)
1055 West Victoria Street
Compton, CA 90220
Michael Choi, Sonny Lee, Terry Bingley, Judy Bingley, Michael Pacey

STEINWAY & SONS (pianos)
Steinway Place
Long Island City, NY 11105
Peter Goodrich, Fred & Mimi Drasche, Bill Garlick, Joe Bisceglie

STEPHENSON PIANOHAUS INC. (pianos)
437 Wortley Road
London, ON N6C 3S7 Canada
Don Stephenson, Anne Fleming-Read, Brenda Paddon, Steve Grega and Lynn Godfrey

SUNSET INSURANCE ASSOCIATES (insurance)
PO Box 16242
Seattle, WA 98116
Eloise M. Ross

SUPERIOR IMPORTS, LTD. (tools, supplies)
2152 W. Washington Blvd.
Los Angeles, CA 90018
George, Betty and Lynn Defebaugh

WALTER PIANO (pianos)
700 West Beardsley Avenue
Elkhart, IN 46514
Charles Walter

WURLITZER PIANO & ORGAN (pianos)
403 East Gurler Road
DeKalb, IL 60115
Richard Elrod, Rick Sletten

YAMAHA MUSIC CORP. (pianos)
PO Box 6600
Buena Park, CA 90622
Robert Barg, Bill Brandom, LaRoy Edwards, Greg Frank, Dean Garten, Ron Giesbrecht, Mitch Ito and Lloyd Whitcomb

YOUNG CHANG (pianos)
13336 Alondra Blvd.
Cerritos, CA 90701
Ray Chandler, Paul Gilchrist, Brad Heintzman, Tom Watson

President Hawkins awarded special citations to the entire Examination and Test Standards Committee, above, and to William Smith, who crafts each year's Golden Hammer Award.

All three companies Baldwin, Steinway and Yamaha sponsored lavish spreads of hors d'oeuvres and played a major role in the success of the Guild's 30th anniversary celebration.

Steinway representatives Bill Garlick, Peter Goodrich, and pianist Don Shirley toast Fred and Mimi Drasche for attendance at 21 Guild conventions.

Wait 'til next year: St. Louis representative Rohnn Kostelecky invites attendees to the 1988 convention.

Approximately 60 PTGers stayed on to partake in the International Association of Piano Builders and Technicians' fifth biennial convention the following Saturday. Bows and handshakes were the order of the day as 25 IAPBT delegates appeared to enjoy the hospitality of our friendly city.

We in Toronto are extremely pleased that you gave us the opportunity to "Discover the Feeling" of hosting this memorable event. Our apologies go to those who, for one reason or another, stayed at home. You missed one "sparkling" crackerjack of a convention.

Now, on to St. Louis, then Portland and, perhaps, by 1995...Toronto again!

International Harmony

Delegates from Australia, Canada, England, Germany, Japan, Korea, Taiwan and the United States were among those participating in the International Association of Piano Builders and Technicians' fifth convention. From its beginnings at the Guild's 1979 convention in Minneapolis, IAPBT has fostered cooperation and camaraderie among an international group which speaks one common language — pianos. At right, Guild SERVP Larry Crabb, not content with leading the Guild's "Barbershop Chorus," conducts a Japanese version. Edward Swenson, near right, reached an appreciative audience in his class on restoring antique instruments. Far right, surrounded by flags, Ron Harper, a delegate from IAPBT's newest member country, Australia, watches the goings-on with IAPBT president Charles P. Huether. Below, Huether presents JPTA delegate Kenzo Utsunomiya with an Eskimo carving as English member Ralph Long, his wife Jean and son Neil applaud. Below right, IAPBT's board meeting was an informal, lighthearted affair, especially in contrast to the more formal Council meeting, shown at bottom.

THE
TECHNICAL
FORUM

A Pneumatic Soundboard Press

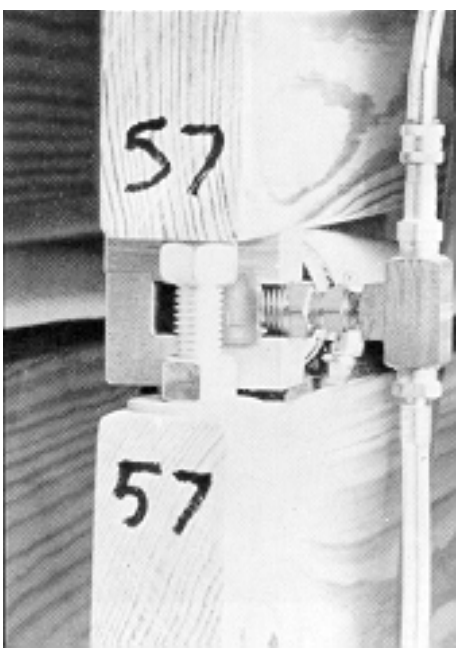
Jack Krefting
Technical Editor

When I published some photos of my soundboard press in a recent issue, I was hoping that others would submit plans or photos of other types of presses, and that hope was rewarded by the following submission. Clair Davies of Lexington, KY, points out the fact that no system is perfect and that he dislikes the traditional go-bar deck because it can be unpowered and dangerous, even while allowing that it has many unrelated shop uses such as veneering, bridge gluing and the like. Clair's biggest objection to the universal go-bar deck, however, seems to be that it is so heavy and bulky that it is impractical for the small shop. For these and some other reasons, Davies has chosen the pneumatic press for himself, which we'll let him describe:

Building a pneumatic press is not an overwhelming project. Total cost for materials is about $350 and construction time required is about 40 hours.

Basically, my press, seen in photo one and in the drawing, is made up of 17 movable beam clamps of various lengths, lined with mill hose and resting on a movable carriage. After the beam clamps are positioned for the rib array that you need, they are fixed in place on the top rails of the carriage by tightening the wing nuts on the bottom ends of the threaded rods.

The nominal 2x6 lumber in the beams and the 2x4 lumber in the carriage is all inexpensive construction-grade yellow pine, which has a resistance to bending roughly equal to oak and maple, but is much lighter in weight. Since I wanted something I could operate alone, weight was an important factor. White pine should not be used because it is not strong enough. Note that the carriage has the shape of a slightly obtuse triangle. A triangle won't rack and the 95-degree corner is approximately the same as the near left-hand corner of the soundboard in most grand pianos.



Compressed air is fed into 1 1/4 inch mill hose (Dayco #7415-1251), similar to a fire hose but smaller in diameter. (See photo two.) The hose is stocked, at about a dollar a foot, by Queen City Supply in Cincinnati (513) 761-4210. The air enters the hose by way of a fixture made up of nominal one-eighth-inch brass fittings. These fittings are for use in hydraulic systems and are rated well in excess of what is needed for this pneumatic application. (See photo three.) Look for these fittings at the appropriate hydraulic supplier and take the picture with you. It will save you and me both a thousand words.

The air pressure is held at each beam clamp in turn by a small valve in the brass fixture. Each hose inflates when its airline is hooked onto the valve of the last beam clamp that was loaded before it. The airline from the compressor hooks onto the first clamp with a conventional quick-disconnect coupler. The hoses are sealed with hose clamps and nominal one-inch steel pipe fittings, shown in photo four. One is a simple plug and the other is a so-called reducer bushing which connects the hose with the brass fixture.

Pressure into the hose is regulated at the compressor. So little air volume is needed even at 100

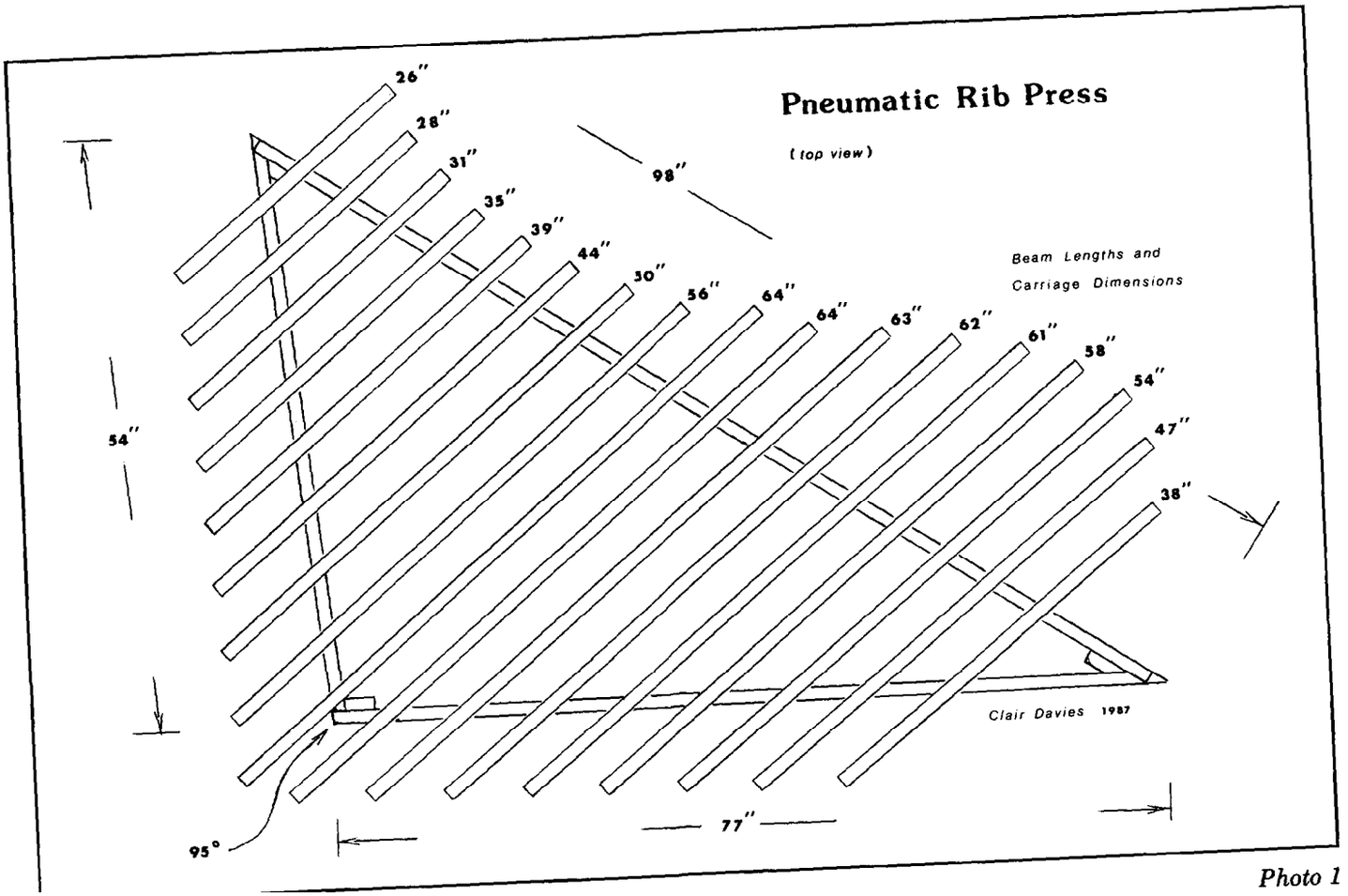
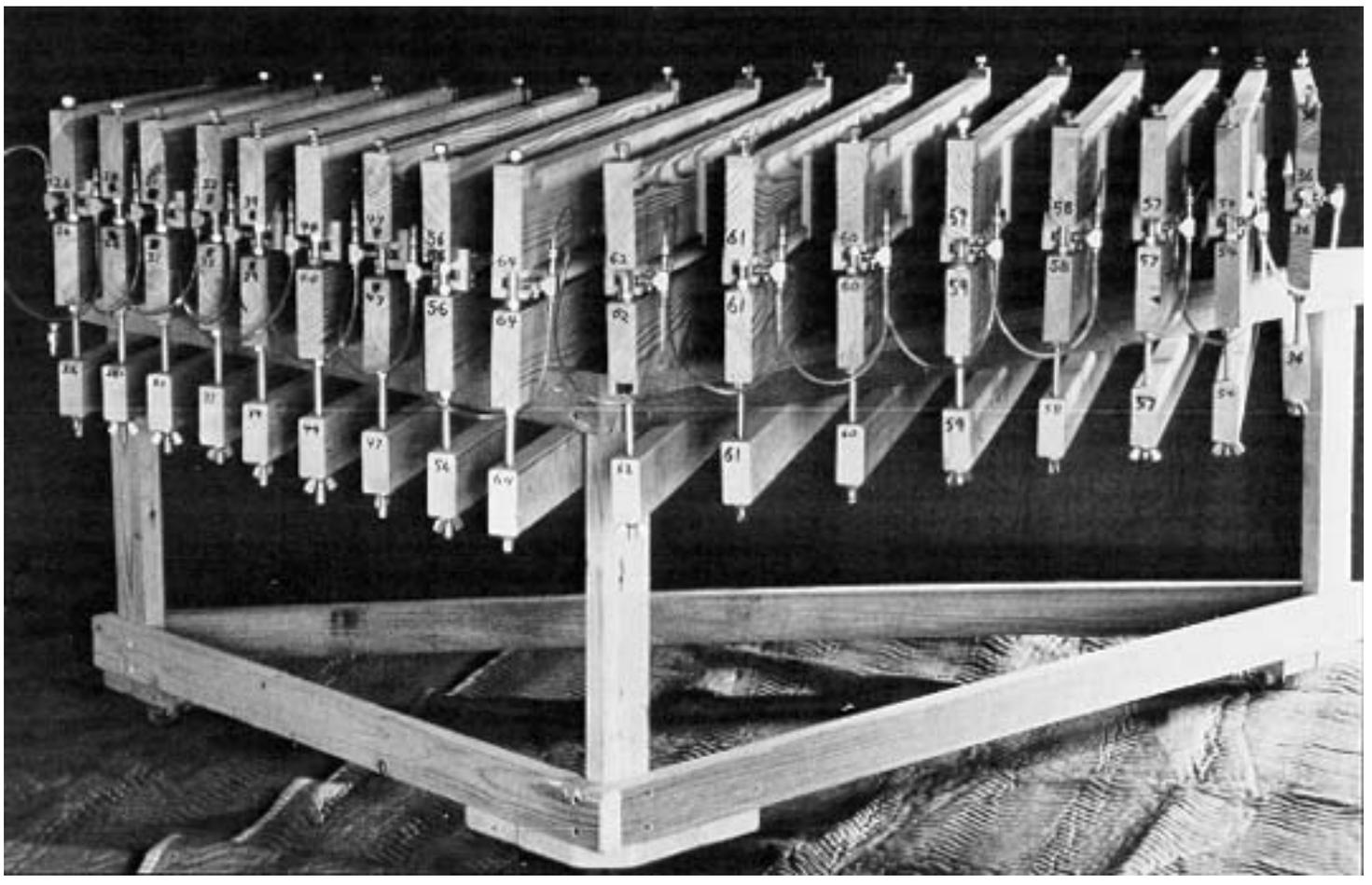

Pneumatic Rib Press
(top view)
Beam Lengths and
Carriage Dimensions
26"
28"
31"
35"
39"
44"
30"
56"
64"
64"
63"
62"
61"
58"
54"
47"
38"
98"
54"
77"
95°
Clair Davies 1987

Photo 1



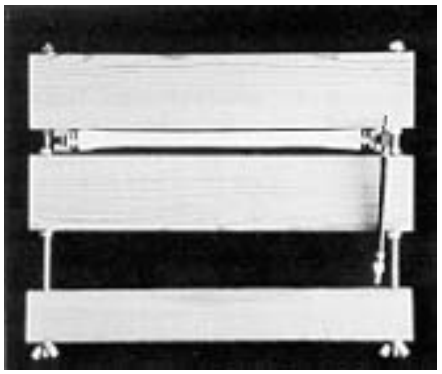


Photo 2

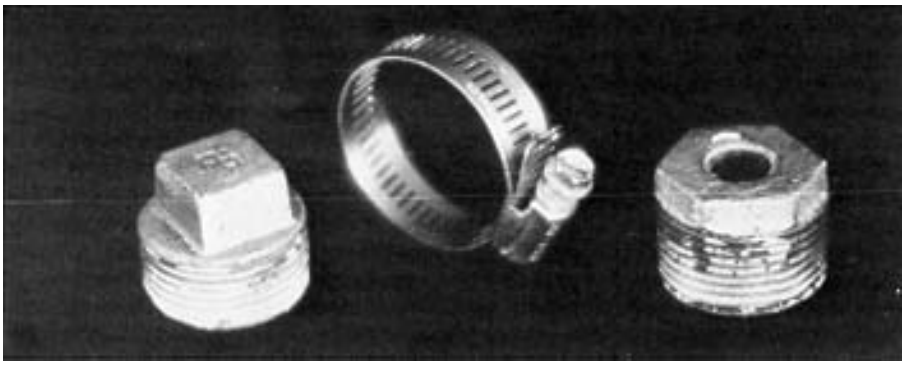


Photo 4

Photo 3

Photo 5

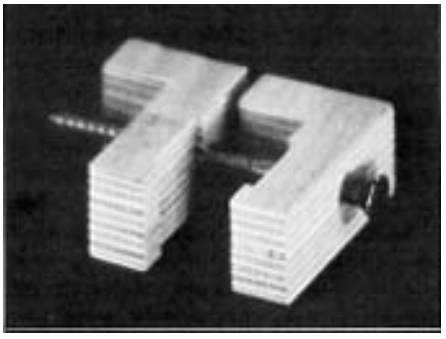
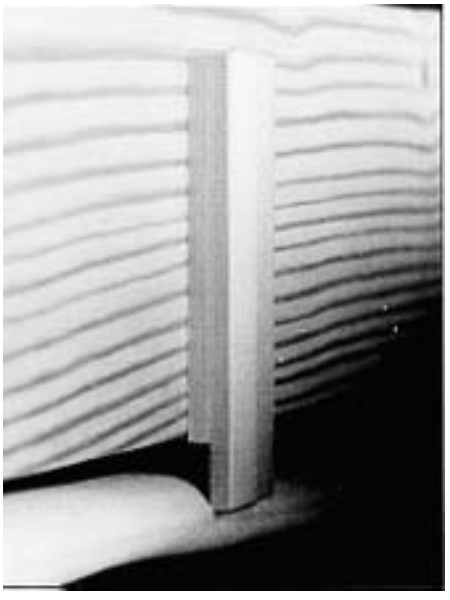


Photo 6



PSI that a 1/2 HP unit will do. If you use pipe compound to seal all threaded joints, the system will be tight and whisperless and your compressor will need to run only once in every five or six hours to maintain even so great a pressure.

The only fixture requiring any skill to make is the small two-piece Falconwood clamp used to fasten each end of the hose assembly to the top beam. It must be cut to fit snugly. (See it in photo five.) For stability, one part is glued to the beam and the other part clamps onto it with a number twelve, three- inch flathead screw.

The press is prepared for loading by lifting off the top beams and storing them temporarily upside down on the bottom rails of the carriage. The ribs and their respective beam clamps are loaded and pressurized one at a time. The holes in the top beam for the 1/2 inch threaded rods which hold each beam clamp together must be five-eighths-inch in diameter and somewhat elongated to avoid binding when the top beam is being raised and lowered.

The interesting feature of the beam clamp is that at 100 PSI yellow pine lumber of these dimensions bows just enough to give a natural three-eighths-inch belly to the press. Other types of presses commit much of their strength to containing this bowing effect. The pneumatic press makes use of it. It is important, however, to allow for bowing of the beams in the operation of the press by starting out with the hose quite flat, so that when inflated it still maintains contact with the entire width of the rib. Otherwise, you won't be applying the full 100 PSI.

The nearly 31 tons this press generates on a big board can create havoc unless scrupulously managed. The press won't explode. It's not dangerous to the technician, in my experience, but hoses will pop out and wood will crush unless certain precautions are taken. To prevent crushing of the ends of the yellow pine beams, use one-half-inch thick Falconwood blocks under the top nuts and washers. Line the bottom beams with heavy backrail cloth to avoid permanent creases across the face of the soundboard, which goes into the press upside down. Maple retainer blocks glued on the sides of the longer beams are needed to keep the hose in place under pressure. (See photo six.) On two or three of the longer beams sometimes it is also necessary to clamp one end of the top and bottom beams together with blocks and a jiffy clamp to keep the top beam from leaning. In addition, the ribs must not be rounded until after they are glued on; otherwise all the beams will lean and nothing will keep the hose in place.

When these details are taken care of, the press is trouble- free and runs quite smoothly. It may scare the wits out of you the first time you see the longest beam rise with 2 1/2 tons of force under it, but you get used to it and after doing a couple of boards it becomes very exciting to watch and a great deal of fun. I'm always sorry when the last rib is on.

You will want to know that a soundboard panel, pre-dried to

five percent moisture content and crowned three-eighths of an inch in the press, results in a belly of around an inch if I let the soundboard swell up all the way. Of course to get good compression, I glue it in the piano before it swells quite that much (five-eighths is good), and I end up with a one-eighth to three-sixteenths inch crown in the piano, depending on the conformation of the inner rim. The strong sound I get leads me to believe the compression is about right.

The press you see here is the third version of the pneumatic concept that I've put to use in my own shop, but I'm ready to keep making improvements if you think your own experience with it will be of any help. Let me hear. I suspect there are other people out there just like me, who would really rather tinker with such things than work.

Q: *I have two basic questions, one general and the other more specific, as to the effects of freezing temperatures on pianos.*

As far as I can tell it is general practice in the winter to ship out crated pianos in unheated transport trucks. For me this means about 15 hours in freezing tempertures where it is delivered to a terminal and a subsequent day in a delivery truck before delivery to me. Is it perfectly safe for the piano? Any danger to finish, glue joints or soundboard?

I have also been asked about viability of movers moving a piano in the winter, particularly half way across the country or further. An extreme to this general question would be the effects on the piano if left in an unheated house through one winter.

Now, a more specific instance. I loaned my grand piano for an event. Temperature outside was about 0 degrees Fahrenheit. Instead of a half-hour trip to its destination it spent four hours in the moving van before it could be taken into the building. It was noticed some time later at the site, that a checking had occured on the varnish of the soundboard.

By checking I mean extremely fine lines or fractures, not an open crack. More were on the top of the soundboard than underneath and were spread out in groups all over its top, some wavy 2-4 inches long, others shorter.

What in your opinion as the cause of this? Is the harm to the instrument just cosmetic or could more serious problems appear years later? For the present it sounds as good as ever.

The manufacturer assures me that such checking does no harm to the soundboard and there is no cause for concern. Another opinion would be appreciated. By the way, the piano has a polyester finish which was not damaged from the experience.

A: Regarding the general advisability of shipping pianos in the wintertime, so long as the instrument can be cooled down gradually and then reheated gradually, no damage should be anticipated. As a rule of thumb, if the outside temperature is higher than 15 degrees Fahrenheit, the normal padding of a piano will adequately protect it and slow the cooling effect. But if the temperature is below that level, it would be advisable to let the piano stand for several hours in a semi-heated area — say, 25 to 40 degrees F. — before moving it outside. Similarly, it should be allowed to spend a similar amount of time gradually warming it up in such an environment before bringing it into normal room temperature.

The biggest problem in my opinion is the cosmetic one caused by cracking or checking of finishes. Lacquer, varnish and polyester are all subject to this if the change is great enough and sudden enough. The finish shrinks and swells at a different rate than does the wood it is applied to, therefore the finish cracks.

Regarding the soundboard finish specifically referred to here, in this case I would agree that the problem is cosmetic only and will not result in structural or acoustic problems later. It might even be possible to eliminate the cracks by applying a small amount of solvent to the crack. Find out from the maker whether the finish on the board is really varnish — some are, some aren't — and apply the appropriate thinner to see whether the crack will knit back together.

Glues used in piano manufacture have to be able to withstand sub-freezing temperatures, otherwise the maker could ship no instruments in the winter; so unless a specific problem is noted, I wouldn't worry about that.

Please send all tech material for publication to me:
Jack Krefting, Tech Ed
P.O. Box 16066
Ludlow, KY 41016

GOOD VIBRATIONS

The Inner Rim Connection

Nick Gravagne
New Mexico Chapter

Last month it was explained that rigidity of retention of the soundboard to the rim is critical to good tone production. Although there are many considerations and processes involved in new soundboard installation, this month's concern is with the integrity of the soundboard/rim connection. First, the rim as a true gluing surface will be discussed. Second, the crown-to- bevel relationship, which was introduced in average terms last month, will be given a more precise examination so as to keep this important connection in a practical perspective. It is this inner rim connection which determines whether the energy conducted to the board will be most efficiently used.

Whether building or rebuilding a piano, the top of the inner rim must be a clean and true gluing surface. As obvious as this may be, failure to do a careful job will compromise the outcome. When the old board is removed in rebuilding, the inner rim and notches are left with the old hide glue and splinters and/or chunks of spruce. The amount of this debris, and the general condition of the rim, depends on how difficult it was to remove the old board. If there were plate support dowels at the rim, these would have been drilled out leaving a dimple here and there in the top of the rim.

Cleaning the rim requires the use of familiar shop tools and techniques. A sharp chisel will remove the large pieces of the old soundboard as well as the splinter. Fortunately, the spruce is soft and the grain is running at an angle to the laminated rim in most places making it obvious when to stop chiseling. Even with care, though, the rim will receive some gouging and chipping from the process. When the worst of the spruce chunks and splinters are off, a generous (but not sloppy) application of water and vinegar in about a four to one mixture is next. Apply liberally with a soft, thick brush (such as a large hot hide glue brush) to the entire rim and notches and let soak in. After several minutes a sharp chisel should "peel off" the old glue in an almost continous rubbery strand. If not, reapply the solution and try again. Keep

Omissions

Upon reading the May *Journal* in this series (Measuring the Crown) I noticed an omission in the three formulas given. The number 24 and the L (rib length) factors should be SQUARED. As they appear in the article, the formulas only work for a 24" rib. Squaring the 24 and L factors allows the formulas to be used as the article intends. You mathematicians out there will have no trouble making the adjustment. For those of you who wish to use the formulas but are now confused, please write me and we'll straighten it out for you. My address is in the directory.

Although we discovered the omission, we hope that the math people in our midst are checking out the accuracy, both in concept and arithmetic, of any *Journal* articles. It is all too easy for a misprint, omission or error to creep in. Apologies for any confusion or inconvenience.

clean water and a rag handy to clean the chisel which otherwise will become quite gummy. Take special care to clean the notches so that their bottoms, sides and corners are neat and square.

When the rim has dried, it is ready for the second assault. First, sand with rough paper, taking care not to change the bevel angle. Blow off the dust and inspect for damaged areas due to chiseling, drill dimpling, and other gouges which may have been there when the piano was originally built. Fill these defects with wood putty and allow for shrinkage. When dry, chisel and sand. A hard, glassy type of filler is not recommended as it won't accept glue when it comes time to glue in the new soundboard. If the plate is going to be installed using the Baldwin type plate-suspension, now is the time to drill out the lag screw holes and fill with plugs. (This technique will be covered in a future article). Before a final dressing of the rim can be made, the bevel must be considered.

The bevel should be measured and noted for at least two reasons: 1) for comparison to the new soundboard, and 2) to prepare gluing press blocks which will have a matching bevel. The measurement is easy to make with an adjustable T-square or any other convenient tool or method. See Figure 1. The actual angle can be read by placing a protractor on the T-square. If the rim has a bevel the protractor reading will be less than 90 degrees.

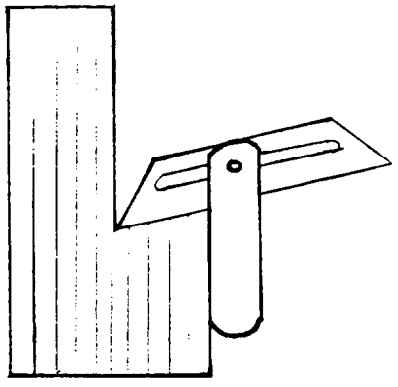


Figure 1

Although it is theoretically true that the rim bevel should match the soundboard crown, there are mathematical and practical realities which prevent following this idea to its conclusion. Last month the topic of rim bevel relative to crown was briefly introduced. The 89- to 90-degree (89.50 degree average) bevel which was mentioned actually relates to the shorter ribs of, say, 24 inches and under. But something different happens as the ribs get longer. Given the same curvature, long ribs theoretically require a steeper bevel than short ribs. This is obvious when it is realized that the longer arc of the long rib is just that much closer to being a full semi-circle than the short ribs. (The proof lies within the realm of central and inscribed angles in circle geometry. An explanation along with the exact angle values would require many words and drawings and not enough practical benefit. However, details are available if desired). For example, a 24 inch rib based on a 60 foot radius would need a bevel of 89.08 degrees (89 degrees, 5 minutes) but a 42 inch rib would need a bevel of 88.39 degrees (88 degrees, 23 minutes). So, on a rim which is beveled all around at a constant 88.50 degrees the short ribs will be pressed into a steeper bevel relative to their crown (see last month) while the longer ribs will match the bevel very closely. It becomes apparent, then, that if carefully matching the rim bevel to soundboard crown is important, a practical perspective is necessary. It would be virtually impossible in a rebuilding shop to work the rim in order to accommodate different angles at different length ribs. Indeed, it isn't necessary.

Of course, the soundboard itself must be measured for a comparison to the rim bevel. This is easily done by first placing the soundboard so the rib side is facing up. Then, with a straightedge or string placed somewhere along a long rib, but completely crossing the soundboard, the small gap is measured about one inch in from the edge of the board. See Figure 2. The reason for measuring at the long ribs is due to the fact that these ribs have more apparent curvature than the short ribs so the gap being measured will be larger. (The fact that long and short ribs are theoretically arcs from the same circle has nothing to do with it). Feeler gauges can be used to determine the dimension which, considering the various forces at work in a crowned soundboard, may or may not be representative of the average crown in the board. For example, dimension "a" in Figure 2 might read .035" for a 42" rib in a 60 foot crown. Such a reading should relate to a matching rim bevel should be 88.39 degrees. See table 1 for a quick comparison of various board crowns and bevels.

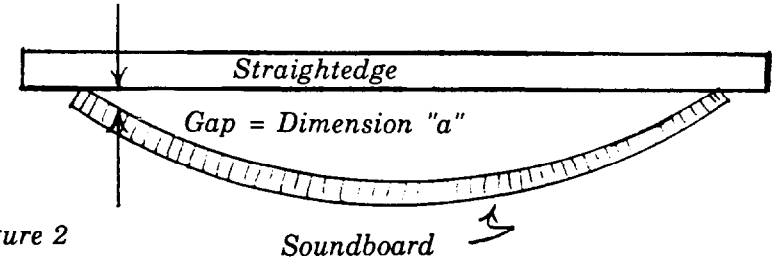


Figure 2

Table 1: Board Crowns and bevels compared for 42" rib:

Crown radius	Bevel angle	Soundboard angle	Dimension "a" and depth of bevel
50'	88.04°	1.96°	.034"
60'	88.37°	1.63°	.029"
70'	88.60°	1.40°	.024"

Is it necessary to go into such detail in practical soundboard installation? Fortunately not! It is

only presented here so as to place in proper perspective the practice which is referred to as "making the bevel match the board." The best that can be hoped for is a close approximation. It is a personal opinion that an 89 degree bevel is an absolute minimum in a 65 foot crown or flatter and an 88.50 degree bevel a better all-around average for 60 foot crowns and up. However, as shown in Table 1, an 88 degree bevel is not out of line for 50 foot boards. Both the soundboard crown and the aforementioned gaps at the edges of the board should ideally be measured at room conditions of 72 degrees Fahrenheit and 42 percent humidity.

Should it be necessary to make the bevel steeper, some very careful and tedious work is in order. The main tools are very sharp chisels of various widths, rough and tough sandpaper (such as from an old belt sander) glued to a sanding block of the desired bevel, and cabinet scrapers. A rather complete discussion of the process would be too lengthy here. But with a clear objective, good woodworking skills and some common sense, the job doesn't particularly warrant an exhaustive discussion. The objective is obvious — to increase the depth of the bevel by more or less the same amount all around. The process begins with establishing a new depth for the new bevel. This can be accomplished by taking a long bladed chisel (it is more convenient if the handle clears the top of the outer rim) and placing a piece of masking tape at the cutting edge to act as a depth indicator. Place the back, flat part of the blade flush with the inside of the outer rim and tap the chisel down to the masking tape. Do this all around the rim. Follow this with a skew chisel (does not have 90 degree corners at the cutting edge) which has an 88 to 88.50 degree corner and an opposite corner of 92 to 91.50 degrees. It will probably be necessary to have one ground from a normal chisel. Hold the chisel so that the blade is cutting ACROSS THE RIM laminations with the 92 degree corner down in the inner/outer rim joint. Tap the chisel down until the cutting edge JUST makes contact with the higher (outside) part of the bevel. The 92 degree corner will have sunk into the wood the right amount. This is done every two inches or so around the rim. Next the excess material is chiseled out using the previously made cuts and marks as guides. The chisels are not run along the grain for this material removal but are, rather, pushed across the rim grain and down to the desired depth making a neat and true surface. The beveled sandpaper block evens it all out and any gouges or low spots are puttied and cleaned. Under no circumstances should the outside or highest part of the inner rim be reduced. To do so will lower the level of the entire soundboard, and, although the downbearing will be affected there is more danger that the ribs will contact the case braces when the board is installed! Finally, this is a tedious job and, unless there is a good reason to undertake it, such as no bevel at all exists or what bevel is there is sloppy and very uneven, might be better left alone.

Beyond the rim bevel considerations and preparing a clean rim, the most important single procedure in soundboard installation is the actual clamping and gluing of the board to the rim. It is far more important that the small differences in the rim bevel. This is where the beveled gluing blocks mentioned earlier come into play. More next month.■

T U N I N G
UP

Convention Review

Rick Baldassin
Assistant Technical Editor

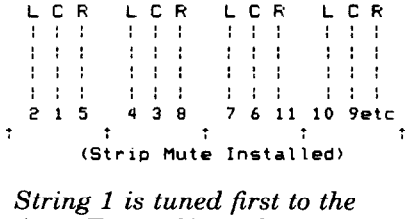
This month we'll include a review of the two tuning classes offered at the annual convention this July in Toronto, Ontario, Canada. The first class to be reviewed was "Aural and Visual Tuning" sponsored by Superior Imports and taught by George Defebaugh and Jim Coleman. This was a three-hour class which was offered four different times during the convention.

The object of this class was to demonstrate both aural and visual pitch-raising and tuning techniques on two different pianos, both grand and vertical, and comparing the results, note by note, in the final analysis.

It was noted that there are some considerations which must be made before determining to raise pitch on a piano. These included the presence of rust on the strings, pianos with excessive string breakage, the presence of a 3/4 plate with exposed pinblock, pianos with "doped" pinblocks, and certain piano makes which had high tension scales. It was demonstrated that a very small amount of Liquid Wrench could be applied using a small single-drop oiler to the V-bar and pressure bar, which would loosen the rust at these points.

It was stated that pitch should be raised, both aurally and visually, by what was called the "anticipated drop" system, whereby it is determined how flat the piano is, dividing this amount of flatness by a certain percentage, and raising the piano sharp of the desired pitch level by this percentage, anticipating that the pitch will drop back to the desired pitch level on conclusion of the pitch raise. It was noted that the percentage changed depending upon which system, primarily of unison tuning, was employed. In general, the percentage of overpull is 1/3 or 33 percent if all of the center strings are tuned first, followed by unisons after, or 1/4 or 25 percent if unisons are tuned to the center strings as you go. Therefore it is important that the correct unison tuning procedure be employed for the percentage chosen.

Jim Coleman gave the first pitch-raising demonstration using a visual aid. Using this method, the entire piano is strip- muted, and unisons are tuned to the center strings as you go. The tuning device employed was the Sanderson Accu-Tuner with a built- in pitch-raising program. It was explained that the Accu-Tuner program measures the actual piano pitch for a given note, compares it to a tuning curve for the same note, calculates the difference between the two, and automatically offsets the pitch level of the tuning device by 25 percent of this difference, above standard pitch. By calculating the amount of overpull, or "Anticipated Drop" once or twice per octave, a very accurate pitch raise can be accomplished.



String 1 is tuned first to the Accu-Tuner. Next, the strip mute loop adjacent to string 2 is removed, and string 2 is tuned to string 1. String 3 is tuned to the tuner, the loop between strings 4 and five is removed, string 4 is tuned to string 3, and string 5 is tuned to strings 1 and 2. The procedure continues in like manner to the top of the piano.

The technique for the pitch raise calculation, as was demonstrated, was to choose a tuning in memory which would most closely match the piano being tuned. Of course, the exact piano would be ideal, but it was stated that for the initial pitch raise almost any tuning curve would do. Starting with the lowest plain wire, the pitch of the note is determined by playing the note while holding down the "measure" button on the Accu-Tuner. Once the display has been stopped, still holding down the measure button, the "shift" button is pressed, which completes the pitch- raise calculation. The tuner automatically computes the difference between the actual piano pitch and the tuning curve, and offsets the pitch level of the tuning device by 25 percent above the desired pitch level for the completed tuning. It was stated that by doing this once or twice per octave and tuning the unisons as you go, this method which employs a rolling correction factor produces excellent results. The method for tuning unisons having first strip-muted the entire piano was as shown at left.

After all of the plain wires have been tuned, the bass is then tuned by ear to the midrange, which has already settled in pitch. This demonstration took Jim Coleman about 11 to 12 minutes to perform. The demonstration was performed on a

Kawai UST-7 piano, and there was comment from class participants about Jim's tuning hammer technique. Jim was tuning right-handed, and had the tuning hammer in the three o'clock position, tapping down on it. Jim responded by stating that this technique, beside being less tiring, kept the tuning pin in the cradle of the hole the whole time and therefore required less overpull and settling than tuning from the nine to 12 o'clock positions.

George Defebaugh next demonstrated aural pitch raising. The entire piano is again strip-muted, and it is determined how flat the piano is to the fork. If, for instance, the piano is six beats flat of the fork, then a quick temperament will be tuned two beats sharp of the fork. Thirty-Three percent overpull is used in this system, as all of the center strings are tuned first, followed by unisons after. A quick two-minute temperament was tuned using virtually no tests and no pounding. After one minute thirty seconds, George had tuned his quick temperament, and the consensus was that it would have passed the tuning test at over 80 percent. George continued by tuning octaves into the treble. Since the reference notes are dropping as you go, the octaves must be tuned with a slight beating on the sharp side (perceived as about two beats per second). Center strings were tuned to the top of the piano. Once at the top, right strings were tuned to the center strings, pulling loops of the strip mute as you go, to the bottom of the plain wires. Once at the bottom, left strings were tuned to the center and right strings to the top of the piano. Once this was complete, the bass was tuned to the midrange which had already settled, and the bass was not overpulled, as it was said not to settle as much, as its bridge is closer to the edge of the soundboard. This entire process should take about 20 minutes. A question was raised about very large pitch raises (200 to 300 cents or one to one and a half whole steps flat). It was stated that such large pitch raises should be handled in three steps. The first step would be to tune the piano to pitch, with no overpull. The second step would be to use one of the above-described pitch raising systems. The third step would be the final tuning.

George next continued by demonstrating aural tuning on a Kawai KG2-D grand piano. He strongly advocated the exclusive use of the "A" fork, and recommended that the fork be checked frequently for accuracy. It was stated that direct pitch transfer from the fork is unreliable, and note F2 was used as a test note. The object was to tune A4 such that the beat rate from F2-A4 was the same as F2-A fork. The same test would be used if an audible pitch source other than a fork was used. The next step is to tune A3 to A4 as a wide 4:2 octave (M3⟨M10). A demonstration of counting beats using a metronome was given. It was demonstrated that if the metronome was set at 120 beats per minute (two beats per second), and the pulse sub-divided into sixteenth notes, the result would be eight bps. The same technique with the metronome set at 15 bpm would yield seven bps, and a setting of 136 would yield nine bps. Beat rates of approximately seven, eight and nine form the basis for George's temperament.

The metronome pulse sub-divided into sixteenth notes provides seven bps when set at 105 bpm, eight bps when set at 120 bpm, and nine bps when set at 136 bpm.

The next step is to tune F3 to A3 at ≈ seven bps. This is followed by tuning D4 to F3 at ≈ eight bps. Test to see that the A3-D4 4th is not more than one bps. The next step is to tune A♯3 to D4 at ≈ nine bps. Test to see that the F3-A♯3 4th is not more than one bps. These notes form the foundation for George's temperament.

It was stated that the actual beats in the piano are slower than the theoretical rates due to inharmonicity. Furthermore, it was pointed out that the fundamental frequencies of the intervals in the temperament do not make beats, but the coincident partials. The Coleman Beat Locator was used to demonstrate the location of the coincident partials to identify the beats. The beats were then isolated by using a strike tone to create what was termed a "ghost beat." It was mentioned that the fast beating intervals were favored in this system to give more musical sound. The object was to create a nice progression of M3rds and M6ths, with no objectionable 4ths and 5ths. The opinion was expressed that a musical octave could not be achieved using the slow beating intervals.

Continuing with the temperament, C♯4 was tuned to A3, slightly slower than the A♯3-D4 M3rd. G♯3 was then tuned to C♯4 at less than 1 bps. C4 was then tuned to G♯3, slightly slower than the A3-C♯4 M3rd. The F3-C4 5th was also tested. F♯3 was then tuned to A♯3, slightly faster than F3-A3 M3rd. The F♯3-C♯4 5th was also tested. D♯4 was then tuned to F♯3, slightly faster than F3-D4 M6th. B3 was then tuned to D♯4, slightly faster than the A♯3-D4 M3rd. The F♯3-B3 4th was also tested. G3 was then tuned to B3, to fit in the chromatic progression between F♯3-A♯3 and G♯3-C4 M3rds. The G3-C4 4th and G3-D4 5th were also tested. The C4-E4 M3rd, B3-E4 4th, and A3-E4 5th were also tested. Finally, F4 was tuned to G♯3, slightly faster than the G3-E4 M6th. The C♯4-F4 M3rd, C4-F4, A♯3-F4 5th, and F3-F4 octave were also tested. Parallel M3rds, M6ths, 4ths, and 5ths were then played.

Finally, the inside 3rd-outside 6th test was used. It was stated that the inside 3rd should beat about the same speed as the outside sixth. To test, first play the G3-B3 M3rd, followed by the F3-D4 M6th. Move up a semi-tone and repeat, etc. Complete the test by playing all four notes at once, F3-G3-B3-D4, and listen for sonority. Move up a semi-tone and repeat, etc. It was stated that this creates the piano vibrato, and that if this sonority is present, the tone will carry better.

George extended the temperament into the treble by octaves up to the break, using as tests parallel M10ths and the M3-M10 test, where the M3⟨M10.

At this point, Jim Coleman discussed the procedure for measuring the stretch number for the stretch calculator. This is done by setting the tuner on F5 and tuning F4 until the display stops. The tuner is then set on F6, and F4 is played, the cents adjusted until the display stops again. This cent reading is known as the stretch number, and

represents the difference between the second and the fourth partials of F4, which becomes the basis for the temperament octave. The stretch number is stored into the Accu-Tuner, and the cent settings for notes C3 to F6 are calculated automatically.

Jim stressed tuning by visual *and* aural feedback. He started by tuning notes A4, G♯4, G4, F♯4 to the tuner. When he reached note F4, he tuned F4 to the tuner while at the same time listening to the F4-A4 M3rd. Playing the 3rd while tuning F4 did not in any way interfere with the pattern on the Accu-Tuner, and provided an aural check against visual mistakes in reading the display. He continued downward, tuning E4 while listening to theE4-G♯4 M3rd, etc. When he reached D4, he could also listen to the D4-A4 5th without interference. This provided two aural tests to correct any visual errors. This procedure was followed down to the lowest plain wire. When tuning from A♯4 up, it was demonstrated that the M3rd could still be listened to without interference, as the beat rate of the 3rds was very fast. Jim tuned up to the break, and a progression of M3rds was played in a rather unusual fashion, one note of the interval from each piano. It began with George playing F3 on the KG2-D, and Jim playing A3 on the UST-7, ascending chromatically. Then they reversed with Jim playing the F3 and George playing the A3, ascending chromatically. The results were rather impressive.

George continued by tuning the bass. This was accomplished by tuning descending M3rds, and listening to the resulting octaves. At the bass break, the M6th, 5th and 4th were also listened to so as to achieve the best compromise. In this system, the rate of the descending M3rds determines the octave stretch. When the M3rds became harder to hear, the "ghost" beat was generated by holding down the two notes of the M3rd, and striking the M17th above the lower note of the M3rd. Final testing was done by listening to the progression of M3rds, M10ths, and M17ths.

Jim Coleman tuned the bass with the Accu-Tuner, by setting up for 6:3 type octaves. Since the stretch calculator generated cent settings down to note C3, Jim measured the C3-C4 as a 6:3 to see if the Stretch Calculator had tuned this octave as a 6:3. This confirmed that 6:3 tuning would be appropiate below the stretch calculator section, which would give a smooth transition into the bass. M3rds were listened to across the bass break, and 6:3 octaves were continued downward. Jim began to add a "fudge factor" and begun tuning 6:3 + octaves. This factor increased note by note, until 8:4 octaves were being tuned in lowest bass of the UST-7.

George than began tuning above the break into the treble. He had been listening to the progression of M10ths, and to the M3- M10 test. At this point, he dropped down and began listening to the progression of M17ths, and to the relationship of the M3-M10- M17. It was his desire to stretch the piano as much as it would let him, and therefore the M3⟨M10⟨M17. It was stated that overstretching would cause beats in the double octaves, while insufficient stretching would result in flat-sounding double octaves. When George reached the top octave, he determined to maintain the beat rate of the M17ths, but not let it increase, to minimize beats in the single octaves. Because George has suffered a hearing loss in one ear in the high end, he employed the Accu- Tuner to compensate for this loss. Once the note was pulled close with the tuner, he could again hear to tune it. He also demonstrated pushing down strings with a brass rod to eliminate false beats, and added that duplex scales could be masked off if they are causing interference. Plucking the top few notes might also help being able to hear.

Jim tuned the treble by continuing in the stretch mode up to note F6, which is the highest note of the stretch calculator. He then put the Accu-Tuner into the "tune" mode, and played notes two octaves below for reference, stopping the lights, and tuning the note. This made the M3-M17 equal-beating. He also consulted the single octave, and in each favored the sharper of the double and single octave.

After all of this demonstration, both George and Jim emphasized that unison tuning was the most important of all.

The finale came as George and Jim played note for note in unison from both pianos, with an excellent match between them, especially considering that they were two very different pianos, and they were tuned by entirely different means.

The second class to be reviewed was entitled "Electronic Tuning with Aural Tests" sponsored by Inventronics, and taught by Albert Sanderson. This was a 1-1/2 hour class which was offered three times during the convention.

The object of this class was to demonstrate electronic tuning techniques accompanied by aural tests used as a quality control.

The class began with the premise that the piano cannot be tuned unless it is already very close to being in tune. For this reason, the piano must be pitch raised first if it is not already very close to being in tune. It was stated that conventional pitch raising techniques apply one correction factor to the whole piano. It was also noted that seldom, if ever, do we come across a piano which is uniformly flat from top to bottom. The pitch raising program in the Accu-Tuner (as described in detail in the above) was described for the class, noting the use of a 25 percent correction factor, which is then added to the tuning curve. Because a 25 percent correction factor is being used, unisons must be tuned as you go. The pitch raise calculation should be performed once or twice per octave to achieve the best results. Do not overpull the last six notes, as they will not drop as much as the rest of the notes.

It was stressed that pitch drop happens instantly. By the time the next six notes are tuned, the original note will have dropped back down to pitch. In addition, the notes ahead are dropping even flatter as the previous notes are being pulled up to pitch, therefore a higher correction factor is needed if the piano is to be at pitch upon the conclusion of the pitch raise. Because pitch drop happens instantly, there is no need to wait two weeks to do the final tuning.

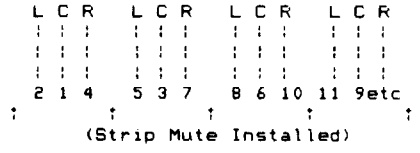
A question was raised as to the structural considerations during a pitch raise, in a system which tunes the unisons as you go. It was stated that the piano goes through far worse stresses during manufacture than it will ever encounter

during a pitch raise.

A question was asked regarding large pitch raises. It was stated that in the case of a large pitch raise, the piano should be first pulled just to pitch (no overpull) to see whether the strings can take it. The second pass would be by the 25 percent overpull method, and the third pass would be the fine tuning. A 100 cent or semi-tone pitch raise would be the maximum which should be attempted in one pitch raising.

The entire piano is strip muted for the pitch raising. A piano curve must be selected from memory which most nearly represents the piano being tuned. The program measures the piano note, compares it to the tuning curve, computes the difference, takes 25 percent of the difference, and adds it to the tuning curve. The program, works the same for pitch lowering as well a pitch raising. As mentioned, unisons are tuned as you go.

In this procedure, the bass is tuned first. 25 percent is slightly too much correction for bass strings (20 percent would be closer) but by the time tension from the entire midrange has been added to the soundboard, the bass strings will have dropped back down to pitch. For the plain wires, the unison tuning procedure is as follows:

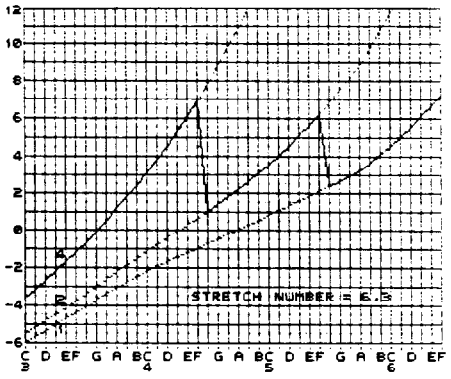


String 1 is tuned first to Accu-Tuner. Next, the strip mute loop adjacent to string 2 is removed, and string 2 is tuned to string 1. String 3 is tuned to the tuner, the loop between strings 4 and 5 is removed, string 4 is tuned to strings 1 and 2, and string 5 is tuned to string 3. The procedure continues in like manner to the top of the piano.

This procedure is essentially the same as that listed in the above, with the exception that the order for tuning strings four and five, seven and seven, 10 and 11, etc., are reversed. This procedure is followed to the top of the piano, at which time the pitch raise has been completed.

Once the piano has been pitched raised, it is ready for fine tuning. The stretch calculator was used as the basis for the midrange tuning. It was mentioned that each piano is tuned to curve, and that the stretch calculator determines the "tilt" of the tuning curve. Measuring the difference between the second and fourth partials of note F4 gives the stretch number, which determines the width of the temperament octave, as well as the settings for 42 notes in the midrange. In this range, the piano is predictable. Above and below this range, the piano becomes unpredictable.

A question was asked as to why the cent settings jump backward at various places in the stretch calculator. It was stated that the cent settings jump backward when the partial being tuned to changes. The stretch calculator tunes on the 4th partial for 18 notes, and the 2nd partial for 12 notes, and the 1st partial for 12 notes. A graph of the stretch calculator was drawn as follows:

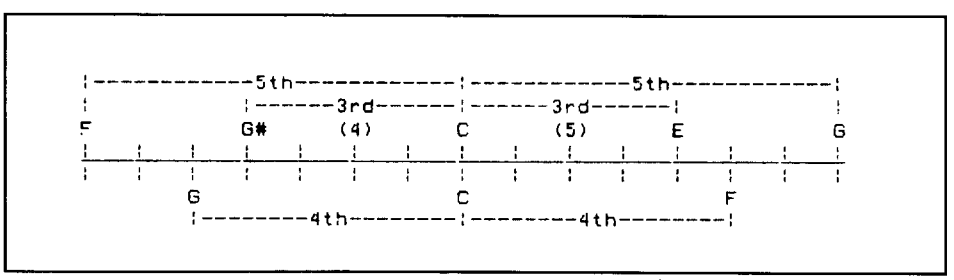


This is a graph depicting the stretch calculator. The curves for the 4th, 2nd, and 1st partials are shown, and the points at which the partial change in the stretch calculator are noted.

At this point, the piano was tuned with the stretch calculator. It was mentioned that the accuracy of the pitch raise could be tested at this time by seeing how far off any given note was. All notes were very close to where they were supposed to be. Two octaves were tuned, and then evaluated by ear. It was determined that all of the M3rds were good, M6ths were good, there was one marginal 4th, and one marginal 5th.

Contiguous intervals were used for aural testing. These are very useful for isolating wrong notes. If, for example, C4 was in question, contiguous M3rds G#3-C4 and C4-E4 would be played. These should be in a 4:5 ratio. Contiguous 4ths G3-C4 and C4-F4 would be played. These should have nearly the same quality. Contiguous 5ths F3-C4 and C4-G4 would then be played. These should have nearly the same quality. If it is determined that moving C4 up would improve the majority of these intervals, then it should be raised. In this case, all intervals showed that C4 should be raised. It was raised, and five of the six intervals were improved. With contiguous intervals, the change happens twice as fast as expected, because the shared note is being moved.

Once the midrange has been tuned and tested, and any changes stored in memory, the treble is next to be tuned. It was demonstrated that the tuning could be stored in memory as the piano was being tuned. To tune notes above F6, the Double Octave, Twelfth, and Single Octave are played as reference notes. The cents are adjusted so as to give the best compromise in display rotations the three reference notes are played.



The above shows contiguous intervals for use in aural testing on note C. As shown, the M3rds should be in the ratio of 4:5, and the 4ths and 5ths should have nearly the same quality. The change as a result of moving C will happen twice as fast as might be expected, as C is shared by all of the above intervals.

Once the note has been tuned and tested aurally, it can be stored in memory. Having done this, the tuner advances and is ready to tune the next note.

The aural tests used to verify the treble tuning are a sequence employing all of the notes used as reference, the note being tuned, and a common test note. If F♯6 is being tuned, then F♯4, B4, and F♯5 would be used as reference notes. The test note in all cases would be D4, and this would create tests intervals as follows:

D4-F♯4 (M3), D4-B4 (M6), D4-F♯5 (M10), and D4-F♯6 (M17).

Intially the sequence would beat as follows: M3⟨M6⟩M10⟨M17. If a good compromise was reached between the Double Octave, Twelfth, and Single Octave, the progression of the M3, M6, M10, and M17 will be good as well. It was pointed out that even after we can no longer hear these intervals, the Accu-Tuner can still hear the partials. If we have verified our system with aural tests while we could hear them, if we continue with the same system we can be assured that our tuning would produce the same aural results if we could still hear the test intervals.

It was noted that for a while, it is fairly easy to achieve a good compromise between the single octave, and twelfth. After a while, the three paths diverge, and a choice must be made. In general, the single octave will give the most radical stretch. The double octave lies between the two.

Following the above procedure to the top of the piano, storing in memory as you go, the entire piano, excluding the bass, has been stored in memory.

To tune the bass, the tuner is set up on the sixth partial of the note to be tuned. By doing this notes an octave, 12th, and 19th above the note being tuned can be used as reference notes. Since C3 was the lowest note to be tuned by the Stretch Calculator, 2 will be the first bass note to be tuned. Set the tuner on F♯5, which is the sixth partial of B2. Play as reference notes B3, F♯4, and F♯5, and work with the cents to achieve the best possible compromise for these three intervals. To test the placement aurally, use the three notes used as reference notes along with the note being tuned, and a common test note to create test intervals. The test note in each case would be D3, and this would create test intervals as follows:

B2-D3 (m3), D3-B3 (M6), D3-F♯4 (M10), and D3-F35 (M17).

If a good compromise was reached between the octave, 12th, and 19th, the progression of the m3, M6, M10, and M17 will be good also.

This sequence is followed to the bottom of the piano, storing in memory as you go. By the time the last note is tuned, the entire piano has been stored in memory for use at a future date.

This concludes the review of the two tuning classes offered at the annual convention in Toronto. Please send your letters, questions and comments to:

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An Encyclopedia Of Tests For Equal Temperament

Michael Kimbell
San Francisco Chapter

Parts 1 and 2 comprised octave, fourth, fifth, and contiguous interval tests; this month's installment concludes the Dictionary by examining chromatic tests, whole-step tests, and third-sixth cross-checks.

The chromatic tests shown in Figure 1 are invaluable for verifying the smooth chromatic beat-speed progression of all intervals, both during the construction and after the completion of a temperament. Since there are 12 different notes in the chromatic scale (not counting octave duplications), a complete chromatic progression contains 12 consecutive intervals. Early in the tuning procedure the appropriate short component of progression can be used for comparing two intervals; the real worth of chromatic tests, however, is best appreciated once three or more consecutive intervals of a chromatic progression have been tuned. From this point on, the tuner's task is to assure that the increase in beat speed is exactly the same from one interval to the next in the progression, in other words, the beat speed of each interval lies exactly midway between the beat speeds of its neighbors. (The same principle applies to contiguous and whole-step progressions.) In a temperament extended to two octaves, complete chromatic series of thirds, sixths, and other intervals can be checked for any irregularities in beat speed acceleration which will need correcting.

Tests for major thirds and major sixths (Tests 23 and 25 in figure 1) are by far the most important chromatic tests. The sixths must progress as evenly as the thirds, otherwise the harmonic colors in the music will be uneven. Futhermore, if the chromatic progression tests for both major thirds and sixths (or both major and minor thirds) check out flawlessly, the fourths and fifths are guaranteed good too, unless bad scaling problems are present in the piano. By the same token, if the fourths and fifths seem to be in order but the thirds and sixths do not progress evenly, it follows inevitably that the fourths and fifths are not really as good as they ought to be.

These interrelationships are illustrated geometrically in Figure 2. Diagram A shows the circle of fifths (identical to the sequence of notes in a "fourths and fifths" temperament); all the fifths must be tempered equally so that the circle divides into twelve equal segments. (If any of the fourths or fifths were poor, the notes would not be spaced equally around the circle.) In diagram B these same notes have been connected by four separate triangles to show all four sets of contiguous major thirds, and in Diagram C by three separate squares to show all three sets of contingous minor thirds (alias major sixths). The triangle corresponding to a well-tuned series of contiguous major thirds is equilateral (see the solid triangle for A-C♯-F-A in the diagram); were the thirds poorly tuned, the triangle would be irregular. Four equilateral triangles are also obtained by tuning an evenly progressing series of chromatic thirds. Nevertheless, as the triangles are independent of each other with no point in common, there is no assurance that they will be spaced evenly around the circle, and consequently no guarantee that any fourths, fifths or sixths will be good, even though the thirds are equally tempered. The same holds true for the squares in Diagram C, which represent chromatically progressing sixths or contiguous minor thirds: here too, it is possible for all the squares to be perfect without being spaced evenly around the circle. However, superimposing equilateral triangles and perfect squares automatically spaces the figures evenly and divides the circle into twelve equal segments; accordingly, when all chromatic major thirds and all chromatic sixths progress smoothly at the same time, all of the fourths and fifths will be good.

Despite this, fourths and fifths should still be checked chromati-

FIGURE 1:

Chromatic tests:	Test 23 Thirds	Test 24 Tenths	Test 25 Sixths	Test 26 Thirteenths	Test 27 Minor thirds
Upper note:	A37 A♯38 B39 C40	G47 G♯48 A49	D42 D♯43 E44	F♯46 G47 G♯48 A49	C28 C♯29 D30 Eb31
Lower note:	F33 F♯34 G35 Ab36	Eb31 E32 F33	F33 F♯34 G35	A25 Bb26 B27 C28	A25 A♯26 B27 C28
Beats/sec.:	7 7½ 8 8½	7	8 8½ 9	6	6 7
Beat ratio:	17:18	17:18	17:18	17:18	17:18
Increase by %:	+6%	+6%	+6%	+6%	+6%
in b./s.:	+1	+1	+1	+1	+1

Chromatic tests (cont.):	Test 28 Fourths (similar quality)	Test 29 Fifths (similar quality)	Test 30 Twelfths (almost clean)	Test 31 Octaves (clean, consistent)
Comments:				
Upper note:	Bb38 B39 C40	C40 C♯41 D42	E44 F45 F♯46	A37 A♯38 B39
Lower note:	F33 F♯34 G35	F33 F♯34 G35	A25 Bb26 B27	A25 A♯26 B27
Beats/sec.:	4/5	3/5 2/3		
Beat ratio:	17:18	17:18		
Increase by %:	+6%	+6%		

FIGURE 2:

Diagram A	Diagram B	Diagram C
Fifths (fourths)	Major thirds	Minor thirds (major sixths)

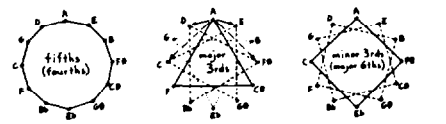


FIGURE 3:

Whole-step tests:	Test 32 Thirds	Test 33 Tenths	Test 34 Sixths	Test 35 Minor thirds	Test 36 Fourths	Test 37 Fifths
Upper note:	A37 B39 C♯41 D♯43 F45 / Bb38 C40 D42 E44	F45 G47 A49	Bb38 C40 D42 F45 G47 A49	C28 D30 E32	F33 G35 A37 B39	G35 A37 B39 C♯41
Lower note:	F33 G35 A37 B39 Db41 / Gb34 Ab36 Bb38 C40	Db29 Eb31 F33	Db29 Eb31 F33 Ab36 Bb38 C40	A25 B27 C♯29	C28 D30 E32 F♯34	C28 D30 E32 F♯34
Beats/sec.:	7 8 9 10 11 / 7½ 8½ 9½ 10½	6+ 7 8	6+ 7 8 9½ 10½ 12	6 6½ 7½	2/3 ½	½
Beat ratio:	8:9 / 8:9	8:9	8:9 / 8:9	8:9	8:9	8:9
Increase by %:	+12% / +12%	+12%	+12% / +12%	+12%	+12%	+12%
in b./s.:	+1 / +1	+1	+1 / +1	+1	+1	+1

cally, especially on small pianos. In Tests 28 through 31, the uniform quality or color of the intervals is the chief guiding factor, rather than the beat rates.

When no irregularities are detectable in an entire set of 12 progressing thirds, all of the thirds will be well within the one-cent interval-width tolerance mentioned last month, and probably within a half-cent tolerance. An equally fine temperament is achieved in electronic tuning by the "direct measurement" method, whereby the widths of contiguous thirds are adjusted so that they are all about the same. (Although the thirds gradually change in width as they progress up the keyboard, they still stay close to 14 cents.)

A one-cent note tolerance, however, does not necessarily make for a good equal temperament. If the upper note of a given third is a cent too high and its lower note a cent to low, the measured width of that third equals 16 cents rather than 14. Should the upper note of another third in the same temperament be a cent too low and its lower note a cent too high, the measured width of that third equals 12 cents — a four-cent difference between the two thirds! This means that the third F33-A37 (for example) could beat almost one beat per second too fast or too slowly and still be within the one-cent note tolerance of an ideal tuning; the thirds F33-A37 and F♯34-A♯38, theoretically beating at 6.9 and 7.3 b.p.s. respectively,could beat at 6.0 and 7.8 — or even 8.3 and 6.4, a marked decrease. (Of course a single note that is one cent out of line in an otherwise good temperament will not wreak as much havoc. But even the single wayward note can be spotted and corrected easily using routine tests.)

The whole-step tests, in which the various intervals progress by whole steps rather than chromatic half steps, are shown in Figure 3. The most useful are Tests 32 and 34 for thirds and sixths, which are equivalent to using every other note of the corresponding chromatic tests. Test 32 is particularly applicable for building additional notes on a contiguous thirds foundation: for example, the third G-B lies midway between the contiguous thirds F-A and A-C♯, and should have an intermediate beat speed. (The remaining thirds F♯-A♯ and A♭-C are at the one-quarter and three-quarter positions and are tested chromatically.) Since the beat speed increases are easier to hear in whole-step tests, the two series of thirds shown for Test 32 are an excellent device for checking and refining a chromatic progression. Test 34 is indispensible for extending an F-to-F temperament outward to two octaves.

Figure 4 presents several third-sixth cross-checks. These should be distinguished from Test 9, 10 and 11 presented last month, which used untuned thirds and sixths to establish good fourths. For practical purposes the beat rates in Test 38 and 39 are identical, although inharmonicity, particularly near the tenor-bass break where these tests become unreliable, can alter the beat speed relationships. (The ratios given in the examples are theoretical and do not take inharmonicity into account.) The intervals in the remaining tests in Figure 4 form short progressions of gradually increasing beat rates. Test 40 is the familiar "both ways from the middle" test which checks two thirds, two fourths and a sixth simultaneously. Test 41 is a variant of the "both ways" test for establishing the note D after a foundation of contiguous thirds has been tuned.

Tests 41 through 44 are all variants of the regular chromatic or whole-step tests, in which one interval of the progression is replaced by another based on the principle of Test 38 and 39. For example, Test 42 is really Test 32

FIGURE 4:

Third-sixth cross-checks:	Test 38 Third-sixth	Test 39 Third-minor 3rd	Test 40 Third-sixth-third ("Both ways")	Test 41 Third-sixth-third	Test 42 Third-minor third-third	Test 43 Third-third-sixth	Test 44 Sixth-sixth-third
Upper note:	B39 D42	D♯43 A37	A37 D42 D42 Bb38 D42	A37 D42 C♯41 D42	C♯41 A37 F45	A37 Bb38 D42	D42 D♯43 C♯41
Lower note:	G35 F33	B39 F♯32	F33 F33 Bb38 F33 A37	F33 F33 A37 A37	A37 F♯34 Db41	F33 Gb34 F33	F33 F♯34 A37
Beats/sec.:	8 8	10 10	7 8 9½ ⅚ 1	7 8 9 1	9 10 11	7 7½ 8	8 8½ 9
Beat ratio:	54:55	54:55	7:8 6:7	7:8 10:11	7:8 10:11	17:18 13:14	17:18 24:25
Increase by ¢:	+2¢	+2¢	+14¢ +16¢	+14¢ +10¢	+14¢ +10¢	+6¢ +8¢	+6¢ +4¢
in b./s.:	(none)	(none)	+1	+1	+1	+½	+½

FIGURE 5:

Composite chromatic tests: Comments:	Test 45 Thirds-tenths (similar stretch if possible)	Test 46 Minor thirds - sixths (similar stretch if possible)	Test 47 Thirds-sixths (consistent fourths)	Test 48 Tenths-sixths (consistent fifths)
Upper note:	C♯29 C♯41 D30 D42 D♯31 D♯43	C28 C40 C♯29 C♯41 D30 D42	C♯29 F♯34 D30 G35 D♯31 G♯36	C♯41 F♯34 D42 G35 D♯43 G♯36
Lower note:	A25 A25 Bb26 Bb26 B27 B27	A25 A25 A♯26 A♯26 B27 B27	A25 A25 Bb26 Bb26 B27 B27	A25 A25 Bb26 Bb26 B27 B27
Beat ratio:			7:8 7:8 7:8	7:8 7:8 7:8
Increase by ¢:			+14¢ +14¢ +14¢	+14¢ +14¢ +14¢
in b./s.:			+1 +1 +1	+1 +1 +1

Composite chromatic tests (cont.): Comments:	Test 49 Seventh chords in third inversion (clear vibrato)	Test 50 Seventh chords in second inversion (clear vibrato)
Notes (played together):	D42 D♭43 E44 B39 C40 C♯41 G35 A♭36 A37 F33 G♭34 G35	D42 D♯43 E44 B♭38 B39 C40 A♭36 A37 B♭38 F33 F♯34 G35

(thirds by whole steps) in disguise: the middle third, G-B has been replaced by a sixth in accordance with Test 38. Similarly, Test 43 is a series of chromatic thirds in disquise, the last of which has been replaced by a sixth with approximately the same beat rate. Depending on the particular tuning sequence, these irregular tests may or may not be applicable, but similar tests can be devised readily on the same principles.

The tests in Figure 5 are most appropriate for checking a completed temperament and refining it for the "master" tuning of a concert or examination piano — or the special customer's fine instrument. In Test 45 through 48, the familiar tests for octaves, fourths and fifths are repeated on each degree of the chromatic scale in order to detect minor inconsistencies which can then be checked and corrected with other tests. Test 49 and 50, in which four notes are played together as a chord, have less diagnostic function, as they merely confirm Tests 38 and 39.

Next month I shall present two sample temperaments which demonstrate the selection and use of tests. I would be delighted to hear from anyone who has invented new temperament tests or who knows of any that I have omitted. ■

Viennese And German Piano Building At The Close Of The 18th Century

Jack Greenfield
Chicago Chapter

Piano Industry Of Vienna

An article in the *Allgemeine Musikalische Zeiting*(General Music News) published in Leipzig in May 1799 stated that there were over 300 piano teachers in Vienna. Many of them earned their living by giving lessons during the day and working as pianists at night. A reference on Viennese instrument makers listed in the article "Pianoforte" in the 1980 Grove Dictionary of Music states that at least 135 keyboard instrument makers were active in Vienna during the period 1791-1815. Among the leaders were Nanette (Stein) with her husband Johann Andreas Streicher and her brother Matthaus Andrea Stein who took the business name Andre Stein after they split their partnership to form separate businesses. Each retained the early prestige attached to the Stein name. Other prominent Viennese builders included Anton Walter, Johann Schantz, Ferdinand Hofmann, Mathias Muller, Joseph Brodmann and Conrad Graf.

A label on the soundboard of a Hofmann grand piano in the collection of the Metropolitan Museum, New York, identifies Hofmann as a member of the "civic keyboard makers association" according to a Museum catalog. Evidently the Viennese builders formed what probably was the first association of piano manufacturers. The earlier craft guilds appear to have been more like trade unions than business organizations.

The German Piano Industry

Leaders among the piano builders in Germany included J. L. Dulcken of Munich, Karl F. W. Lemme of Brunswick, the Scheidmayer brothers, several members of the Schmal family in southwestern Germany and Johannes Adolph Ibach (1766-1848). The name Ibach ranks next to Schiedmayer in length of time used on keyboard stringed instruments. Ibach was born and grew up in a town then named Beyenburg in northwestern Germany. His education included musical training but he turned to instrument making to earn his living. He became a skilled craftsman as well as an excellent amateur performer on both the piano and the organ. He built his first piano in 1794, a square. A local newspaper, the *Westphalischen Anzeiger* of October 14, 1800, contains Ibach's advertisement offering all kinds of forte pianos including grands, and large and small pipe organs. The firm, which subsequently became known as "Adolph Ibach und Sohne Organbauanstalt und Pianofortefabrik" as it continued under the direction of the founder's descendants, became one of Germany's most prominent piano manufacturers.

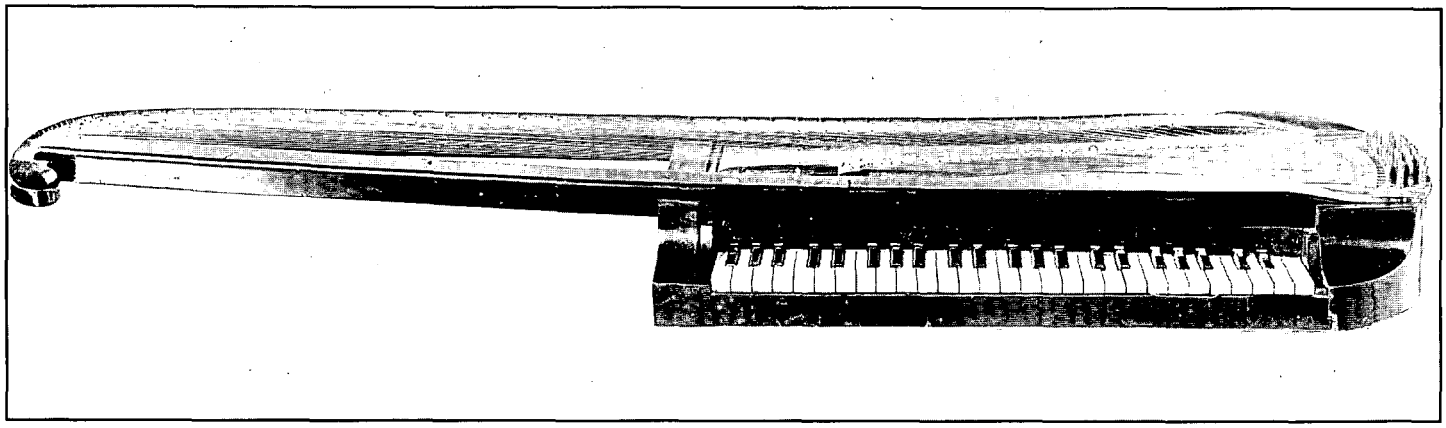
Square Piano Designs

Considering the number of surviving examples, it appears that square pianos were fairly common in Germany during the late 18th century. Viennese builders, however, built few squares then. The grand pianos of the period are generally similar to those of Stein and Walter in most details. The square pianos show a greater variety of action designs. A piano now in a Berlin collection, built in 1788 by Johann Gottlob Wagner, shows the Silbermann influence that had dominated the region. Wagner's action is basically a modified Cristofori-Silbermann design. In this instrument, the hammers mounted on a rail are lifted by jacks set directly on the key levers near the back ends. There are no intermediate levers. The jacks, held in place by wire springs, escape by slipping into notches on the underside of the hammer butts just before the hammers contact the strings. Dampers operated by a simple system of levers are provided but there are no hammer checks.

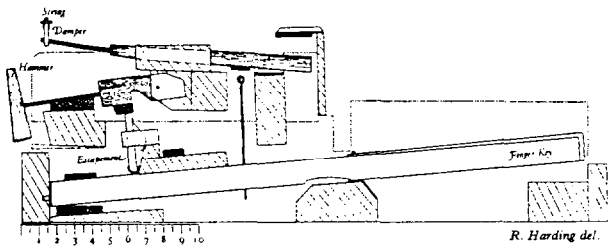
A hybrid type, used by Johann Matthaus Schaml of Ulm in 1770 and later by a few other builders in Germany and England had the hammer heads toward the front as usual in the German bumping action but the hammers were mounted on a back rail and they were raised by jacks on the back ends of key levers, as in the pushing actions that were more common in England. Harding classes such combinations of hammers in German "reverse" placement lifted by jacks, as "Anglo-German actions." Pfeiffer considers them another form of the pushing actions. The purpose of such a combination was to obtain the lighter touch of the bumping action while providing the more powerful blow delivered by the hammer under direct impetus of the jack. Pfeiffer checked the small square Schmal piano in a museum in Stuttgart and obtained the average figures of 15 grams touch weight and only 4.5 mm. key dip.

A second hybird arrangement combining principles of bumping and pushing actions was used by Ignace Joseph Senf of Augsburg in a 1770 square piano. It is shown in a drawing by Harding of a Berlin museum action model. The hammer is mounted in a brass fork or Kapsel behind the balance rail but the hammer head rests toward the back of the action. The jack, set on the near end of an intermediate lever hinged on the rear side of the key stick, swings upward when the far end of the intermediate lever bumps up against the "bounce" rail or Prelleiste as the key is depressed. Pfeiffer calls this action a "bumping action with...hammer facing away from player" and lists some later square pianos with similar actions. He gives the figures 10-25 grams touch weight and 5-7 mm. key dip for these pianos.

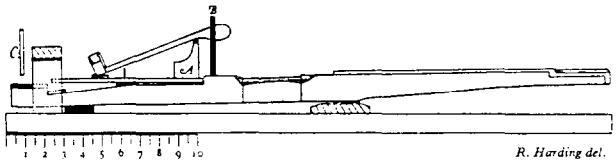
The Johann Jacob Seidel (or Seydel) (1759-1806) piano in the Metropolitan Museum collection is an excellent example of a square piano built in Vienna with an action containing spring-loaded escapement jacks and back checks



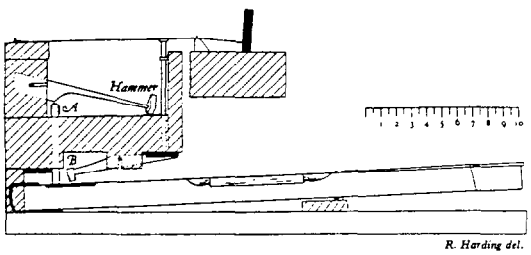
Orphica, a portable keyboard instrument manufactured in Vienna in the early 19th Century. The Metropolitan Museum of Art, The Crosby Brown Collection of musical instruments, 1889 (89.4.1246)



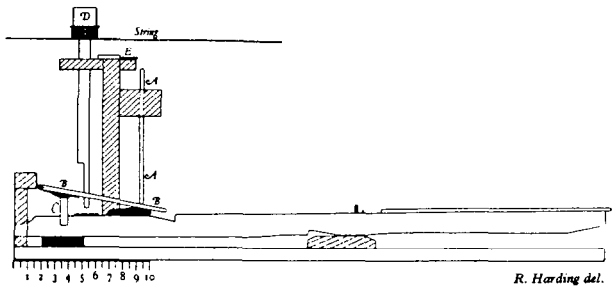
Square piano forte by Johann Gottleib Wagner, Dresden 1788.



Bumping action modified with intermediate lever, square piano by Ignace Joseph Senft, late 18th century.



Jack action with hammer reversed, square piano by J.M. Schmal, about 1770.



Tangent action, Spath and Schmel, 1795.

instead of the usual Viennese Bumping escapement. The dates in the piano are 1792 on its oval name plate and 1795 on an inside label. The case is mahogany trimmed with brass bead. The compass is five octaves, F1-F6. Seidel was an native of Brunswick who settled in Vienna. His action and other characteristics are representative of the style in northern Germany where he received his training. It is believed that after he opened his shop in Vienna, he invented the brass Kapsel of the later Viennese actions.

Tangent Pianos

Tangent pianos, a hybrid design with harpsichord jacks instead of hammers appeared late in the 18th century. These instruments were made with bichord stringing, scale, and form of a grand piano but with simple lever actions in which harpsichord jacks with leathered tops held in place in harpsichord-style slides were thrown up against the strings. Dynamic shading could be obtained by varying the degree of force of the finger pressure on the keys. The instruments had dampers with knee-lever operated damper lift and una corda shift. The tone was considered pleasing in its day as well as at present by listeners to surviving instruments. Franz Jacob Spath (1714-1786) of Regensburg who started to build these instruments around 1770, called them *Tangentenflugel* or tangent pianos even though the tone is closer to harpsichord tone. Piano actions in which strings are struck by tangents were offered by Marius (1716) and Weltman (1759) of Paris but it is doubtful that either of these were used in actual instruments. Harding's report on a tangent piano built under Schroter's direction in 1739 also is uncertain.

In 1774, Spath formed a partnership with his son-in-law, Cristoph Friedrich Schmal, a relative of the piano maker Johann Matthaus Schmal of Ulm. The firm of Spath and Schmal enjoyed a period of popularity for several decades afterward. The Spath and Schmal tangent piano was imitated by a few of their competitors.

Portable Pianos

Following in the pattern of the portable clavichords such as the one Mozart obtained from Stein in 1763, were the small portable pianos built for travel. The Metropolitan Museum has such an instrument built in the shape of a "lying harp" with the curved side on the right. The C2-F6 keyboard has unusually narrow keys. The action consists of key levers and simple hammer levers pivoted in a

comb-like frame. There are no dampers but there is an arrangement of leather tabs which can be interposed between the single-strung strings and the bare wood hammers. The action slides out through an opening in the back. The Colt Clavier Collection in Bethersden, England has a similar piano, one manufactured by Spath and Schmal.

The smallest of the portable pianos was the Orphica, invented and built by Carl Rollig of Vienna from 1795 on and copied by other builders. The Orphicas with keys about half of standard width and a compass varying from two to four octaves, were small enough to be held across the lap or suspended from the neck like a guitar. An Orphica now in the Metropolitan Museum collection was built by an unknown maker about 1800. It is single-strung, without dampers, in the compass F2-F6 and contains a Viennese type action reduced in size. Orphicas did not remain popular for long because they were clumsy to handle and their tuning was too difficult for amateurs. The instrument was discontinued several decades after introduction.

Vertical Pianos

After an interval of several decades, interest in vertical pianos was revived with the work of Hofrat Bauer of Berlin. In 1780, Bauer built an eight and one-half foot high piano that was essentially a grand piano standing vertically, as were the earlier pyramid pianos of Friederici and his contemporaries in the middle of the century (*Journal,* November, 1986, p. 13). Bauer named his piano "crescendo." It had a five-octave compass, three pedals for controlling dynamics and a keyboard which could be shifted for transposition. Soon afterward other firms began to make similar pianos. About 1798, the vertical piano in a new form, the *Giraffenflugel* or giraffe piano was introduced. Credit for this design was claimed by the firm of Wachtel and Bleyel of Vienna. The giraffe piano has a long gracefully curved top trimmed with ornamental molding running from the short side on the right to the tall side on the left. Pyramid pianos were manufactured until the middle of the 19th century.

The form of the Viennese vertical piano that rose to most importance was the upright first produced in 1800 by Mathias Muller (1770-1844). While other verticals were top-heavy instruments rising on stands from key level, Muller's structure rose from ground level to slightly over five feet. During the same year, John Isaac Hawkins in Philadelphia built a piano with the same idea. Muller and Hawkins share credit for originating the structure that developed into the modern upright. Muller, one of Vienna's most ingenious piano builders has many other inventions to his credit, including the principle of the tapecheck action.

The Viennese action was easily modified for vertical stringing. In the "standing" Viennese upright action, the hammers rest against a hammer rail as in the modern upright. The hammer butt pivots in a Kapsel or flange on the back end of the key lever. The method of escapement is the same as in the normal Viennese action. Another modification that was developed for giraffe pianos was the "hanging" Viennese action, the original ancestor of the modern spinet drop action.■

ECONOMIC AFFAIRS

The Future of the Piano Industry: Promoting the Acoustic Piano

Gracie Wagoner, RTT
Central West Regional Vice President

In recent years there has been much discussion about the future of the acoustic piano, and how it will affect our economic futures as piano technicians. Since the Council Session of 1985, when there was some discussion on the floor about our economic futures, I have been tossing some ideas around in my head about how we could promote piano playing — the idea being that we must have people playing the piano before we can have pianos to service.

When I announced my candidacy for CWRVP a little over a year ago, I stated on my campaign flier that one of my goals was to promote piano playing, piano teaching, and the piano industry as a whole, in order to promote the economic health of the technician. Little did I realize someone would pick up on that! The Minnesota-North Iowa Chapter asked me to come to one of their meetings and discuss this very topic. Needless to say, that forces one to get some ideas together and form a plan of action. I gathered many ideas from various people on this subject, and thought perhaps other members might be interested in hearing some of them.

I think when we are talking about the "piano industry," we are talking about four segments of the trade: the manufacturers, the dealers, the teachers, and the technicians. These are the people who more or less make their livings working with the piano. The future of the industry will depend on how these four groups work together as individuals and as organizations to promote the piano. If we accept the premise that we must actively promote interest in the accoustic piano, rather than sit back believing there is no real concern here, then we must think in terms of a concerted effort on the part of these four groups.

"The future of the industry will depend on how these four groups work together as individuals and as organizations to promote the piano. If we accept the premise that we must actively promote interest in the accoustic piano, rather than sit back believing there is no real concern here, then we must think in terms of a concerted effort on the part of these four groups."

When discussing the future of anything, it is helpful to know something about its past. If you have done any research into the history of the piano, you know that it was very popular in the 19th and early 20th centuries. Music was very important to people then. The piano was a symbol, and it grew by leaps and bounds along with the rise in wealth and status of the middle classes. For a very interesting and thorough history of the piano and how it evolved along with the social development of the past 200 years or so, read Arthur Loesser's book, *Men, Women, and Pianos,* published by Simon and Schuster. I bought it at a convention a few years ago, and still refer to it from time to time.

Due to this popularity, the

piano industry in the United States became one of the largest industries in operation around the turn of the century. There were many piano factories in New York City, as well as many others scattered around the country. There were as many as 294 piano manufacturers in the United States at the peak period of output of pianos, which was around 1909 or so. The total output of units was at its peak at 364,545 per year. This is a staggering figure when you consider it represented about one new piano sold for every 250 people or so living in the U.S. at that time. Think what this would mean to your business today if these same figures were true! Since then, the industry went into a decline, and it has had its ups and downs ever since. By 1925, the total units shipped was slightly more than 306,000, 55 percent of which were players. By 1929, there were only 81 factories left, and by 1933, only 36.5. After the lean years of the 30s and early 40s, there was a slight upswing in the market, followed by a slight decline in the past decade or so.

What accounted for the decline in interest and status of the piano, resulting in decreased sales? All of us can think of many reasons. The obvious ones are the advent of the radio, movies, TV, the automobile, electronic keyboards, computers, and many other things that compete for time and the dollar. I think the decline of the piano may have reflected a basic change in society itself, and the rejection of the 19th century way of life. Certainly there has been a drastic change in the lifestyles of young women, who led rather restricted lives in the 19th century. They were the ones who did most of the piano playing, according to Mr. Loesser, in order to add to their "accomplishments," so they could become more marriageable. The growing independence in the 20th century of young women freed them for many activities outside the home, so a big market for the piano was lost. Then, too, the home lost its importance as the primary source of entertainment, and many activities were competing for people's time and money. The Great

"I think the decline of the piano may have reflected a basic change in society itself, and the rejection of the 19th century way of life."

Depression and two world wars also had a drastic effect on the market.

We might also look to organizations for the loss of interest in the piano and perhaps music in general. Music appreciation in the schools has not been taught extensively in recent years, due to budget cuts and a broader range of curricula. The piano teachers have not always kept their teaching methods up to date. And the Piano Technicians Guild did not at first concern itself with working with other segments of the industry to really promote the piano, as it was concerned in the beginning with "in house" problems. One might also wonder if the manufacturers really promoted the piano properly over the years. They seem to have been selling pianos over the years on the strength of "low price," rather than for what the piano is supposed to do for us. Let's look at this point in a little more detail later.

What is the picture of the industry right now? On the negative side, we have very few piano manufacturers left in the United States today, and more are expected to fail. The "imports" have taken over a big share of the market, and while that is not all negative from the technician's viewpoint, it certainly is as for as the domestic makers are concerned. The lower end of the piano lines have suffered the most. I have noticed that at the local dealers in my areas, the lower end of the piano lines are the poorest sellers. You might check this out at your local dealer — I have heard this is a trend nationwide. The imports and especially the electronic keyboards have taken over the low end of the market. Why is this so? For the price, we all know that the domestic makers have extreme difficulty competing with the low labor costs of the imports.

Over the past decade, piano sales have shown a steady decline, although this is spotty over the country. In my area sales are slow, but in other areas report good sales. However, the National Association of Music Merchants show in January indicated that sales were up during the past year, which is encouraging.

Also, on the negative side is the fact that other piano- related industries, such as plate makers and action manufacturers, have suffered or gone out of business. It is also more difficult to get top-quality lumber, since the piano manufacturing needs represent a very small percentage of the total lumber industry.

Perhaps the most negative factor is that we seem to have become a society of passive music listeners rather than performers; music consumers rather than music makers.

On the positive side, figures show that piano sales have not dried up — they have more or less leveled off at around 150,000 units per year or so. Of course this does not tell the whole story, either. We know there is a big market for used pianos, and we know that there is a lot of work being done restoring and rebuilding older pianos. And the reports show that what is selling is high quality. Grand pianos are selling, and top-of- the-line verticals. What this may mean for us will be discussed a little later in this article.

There may be signs that people are tiring of being entertained, and are falling back on a means of self -expression. The sale of elctronic organs has hit bottom, so people do tire of the so-called easy ways to make music. We do see the piano and playing of the piano in the media — on TV shows, in

newspapers and magazines. We still see a healthy number of piano concerts and recitals.

Other positive signs are about. Piano teachers report being as busy as ever with students. Most of us as piano technicians are very busy with work, and there are many fine young technicians joining our ranks. Many fine young musicians are aspiring to make music their professions, and music schools are doing well. There seems to be an abundance of fine young concert artists around. And the Guild is showing more awareness of its role in the industry. We have functioning committes, a Foundation, and we are making more attempts to get individual members out to "spread the word."

Let us now turn to the future, how it looks, and what might be done to positively affect our economic futures. When you talk about the future of anything, of course, you are dealing in guesswork, and some guesses are better then others. I do predict, however, that more domestic makers will fail, but the acoustic piano itself will survive. So there will be a leveling off of domestic piano manufacturers, but the market will not dry up. The piano itself will be with us for quite some time.

Some people have predicted that the electronic keyboards will replace the acoustic piano. But people said that about the player piano many years ago. Mr. Loesser states at one point in his book that at least one critic predicted in the mid 1920s that the piano would be nothing but a museum piece by the year 1975! In fact, there has been a lot of competition for the piano from many sources over the years, as we have already talked about and the piano is still with us. But getting back to the electronics — I don't believe thay can replace the acoustic piano, even though some we see are very good, and some very close to the sound of the piano. It is scary to see what can be done with some of them. So why will they not replace the piano? I think that only with the acoustic piano can you put your own expression and creativity into the music. You cannot put feeling and expression into an electronic keyboard. No electronic really has the *feel* of an acoustic keyboard. And you can only do what is programmed into an electronic, and no more. People often tire of them, and move up or return to an acoustic piano. According to Jack Krefting in one of his recent *Journal* articles, the electronic keyboards become obsolete. After 10 years or so, an electronic is no longer state of the art — it has become out of date. And depending on who you talk to, the electronic components simply wear out, and must be replaced.

> "The lower end of the piano lines have suffered the most. I have noticed that at the local dealers in my areas, the lower end of the piano lines are the poorest sellers."

Compare this to an acoustic piano, which can last for many years, if well maintained. Then too, consider the tremendous volume of piano music written during the past 200 years, which can only be reproduced on the acoustic piano.

I predict that only the top quality lines of pianos will survive. The signs of this are in the marketplace. I further predict that only the top technicians will survive. Why? The people who do buy and play pianos today are much more sophisticated and quality-conscious, and expect the highest quality in service. They want the best technicians and the ones who really care about their pianos. As stated earlier, the people who do buy, buy grands and top-of-the-line models. These people want and expect excellent service. This also means that we as technicians must be able to offer full service — regulation, repair and reconditioning, as well as tuning. It may be that the days of "tuner only" are numbered. So I believe there will be work for us for a long time, if we are willing to give the best service, and do serious piano promotion. And that last phrase is vitally important, for I firmly believe we must actively promote the acoustic piano, and not just sit back and let nature take its course.

What can we as individuals, technicians, and organizations do to seriously promote the piano? With all the people who answered this question when I posed it to them, there was 100 percent agreement that we as technicians must give the best possible service! This is so because of the above stated reasons, and also because a piano which is kept in excellent playing condition will be a joy to play. If there is no one to properly service pianos, people will turn to the electronics, or give up playing. If a customer feels that no technician in her area can solve a problem, she may give up on it altogether. She can always find an electronic technician, she may feel. This has happened.

If we accept the fact that we must be highly skilled in order to keep up, then we must also accept the fact that we need to attend chapter meetings, seminars, and conventions in order to keep up and improve upon our skills.

There must also be a concerted effort on the part of all connected with the industry (manufacturers, dealers, teachers, and technicians) to promote piano sales, service, and playing. This can be done on a national level with our national organizations, and can also be done on a local level with individual members of the industry. All concerned must first of all promote music, and this must be done at a very early age. Many people I have discussed this with agree that we all must promote a love of music first, and interest in the piano will follow. We must educate children and parents that music is desirable (in fact, basic to our natures), and that there are intrinsic rewards from the studying and making of music. We can get children involved with piano at a very early age, both in

and out of the classroom. The important thing to remember is that we must get parents sold on the idea that music is important. Take a look at the tremendous success of the Suzuki Method of teaching the violin. Who would have thought 30 years ago that hundreds of little children would be playing the violin here in the U.S. But it happened, not just because they were exposed to it at a very early age (which was important), but because the parents were sold on the idea, and were in fact a necessary part of the picture! It can happen with the piano as well.

It doesn't take a superior talent to enjoy playing the piano, either. Anyone with a modest talent can enjoy making music, and this message must be gotten across. The message in Dr. Frank Wilson's keynote address to us at last summer's convention was that making your own music can be enormously rewarding, at any age, and even if you are the only one who enjoys what you are playing! This is where most of our market is, as piano technicians--with the "amateur" musician, who just enjoys playing the piano in his or her own home. The message must be gotten across that any one can make music, and enoy doing so.

To further encourage playing of the piano, groups such as service clubs, societies, youth groups, and religious organizations, to name a few, should and often do offer scholarshops and other monetary rewards for excellence in performance. All of us can enter into the picture here on a local level. This can be done on a national level also — our own Foundation is offering its own scholarship on a yearly basis.

I believe in manufacturers' part in this is that they must completely rethink their selling approaches. Selling pianos from the standpoint of price is not really approaching the problem. Why do people buy pianos? What can a piano do for them? Steve Strauss of Young Chang has published an excellent little booklet called "Keys to Myriads of Doors For Happier Lives." In it, he lists many ways playing the piano will benefit a person's life. There are

> "I predict that only the top quality lines of pianos will survive. The signs of this are in the marketplace. I further predict that only the top technicians will survive. Why? The people who do buy and play pianos today are much more sophisticated and quality- conscious, and expect the highest quality in service."

many studies that show the benefits of musical training, so why have the manufacturers not used this approach? Look at the ways many things are sold to us these days — cars, computers, cosmetics, cigarettes, you name it. We are told what to these products can do for us. Automobile manufacturers and computer companies have sold us on the idea that we cannot live without their products, and now perhaps it is true — we can't. The piano manufacturers have promoted their products from the standpoint of price and what is inside the piano, rather than what playing the piano will do for us. Perhaps it is the method of marketing that is obsolete, and not the piano itself. If this is not the case, I really wish someone would prove otherwise to me.

And is the dealer really doing all he can to promote the piano? Have you looked at ads recently in your newspapers? I have had many "discussions" with the dealer I do work for about this topic. I do not know if it has helped or not . Is the dealer really making enough profit on piano sales to do piano promotionals? This might be an interesting subject for someone to pursue. The manufacturers could offer some type of incentive to the dealer to get the word about the joys of music.

There are encouraging signs that our own organization is turning outward and doing more to cooperate with the other members of the industry to solve problems. Since its beginning in 1957, the Guild was more concerned with its own internal problems, one of the more important being to raise the level of skills and business expertise of its own members. Now, we have a very high level of competence among our members, especially among the younger technicians. Now, we as one of the leaders in the industry are trying to work with teachers, manufacturers, and dealers. Our Teacher Relations Committee is very active. Our Trade Relations Committee is functioning well, attending NAMM shows and working with manufacturers of various problems. Our Economic Affairs Committee has been busy writing articles for the *Journal.* We are advertising our presence at all levels. Our most recent effort was to ask all of our RTT members to try to get into our schools during March to give programs to children about the piano, in connection with the MENC's Music In Our Schools Month. This was an excellent opportunity to promote the piano, and to teach children about what we do.

What else can we as technicians do to promote the piano? I offer you a few more suggestions. We can promote the best possible piano for every customer, depending on individual needs and budget. We can give a customer a positive view of pianos by never knocking any brand of piano! This is not always easy for us to do, as we all have our own personal likes and dislikes. We can get to know the manufacturers and let them know we appreciate their efforts. They do try very hard to put out good products, so in spite of what I said about their marketing methods, I really think they put out as good a product as is possible. They do spend a lot of money to come to our conventions and teach us to service their pianos, so go to conventions and

meet them, and attend their classes. And above all, let us not assail them with a list of what we don't like! There are ways we can let them know when there is a problem. but let us try to be positive when they come to conventions.

We can also get to know the teachers in our area, as well as the dealers. We can work with these people for the benefit of all of us.

I think each of us can also learn to play the piano, to a certain extent. Some technicians play beautifully, but all of us can learn to play enough that we can give "mini-concerts" after each tuning. My customers seem to enjoy it (or perhaps they are being kind), and the idea is that they get the message that we enjoy playing music too.

We must constantly promote the Guild through word of mouth, through our brochures, and through advertising. We must let the public know that good service from a Guild technician is essential to good music.

We can also give talks on the piano to as many groups as will listen. Groups such as piano teachers, parents and students of piano teachers, and civic groups come to mind, but you can probably think of many more. Some of our members feel a little more comfortable talking in front of groups than do others, but doing so is a tremendous selling point for you and the Guild if it is well done. Here is where a little creativity on your part can come into play. We need to constantly talk about music and the piano with enthusiasm.

What can we as individuals (not necessarily technicians) do to promote the piano? I think there are many ways. We can attend concerts (especially piano) and recitals. We can support student groups at all levels by attending their concerts. This shows children that we think music is important. We can join and participate in local music groups and associations. If you have any musical ability at all, there should be a group for you, from the church choir to the symphony orchestra. Make music yourself! Or get on the Board of Directors of a local music group, such as a chamber music society, a youth symphony, or community chorus, to name a few. These groups often offer scholarships and other incentives for young musicians. Finally, develop an appreciation for all types of music, even though we all have our favorite types.

> "
>
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>
> "

I could not close before I thanked the people who gave me advice, ideas encouragement, and incentive to do this article. In alphabetical order they are: Dick Bittinger, Jim Bryant, Bill Garlick, Norman Heischober,— Fern Henry, Charles Heuther, Ernie Juhn, Ben McKlveen, Ernie Preuitt, Ray Reuter, Bob Russell, and Steve Strauss. Thanks also to Lorraine Goodlad and Dorothy Radd of the Minnesota-North Iowa Chapter, who lit a fire under me, and to various dealers and piano salespeople around the area who gave me their thoughts.

There have been a few articles written for our *Journal* during the past few years on related subjects. If you would like to look back at some of them , they are in August 1986 (Krefting), January 1986 (Russell), April 1985 (Russell), October 1984 (Russell), April 1984 "Looking Up," September 1983 "NAMM show," and April 1983 "International Scene." As you can see, Bob Russell has written much on this very topic. Also refer to recent articles from the Economic Affairs Committee, as well as articles on promotion by Dick Bittinger.

It is important to remember that this subject is never really finished. The picture is constantly changing, and none of us really knows what the future might bring. This report may already be out of date, so do your own research! At any rate doing a little research myself has made me think hard about the subject, and develop my own plan of action. I hope it does the same for you! ■

Calendar Of Coming Events

Date	Event
Sept. 19, 1988	**Pittsburgh One-Day Seminar** Monroeville United Methodist Church, Monroeville, PA Mark Mateya; 22 N. Fifth St.; Indiana, PA 15701; (412) 349-7777
Sept. 19, 1987	**Connecticut One-Day Seminar** Sohmer Piano Co., Ivoryton, CT Vivian Brooks, 376 Shore Road, Old Lyme, CT 06371 (203) 434-0287
Oct. 2-4, 1987	**Florida State Assembly of the Piano Technicians Guild** Orlando, FL David G. Taylor; 1909 Mae St.; Orlando, FL 32806; (305) 898-9266
Oct. 9-11, 1987	**Ohio State Conference** Greater Cincinnati area Jack Krefting; P.O. Box 16066; Ludlow, KY 41016; (606) 261-1643
Oct. 16-18, 1987	**Texas State Seminar** Holiday Inn, Wichita Falls, TX David L. Hale; 135 Pembroke Lane; Wichita Falls, TX 76301; (817) 322-2082
Nov. 6-8, 1987	**North Carolina Conference** Black Mountain, NC Jeff Owens; P.O. Box 903; Shelby, NC 28150; (704) 482-7119
Nov. 21, 1989	**Baltimore Annual One-Day Seminar** Baltimore, MD Christie Cornella; 10 Drawbridge Court; Baltimore, MD 21228 (301) 788-3694
July 18-22, 1988	**31st Annual Piano Technician Guild Convention & Institute** Adams Mark Hotel, St. Louis, MO Home Office: 9140 Ward Parkway, Kansas City, MO 64114, (816) 444-3500.

Membership

The Beginning Of A New Year

Ronald L. Berry, RTT
Vice President

September is the month when most chapters resume their activities after a break for the summer. Many chapter members will have gone to the convention and will return full of ideas to share with the chapter. These ideas will range from technical tips to ways to make the chapter do its job better. Program committees will often have met over the summer to prepare the programs for the coming year. Business will be picking up with the beginning of school and the start of piano lessons.

September is really the beginning of the year for most chapters and now is the time to take advantage of this energy. If you are not now a member, it is time to contact your nearest chapter and become a part of PTG. If you don't know where your nearest chapter is located, contact the Piano Technicians Guild, 9140 Ward Parkway, Kansas City, MO 64114 for that information. The new membership structure makes it easy to get involved by becoming an Associate member. Many chapters like you to come to a few meetings, so the members can get to know you and so you can get to know them. After that the chapter votes to accept your application and that's all it takes.

If you are already a member but have not been active in your chapter, now is the time to take advantage of the knowledge that those who went to the convention will be bringing back.

If you have been an active member, I want to say thank you because you are the people who truly keep PTG working. I'm sure that you have found, as I have, that giving to PTG has rewards much greater than the time you have put in. We have a very special organization with membership participation much higher than in other organizations. PTG is special because you make it that way. Keep up the good work.

New Associate Members During July 1987

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Greenfield, MA 01301

Boston, MA — 021

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Essex Station
Boston, MA 02112

Southeast Massachusetts — 024

Marilyn Brown
23 Depot Street
East Wareham, MA 02538

Toronto, ON — 062

Stephen P. Rensberry
500 Osgoode Drive, Unit 62
London, ON
Canada N6E 2G9

New Jersey — 078

David E. Bona
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Sparta, NJ 07871

New York City, NY — 101

Daniel Levitan
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New York, NY 10011

Fernando Osorio
626 Anderson Avenue
Franklin Square, NY 11010

L.I. Nassau, NY — 111

Paul Koegler
160 East Carpenter Street
Valley Stream, NY 11580

L.I. Suffolk, NY — 117

Neil A. D'Ambra
97 Joni Drive
West Sayville, NY 11796

Buffalo, NY — 142

James F. Mosier
312 Capen Boulevard
Amherst, NY 14226

Rochester, NY — 144

Robert M. Belmont
Box 483
Hornell, NY 14843

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52 Tanglewood Drive
Rochester, NY 14616

Richard L. Wilder
22 Upton Park
Rochester, NY 14607

Pittsburgh, PA — 151

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2872 Pierce Street
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Bellefonte, PA 16823

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The Auxiliary Exchange

President's Message

The International Convention of 1987, held in Toronto, Ontario, Canada is now a thing in the past! What a fitting setting for the celebration of our 30th Anniversary. Overall attendance was beyond expectation...with the Auxiliary registration contributing 106 members and 57 non-members.

Our classes were well attended and well received by all. The Tea was reported a most welcome change and just one more chance to "Get the Feeling of Toronto." Our speaker Mike Filey was the highlight of the Opening Cermonies and so many compliments were received on Linda's Bradford's background music throughout the luncheon and her refreshingly nostalgic 'recital' after the luncheon. My sincere thanks to the above mentioned people and to our instructors/moderators..**Randy Potter RTT, Andre Bolduc RTT, Isaac Sadigursky, RTT** and panel: **Julie Berry** and **Marge Evans** with Julie moderating. You did an outstanding job! The craft classes given by **Ruby Discon** and **Bert Sierota** were welcomed with open arms by all and succeeded in keeping the Auxiliary Room humming with activity. Everyone gave so willingly of their time...this kind of cooperation is what makes the members of the Auxiliary so special.

The tour I will have to report on "second-hand" since transportation problems prevented me from touring along with all of you. Many favorable comments were reported back to me. The consensus affirmed it was well worth the time and money.

If you have suggestions for next year — to either add or perhaps delete some, please let it be known. "What is past we cannot amend, for the future one can always provide." Yes, we are already working on the International Convention of 1988 in St. Louis, Missouri. Now is the time to drop me a note!

Ginger Bryant

...and on to St. Louis

Your Editor vigorously affirms Ginger's request that you make your wishes known as far as Convention '88 activities is concerned. That beautiful city on the Mississippi has much to offer and it is yours for the taking. Would you like a tour of the Old Court House where dioramas can be seen that depict the early pioneers, their mode of dress and the sod huts which were their homes? Would you be interested in a tour of the Clydesdale farm featuring those giant horses that pulled the Budweiser beer wagons long ago, but today help emcee Ed MacMahon sell Bud beer on TV? Or perhaps you would enjoy a repeat fashion show like the one we experienced at the Constellation Hotel in Toronto? If you ask, Ginger might even be able to come up with a program featuring someone like (or maybe himself) Jose Ebert who would do a make-over of hairstyling and cosmetic use for, say, three or four "lottery" winners attending the Auxiliary luncheon.

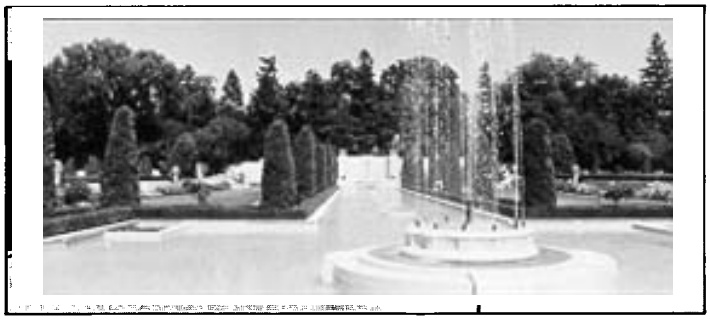
A technical class or two can also be programmed for us if the requests indicate. Maybe even a class where we may ask a Guild member to define tuning... voicing...regulating in 20 words or less, nothing too technical. Just put your thoughts and wishes on paper and route them to our president. Oh and there's the Switzer Licorice candy factory in St. Louis — maybe they provide factory tours AND free samples. Dear Readers think, research, plot and plan. Toronto was superb, can't we equal or surpass our Auxiliary program in St. Louis? As the poet says, "...Man's reach should exceed his grasp, else what's a heaven for."

Our tours in Toronto were very well received and the cruise on Lake Ontario was especially enjoyed. There's no lake in St. Louis on which to cruise, but there is the Mississippi, if not for a boat ride then surely a riverboat luncheon.

Agnes Huether

MISSING.....

It was a delight to once again see dear friends and acquaintances from former annual conventions. There were some Auxiliary members we had not seen in a very long while and then there were a few regular attendees who were absent. **Eleanor Ford** is the first one who comes to mind. But according to our scouts she has been holidaying it with **John** for a month in Hungary and Italy and needed to put some time in at work. We very much missed seeing **Sarah Lampiasi**, who is generally at an international with her **Jim**, so they must have an excellent reason for being absent. **Dessie Cheatham** and **Marion Damon** were also among the absentees and very missed. We trust they are well, busy with important matters and we send them our warmest greetings. When will **Millie Hooker** come to another international convention? Maybe in St. Louis? She has been absent long enough! We know that **Fern Morton** is being a most obedient patient, following doctor's orders to the letter, when she is not doting over her beautiful granddaughter. We may see both of them when the convention convenes in St. Louis. **Miriam Snyder** had the best reason in the world for her absence, but we are confident she will bring **Christine** and infant **Michael** to St. Louis since he will be a year and half old by July '88. We pray that **Norma Lamb** is on the mend and that **Virginia Seller** was a competent baby-sitter to her first grandchild. And now where



One of the highlights of this year's Auxiliary program was a trip to Parkwood Estates, the former home of Col. McLaughlin. There, participants toured the house, now a museum, and the formal grounds before taking high tea in the gardens. (Photos above and at right by Penny Jackson)

Pianist Linda Bradford performed at Auxiliary Luncheon. (Photo by Barbara Welton)

Exchange Editor Agnes Huether with SCRVP Nolan Zeringue and Taiwan delegate Tom Liv. (Photo by Barbara Welton)

From Japan, Tsuneko Utsunomiya and daughter Ai attended a reception. (Photo by Barbara Welton)

were those two elusive Auxiliary members: **Mary Tisdale**, who lives practically on Canada's doorstep and **Arlene Paetow**, who lives a mite south of Mary? We do hope to see both of them at the St. Louis Convention in 1988.

Brenda Starr

Exchange Editor:

AGNES HUETHER
34 Jacklin Court
Clifton, New Jersey 07012

National Executive Board, clockwise from left: Deanna Zeringue, Vice President, Thibodaux, LA; Bert Sierota, Recording Secretary, Philadelphia, PA; Ginger Bryant, President, Sacramento, CA; Judy White, Corresponding Secretary, Alma Center, WI; and Kathryn Snyder, Treasurer, Robesonia, PA. (Photo by Sandy Essary)

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The Piano Technicians Guild Foundation is a separate, non-profit entity with its own board of directors. Contributions to the Foundation's Steve Jellen Memorial Fund for Research and Education are used to promote the piano and the professional technician. Most recently, the Foundation endowed a $500 annual scholarship for advanced piano study for a certified member of the Music Teachers National Association.

To contribute, complete this form and mail to: Piano Technicians Guild, Inc. 9140 Ward Parkway, Kansas City, MO 64114.

Our thanks to these recent contributors.

Honorees' names are listed in Italics

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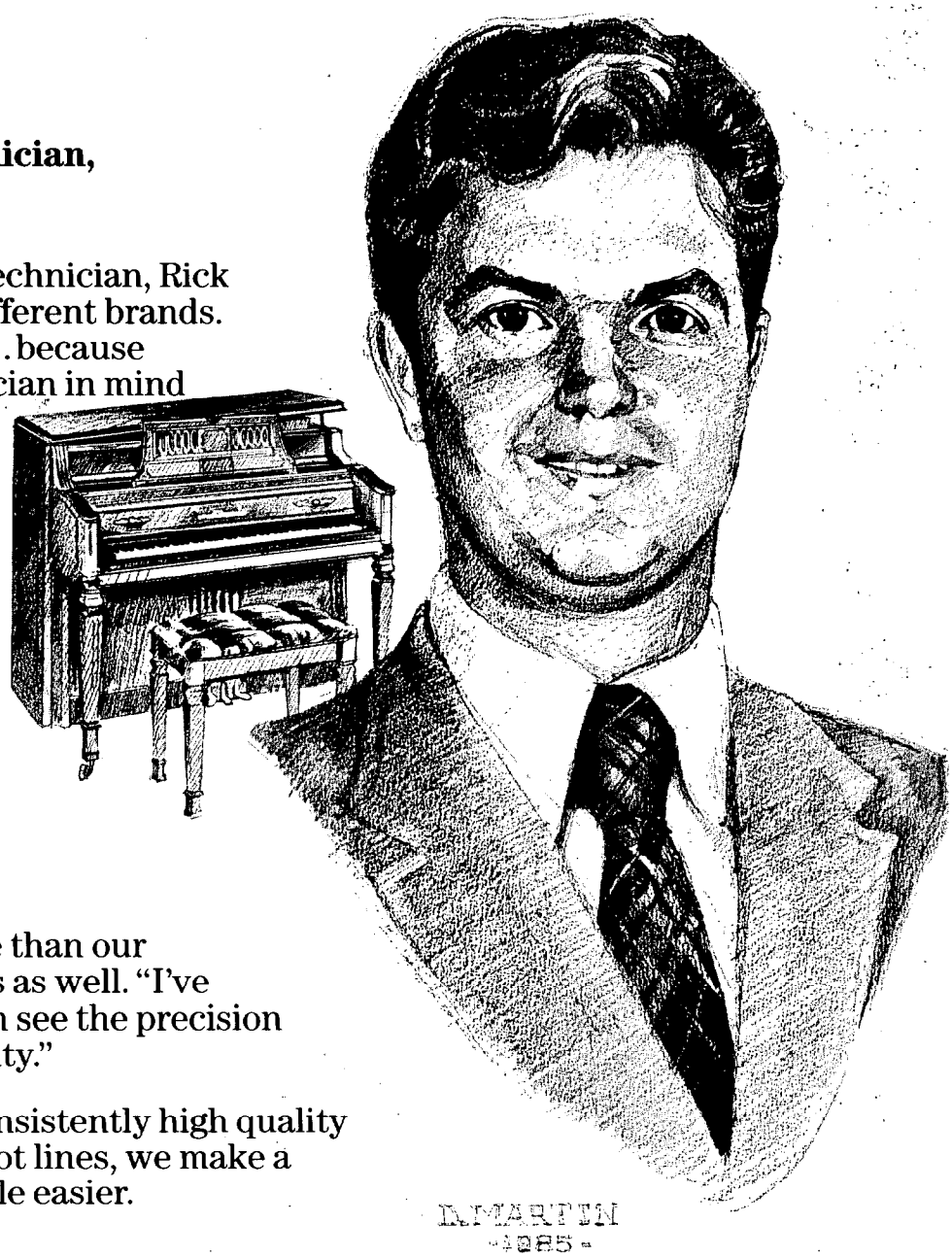

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Sept. UPDATE 1987

Council Delegates Weigh Issues Facing Guild

Eighty-eight Piano Technicians Guild chapters were represented by delegates at the 30th annual Council meeting July 19 and 20 in Toronto's Constellation Hotel. The 88 delegates represented 1,971 Guild members, approximately 70 percent of the total membership, according to Secretary-Treasurer Robert Smit.

Nineteen Northeast Region chapters, 15 Southeast Region chapters, eight South Central Region chapters, 17 Central East Region chapters, 10 Central West Region chapters and 19 Western Region chapters were represented.

Delegates re-elected M. B. Hawkins, Washington, D.C. Chapter, to a second term as president. Also re-elected were Vice President Ronald Berry, Indianapolis Chapter; Smit, Ottawa Chapter; South Central Regional Vice President Nolan P. Zeringue, New Orleans Chapter; Central East Regional Vice President Barbara Bennett, Central Illinois Chapter; Central West Regional Vice President Gracie L. Wagoner, Siouxland Chapter; and Western Regional Vice President James G. Bryant, Sacramento Chapter. Joining the Board as new directors were Northeast Regional Vice President Norman Heischober, Long Island — Nassau Chapter; and Southeast Regional Vice President Larry Crabb Jr., Atlanta Chapter.

Other Council actions are listed here in the order in which they occurred:

Elected to the Guild's 1987-88 Board of Directors were, from left, Barbara Bennett, CERVP; Marshall B. Hawkins, President; Larry B. Crabb Jr., SERVP; Robert Smit, Secretary-Treasurer; Gracie L. Wagoner, CWRVP; Ronald Berry, Vice President; Nolan P. Zeringue, SCRVP; Norman Heischober, NERVP; and James G. Bryant, WRVP.

Chapter Name Change

The name of the Western Maryland Chapter was changed to Shenandoah Chapter of Winchester, VA.

Chapter Sustaining Membership

Sustaining membership status was approved for Keith Huffman and Paul Lawrence, Bluegrass Chapter; Mark Brooks, Knoxville Chapter; and Styrk Reque, Phoenix Chapter.

Awards Committee

Bylaws were amended to allow Hall of Fame nominations to come from individuals in addition to chapters as previously worded.

Regional Jurisdiction

Guam was added to the Western Region's jurisdiction.

The boundary between the Northeast and Central East Regions was changed to put the province of Ontario entirely within the Northeast Region.

Technical Exam Fee

A $60 technical exam fee was adopted, with the provision that failed sections of the three-section technical exam may be retaken once each at one-third of the original fee within a one-year period. After that, the entire exam must be retaken at the full fee.

Exam Scoring

A two-year time limit for passing written, technical and tuning exams was deleted, and the words "as long as they are the current approved exams,

Council...

completed within a four-year period" were added.

Testing Order

Council approved a proposal to allow associates to take technical and tuning exams in whatever order they become available, as long as the written exam has been passed.

Testing Procedures

"A good-quality 5'9" or larger grand piano with only plain steel strings above note B27 shall be used" for testing, and "a 'visual' tuner who passes all except the aural re-tuning of octaves 3 and 4 need only re-take and pass that aural portion and pay half the current tuning exam fee."

Subordinate Bodies

Delegates voted to recognize all organizations of chapters and assemblies

Bylaws Deadlines

The deadline for submitting changes to the Guild Bylaws and Regulations was moved from January first to February first. Council also moved to elect the Bylaws Committee Chair at the same time as the other Council committee elections.

Film Project

Delegates reaffirmed an earlier vote to produce a Guild public relations film as proposed by a committee composed mostly of members from Cincinnati.

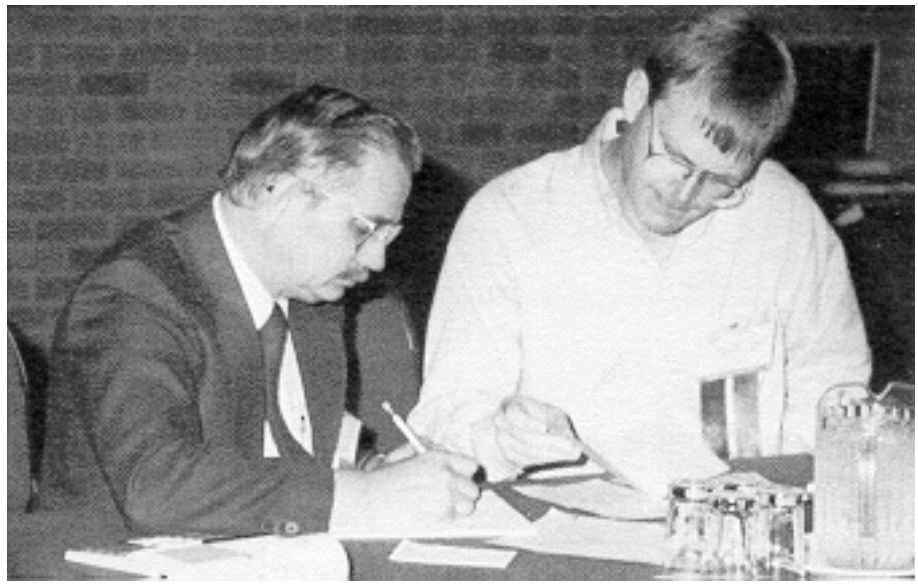
Technical Exam Parameters

The "Chicago" technical exam time limit was extended 15 minutes in the grand regulation and vertical regulation sections and 10 minutes in the repair section.

Rebuilding Definitions

Definitions for "rebuilt" and "reconditioned" pianos were officially adopted at the recommendation of the Rebuilding Standards Committee. A rebuilt piano is defined as "a used piano that has been disassembled, inspected and repaired as necessary, with replacement of all worn or deteriorated parts, reassembled, tested and approved to at least the same tolerances as a new piano of like manufacture." A reconditioned piano is described as "a used piano that has been put back in good condition by cleaning, repairing, and adjusting for maximum performance with replacement parts where specifically indicated."

A "statement of purpose" also was adopted: "The 1987 Council of the Piano Technicians Guild, in light of recent changes in the piano manufacturing industry and piano sales, large-scale high-volume manufacturing, increasing automation, the emergence of small-scale specialized piano building and rebuilding businesses, resolve to support the collection and dissemination of the most accurate and efficient techniques and skills available to us to preserve the highest standards for the piano as a musical instrument."



The two days of the 1987 Council were busy, yet productive. At top, tellers Bob Perkins, left, Cleveland Chapter, and Patrick Draine, Boston Chapter, tally ballots during one of the elections. At left, Colette Collier, Washington, D. C. Chapter, speaks from the Council floor. Opposite page, top, Jim Coleman Jr., left, Central Pennsylvania Chapter, and David Barr , Pittsburgh, PA, Chapter, listen to one of the body's lighter discussions.

Journal Policy

The Board was directed to implement policies regarding Journal articles: "1. The Technical Editor will give written acknowledgement to submitting authors of all materials sent for publication within one month of receipt. 2. If the Technical Editor rejects a manuscript for publication in the Journal, the author should be informed of this by the Technical Editor. If the author of solicited or unsolicited manuscripts is a member of PTG, the Technical Editor must list the specific technical points on which he/she is basing the rejection for publication. 3. Published authors of the Journal have the privilege of responding to any rebuttals printed in the Journal in the same issue in which the rebuttals are printed. Authors of submitted rebuttals will not be allowed to alter them after being received by the Technical Editor."

Logo

A committee was formed to investigate use of the logo. Delegates also voted to use the words "The Piano Technicians Guild, Inc." as they appear on the Guild letterhead as the organizational logo until the committee reports back.

Board Discussion Includes Test Centers

The 1986-87 Board of Directors met July 17 and 18 prior to the Council session, and then newly elected Regional Vice Presidents Norman Heischober and Larry Crabb (see Council resume) joined the Board for a post-Council meeting afterward. Retiring board members Charles P. Huether, who served as president from 1984 to 1986 and as immediate past president; Northeast Regional Vice President William J. Moonan; and Southeast Regional Vice President James Ellis were honored for their contributions to the board.

In addition to discussing and recommending action on the issues on the Council agenda, the board took the following actions:

Test Centers

To stimulate test center development, board members voted to allocate to each authorized test center $25 per test given, with the payment schedule to be evaluated semi-annually. The Test Center Subcommittee was directed to provide guidelines for test centers with respect to financial accountability and adequate examiner reimbursement to be completed for study by the board by Dec. 15, 1987.

Late Dues

The board directed the Chapter Managment Committee to work into the chapter awards program a criteria that winning chapters cannot have delinquent or dropped members.

Yellow Pages Advertising

The possibility of administering a nation-wide Yellow Pages advertising program was discussed, and the Home Office was directed to research the matter further.

Advertising rates

To bring classified advertising rates into line with those for display ads, as well as other publications in the industry, classified advertising rates were increased from 25 cents per word to 35 cents per word in the first year, to be followed by a subsequent increase to 50 cents per word in the second year.

Publications

Approval was given to begin publication of a quarterly newsletter aimed at piano owners and other interested consumers. The newsletter will be designed so that it can be purchased in bulk by members, personalized and distributed to their clients.

The Home Office also was directed to develop additional recital program covers for sale to members.

Using a new format, the 1987 membership directory will be published piecemeal, with each section stapled, punched to fit a three-ring binder and distributed by being bound into the center of the Journal.

Concerto Competition

Board recommended to the Piano Technicians Guild Foundation that a national high school concerto competition be established.

College ,University Technicians

After a successful roundtable discussion at the convention, a committee of technicians who serve colleges and universities was established. Members appointed by President Hawkins were: Tom McNeil (chair), Kerry Kean, Ken Sloane, Michael Wathen, Owen Jorgensen, Charles Ball, Yat-Lam Hong and George Emerson.

Continued on next page

Board...

French 'Journal on Tape'

Visually Impaired Committee Chairman Stanley Oliver was commended for his efforts in studying the feasibility of recording the Journal in French. The board also approved the purchase of equipment to accomplish that goal.

PTG Credit Card

The board voted to implement a MasterCard program in which a credit card carrying the Guild's name would be offered to members.

Convention

After a discussion of sites for future conventions, the board voted to consider Dallas/Ft. Worth, Chicago, Houston and San Antonio as possible sites for the 1990 convention; Atlanta, Miami and any other feasible cities in that area for 1991; and Nashville, Louisville, Kansas City, Chicago, Minneapolis and any other feasible cities in that part of the country for 1992. The board also directed that a questionnaire regarding Hawaii as a possible future site be sent to Guild members.

Historical Review

Funds were appropriated to allow the Historical Review Committee to develop a system of cataloging material they have collected; to sort and store that material; and to begin microfilming it so that delicate items can be preserved.

Certified Tuning Examiners

The following were appointed as Certified Tuning Examiners: Jim Snyer, Puget Sound; Ward Guthrie, Montana; Al Metz, Cleveland; Ed Buck, Boston; David Barr, Pittsburgh; Jim Houston, Chicago; Paul Wolf, Kansas City; Steve Brady, Seattle; Fred Tremper, Chicago; Tom Lowell, Rogue Valley; and Mike Carraher, Reading-Lancaster.

Insurance

The board voted to increase the member life insurance benefit from $1,000 to $5,000 depending on the amount of the actual premiums to be paid.

Texas, Montana Members Represent Guild

Members of the Montana Chapter and the Texas State Association represented the Guild at other organizations' recent gatherings in their areas.

In Texas, the Texas Music Teachers Association held its state convention June 12-16 in Odessa, with more than 2.000 participants attending. TTMA, an affiliate of the Music Teachers National Association, represents the most dedicated and qualified people in the field, according to Odessa member Dean Baker.

The Guild's Texas State Association was represented at this convention by an exhibit booth with literature and piano examples, and by three Guild RTTs, Baker, Bob Johnson and Dan McSpadden, who manned the booth and prepared the 42 pianos used by students and teachers for competition and performance.

Texas PTG also awarded the winning piano competitors from 1986 two monetary scholarships made possible by all the technicians who attend the Texas Association Seminar each October.

"Making friends and making more people aware of PTG were two goals well met by this event," Baker said.

In Montana, Ken Kajkowski, an RTT and pipe organ builder, constructed a seven-stop tracker (mechanical) action pipe organ which was featured during the American Guild of Organists Northwest Regional Convention in Billings in June. He also presented a workshop "The Small Pipe Organ," during the convention. A concerto for two organs by Padre Antonio Soler was performed, with Kajkowski's instrument as one of the two, twice during the convention and was well-received by all.

Montana RTT Sy Zabrocki also participated in a presentation during the closing banquet. It featured a reproducing player vorsetzer and a Roland electronic piano.

Dues Form Mailed

Chapters which wish to have to Home Office collect their 1988 membership dues must complete a form which will be mailed to chapter presidents in early September and return it to the Home Office by the end of October. For members of those chapters, chapter dues will be included in the invoices to be mailed in December.

Disbursements of dues collected will be made to the chapters' treasurers at the beginning of April and in May. Chapter dues will not be collected after delinquent members are dropped from the rolls at the first of May. Chapter dues also will not be collected from new members joining the Guild.

1987-88 Guild Committees Listed

STANDING COMMITTEES

AWARDS

Bob Russell, Chair
1414 Lander Road
Mayfield Heights, OH 44124

John Zeiner
904 Wahneta Street
Allentown, PA 18103

William Stegeman
304 16th Street NW
Austin, MN 55912

Walter Pearson
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Holly Hill, FL 32017-2

BYLAWS

Sharla Kistler, Chair
RD #8 Box 461
Allentown, PA 18104

Bob Perkins
225 Court Street
Elyria, OH 44035

Don Person
5545 SW Taylors Ferry
Portland, OR 97219

CHAPTER NEWSLETTER

Richard Beaton, Chair
312 North California Street
Helena, MT 59601

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Continued on next page

Toronto Teachers Class A Success

Fern Henry
Chairman, Teacher
Relations Committee

The Toronto Chapter and the PTG Teacher Relations Committee worked together to present a program for Toronto area teachers at our annual convention. The 29 who attended were an enthusiastic and receptive audience.

Shown here is part of the brochure describing the class centent. Pauline Fox, Fred Fornwalt and Ray Anderson are to be congratulated for representing PTG so well. Pauline and Fred have worked for years with the Pennsylvania Teacher Relations Committee to develop a sophisticated, well-organized class. Pauline's skill as a performer served her well as she demonstrated at the piano how various regulation problems become learning barriers to students. Fred excelled in his ability to impart technical information in language that his audience could readily grasp. This class was truly a model of effective teaching. Ray opened the eyes and ears of the group to well-temperament; most of those present had never heard this tuning and were intrigued to hear Bach's "Well-tempered Clavier" selections played in two different tunings.

The Teacher Relations Committee was proud to help present this class. We are always looking for more examples of quality programs; if you have given a class and are willing to share your ideas, write us. Likewise, if you are seeking suggestions for a program to offer in your area, please consider us a resource.

PROGRAM

MODERATOR: Fern Henry, RTT, Vacaville, CA
Chairman,
Teacher Relations Committee

REGISTRAR: John Lillico, RTT, Oakville, Ont.
PTG Convention,
Host Chapter Chairman

8:45 a.m.
MANUFACTURE AND MAINTENANCE!

INSTRUCTORS: Fred Fornwalt, B.Sc. (Music Ed.), RTT, Altoona, PA
Pauline Fox, Mus.B. (App. Piano), RTT, E. Stroudsburg, PA

Fred and Pauline are both experienced piano teachers and performers who have since become Registered Tuner-Technicians. Their program will take you on a step-by-step piano factory tour. You will handle actual samples of soundboard, bridges, pin block, etc.! You'll learn ... what do manufacturers recommend? ... What makes a "fine" tuning? Why is "A-440" important? ... and lots more!

10:00 a.m.
COFFEE BREAK

10:15 a.m.
THE "ACTION" AT THE OTHER END OF THE KEY!

Fred and Pauline continue and you'll soon discover how the "action" works ... What is a "drop" action? ... Is a "grand" action superior? ... When a student shows signs of slowing tempo, lack of precision on chords, etc., could it be related to piano problems at home? You'll learn, too, the effects of humidity and dryness on both tuning and performance and what you can do about it!

11:15 a.m.
TOUR THE EXHIBITS!

We've planned a 45 minute visit for you to the Convention Exhibit Hall where you'll be able to see the various pianos and accessories on display. Come with us and meet manufacturers and representatives of some of the finest pianos built today! You may well be tempted but, sorry, no purchases permitted.

12:15 p.m.
WE'LL TREAT YOU TO LUNCH!

A delicious luncheon will be served in GEMINI I and we'll try to have a committee member at each table to answer your questions. Please observe the menu on the back of the registration form and let your palate dictate your preferred day of attendance!

1:30 p.m.
THE TUNINGS OF "YESTERYEAR"!

INSTRUCTORS: Ray Anderson, RTT, Toronto, Ont.
Ron Tomarelli, B.Mus. (Performance), Toronto, Ont.

Ray has mastered several of the hundreds of historical terperaments used over the centuries and as a musician and teacher, Ron has gained a keen appreciation for the "well tempered" works of centuries past ... What is a "restricted" temperament? ... What is "meantone"? ... Come, hear the difference between a pure third and a modern third! ... The program will conclude with Ron's demonstration — a mini-concert in modern and historical music!

3:30 p.m.
CONCLUSION!

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LA Exam Revised

Bill Spurlock
Chairman, Exam
Review Subcommittee

A revision of the "Los Angeles" technical exam has been completed and copies are available from the Home Office. Introduced at the Toronto convention, this new version incorporates many changes in format which make it easier for examiners to set up and administer. The exam content is also refined to further improve objectivity and consistency. If your chapter has been using the original LA exam, you will have no trouble switching to the revised version. Props and materials are essentially the same and examining procedures and paperwork are simplified. This revision supersedes the original LA exam; it is important that copies of the original be destroyed (shredded?)

The Exam Review Subcommittee will now turn its attention to the "Chicago" technical exam, seeking to accomplish similar results of simplified paperwork, clearer presentation and improved exam content. We would like input from anyone experienced with the Chicago exam. If you have suggestions to offer, please write or call me.

New CTE Handbook Being Distributed

A revised and updated version of the Certified Tuning Examiners Handbook made its debut at the Toronto convention. The revision was conducted by 1986-87 Examination and Test Standards committee members.

The new book, in a three-ring binder, is now being put into use. Like the previous version, books are numbered, and CTEs must exchange their copy of the old book in order to receive a new one. Signed receipts for each book are kept on file in the Home Office.

All CTEs and trainees who have not already exchanged their old handbooks for new ones should have received a mailing requesting that they mail their old books to the Home Office. When received, old handbooks will be destroyed.

For their efforts in administering and refining the Guild's testing program, members of the Examination and Test Standards Committee received a special citation from President Marshall Hawkins during the convention awards banquet.

Chapters Honored At Convention

During a series of regional awards presentations at the convention in Toronto, Chapter Management and Achievement Awards were presented by regional vice presidents to winning chapters in their regions. The winners, listed by category, were:

Small Chapter (1-10 Craftsmen) Northwest Arkansas, first; Montana, second; Lehigh Valley, PA, third; and Roanoke, honorable mention.

Medium Chapter (11-20 Craftsmen) Golden Gate, first; Oklahoma, second; Syracuse, third; and Madison, honorable mention.

Intermediate Chapter (21-30 Craftsmen) Cleveland, first; Kansas City, second; Dallas, third; and Denver, honorable mention.

Large Chapter (31-70 Craftsmen) Twin Cities, first, Chicago, second; Washington, D.C., third; and Philadelphia, honorable mention.

Merchandise Changed To Reflect New Logo

In accordance with the Guild's bylaws, which state that the emblem shown here is the exclusive property of Registered Tuner-Technicians and must be accompanied in each use by the name of a RTT member, many items formerly offered through the Guild store will no longer be available. A new organizational logo, consisting of the words "The Piano Technicians Guild, Inc." in a Century Bold typeface was adopted by this year's Council (see resume) on a temporary basis.

In most cases, items which formerly carried the logo have been discontinued, and orders for those items are being returned. In other cases, as with billing pads and service stickers designed to be imprinted or stamped with the technician's name, address and telephone number, items are still being sold to RTTs but are accompanied by instructions regarding their use.

New business aids and other merchandise items are being developed and will bear the new organizational logo. A new listing of those items will be published in a future issue of the Journal.

Correction...

In the July "Chapter Notes" section, an article on restringing was mistakenly credited. The article, which first appeared in the Dallas chapter publication "The Piano Wire," was submitted by chapter member Richard M. Brown, M.D.