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### Piano Technicians Journal Official Publication of the Piano Technicians Guild

April 1984 Volume 27, Number 4

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Watch the fireworks with us July 2-6 during the Piano Technicians Guild's 27th annual Convention and Institute in Indianapolis, Ind. For details, see page 9.

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### Remember the Foundation!

Donations to the Piano Technicians Foundation may be sent in memory of one who is deceased, or in honor of a person who has been a special inspiration or made a significant contribution to the profession or to the Guild.

The Foundation has three categories: The Steve Jellen Memorial Library, The Piano Technicians Fund for Research and Development and The Piano Technicians Scholarship Fund.

Donations may be sent to: Piano Technicians Foundation, 9140 Ward Parkway, Kansas City, MO 64114.

# Thanks to our Friends in the Music Industry on the Occasion of our

# 100<sup>th</sup> ANNIVERSARY

Tuners Supply Company would like to extend a sincere thank you to our many friends/technicians in the music industry.

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# President's Message



Ernie Preuitt President

### Use All Your Strength

One day a young boy was trying to lift his father's barbells. Though he tried very hard, he didn't have the strength to lift the heavy weights. His father was watching him, and asked, "Son, are you using all your strength?"

"I'm really trying, dad," the boy

"Try again," his father said, "and this time use all your strength."

The boy struggled again with all his strength, but could not budge the weights. "It's no use," he said. "I can't do it."

"You still are not using all your strength," his father told him.

"What do you mean, I'm not using all my strength?" the son asked.

"You haven't asked me to help you," the father replied.

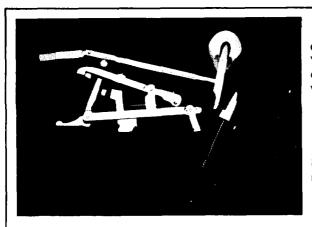
How often do we struggle with problems that frustrate us and threaten to defeat us, when all the time friends all around us are standing by, just waiting for us to ask for help. The strength of our friends becomes our strength when we ask them to share with us.

I remember once working on a piano where "The Three Sounds" were playing, and the piano player complained that one note would not repeat. Being young and not too experienced, I spent quite a few anxious minutes, pulled the action numerous times, turned every screw, bent every spring, even uttered a few expletives (under my breath) and finally resorted to spending a dime (this was quite some time ago) on a phone call to a wiser and older friend. I asked for his help in this perplexing matter. In a matter of a few minutes, all 88 notes were working and repeating under the rapid and skillful finger of the "Three Sounds" piano player.

I could still have been working on that piano, and in all probability it still wouldn't work, had I not gone to someone else for help and advice.

We are never too young, or too old to go to someone else when we need extra strength. Certainly we should never be too proud or too vain, for all of our strength is not within us. We need those around us and they need us.

Together, our strength is boundless.



### **GRAND ACTION PARTS**

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### Executive Director's Message



Barbara Parks **Executive Director** 

### The Technician's Most Valuable Tool

Writing a column every month has its ups and downs. It's very satisfying to put ideas into print, but there's a constant struggle to find the right words to get those ideas across. Just ask anyone in the communications field. There are so many sources of interference between the sender and the receiver that it's hard to make sure the precise message is getting through.

Every now and then, though, someone makes it easier. Someone else puts your message so clearly and concisely that it would be pointless to rephrase it. In that light, I'd like to pass along something that Tom Jones wrote in his monthly column in the Cincinnati newsletter.

Just ten short years ago, I first took tuning hammer in hand and, under the tutelage of Jim Hayes of the Connecticut Chapter, began cranking pins and learning to do all the wonderful things piano

technicians do. I discovered I had a certain aptitude for and a great enjoyment of learning basic piano tuning. What had begun as a few lessons to satisfy a piano major's curiosity about the physical workings of the instrument soon turned into a genuine interest in piano technology as a career. And why not? For me it was a perfect choice. I loved pianos and wanted to be self-employed.

Before I met Jim Haves, I had never heard of the Piano Technicians Guild. Indeed, when I considered all the fancy, expensive, odd-looking gadgets and tools that arrived in my first shipment from the piano supply house, I had no way of knowing that my one most important tool could not be ordered — it had to be joined. The PTG became the center of my professional life — the one tool that would help me learn to use all the others. In retrospect, I would be nowhere near where I am today (and without the knowledge of how to get there) were it not for the Guild. Enough cannot be said for the tremendous importance this institution has in our lives as growing technicians. Whether you have been a student, apprentice, craftsman, associate, allied, or auxiliary member for one, ten, or fifty years, you are always growing. It is growth that comes through communication of experience and ideas regarding every facet of our profession.

The best thing about learning from the experience of our brothers and sisters is that it is virtually free! A gift! Yours for the asking! When we pay our dues or seminar fees, it is our individual contribution toward keeping the wheels of our organization turning - a smattering compared to the boundless return on your investment! Our common bond, the PTG, is a vibrant source of life and energy that steers us from stagnation, narrow-mindedness, solitude,

and decay.

### **Business Books**

It's tough for someone operating a small business to stay current on the latest economic trends, business technology and management techniques. Here's help from the experts!

These are among the latest business titles from McGraw-Hill, and they're available to Journal readers at a significant discount. These books are offered in addition to the regular Piano Technicians Guild books and pamphlets, which are still available.

More titles will be announced in the months to come.

"Setting Up Shop," by R. B. Smith. This book provides a totally task-oriented, pragmatic approach to making a small business venture profitable. #58531-8. Retail price, \$21.95; Journal price, \$19.76.

"Patent It Yourself!" by D. R. Pressman. This do-ityourself guide shows the amateur inventor the chronological steps for protecting, developing, patenting and marketing an invention without professional help. #50780-5. Retail price, \$23.95; Journal price, \$21.56.

"Professional Service Management," by William Joseph. Here's an effective, down-to-earth guide which shows how to incorporate today's sophisticated management techniques into those highly people-oriented service businesses.#39267-6. Retail price, \$24.95; Journal price, \$22.46.

Please be sure your order includes the title, author and number of the book, along with a check or money order. Please include \$1.50 per order for mailing and handling, and allow six to eight weeks for delivery. Orders should be addressed to: Piano Technicians Journal, 9140 Ward Parkway, Kansas City, MO 64114.

### YOUNG CHANG The Evolution of Leadership



The Young Chang piano has added another trophy to its case of impressive world-class awards...the 1982 International Trophy for Technology. Presented to Young Chang following the 1983 Frankfurt Music Fair, the trophy signifies the highest standards of technological accomplishment and quality of manufacture in the piano industry.

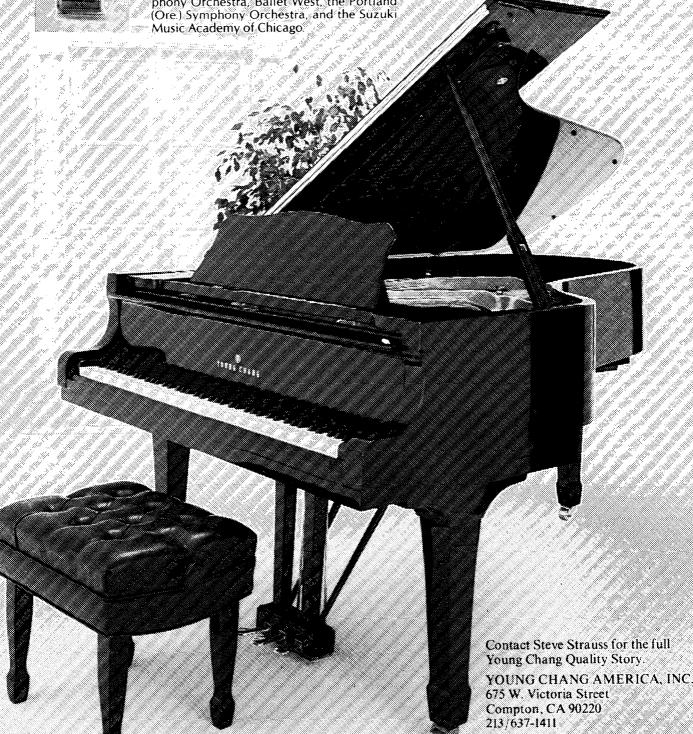
The 1982 International Trophy for Technology reflects the professional and educational acceptance of discerning American customers such as U.C.L.A., the Long Beach (CA) Symphony Orchestra, Ballet West, the Portland (Ore.) Symphony Orchestra, and the Suzuki Music Academy of Chicago.

Reward yourself.

Enjoy the pleasure of owning and playing a Young Chang, the quality piano which continues to earn the awards of excellence.

For the Serious Pianist

### YOUNG (\*) CHANG



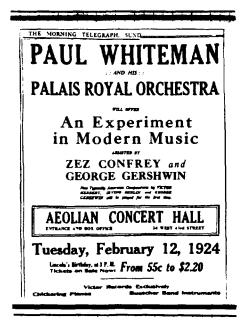
### Piano Manufacturers Say Things Are Looking Up

### Jack Greenfield Trade Relations Committee

After the gloomy figures released in mid-1983 showing a drastic increase in the difference between United States imports and exports, it is pleasant to report more cheerful news on the improvement in business later in the year. While former parent company Baldwin-United has had financial difficulties. Chairman R.S. Harrison announced that Baldwin Piano & Organ has been operating profitably for over the past two years, and results for the first eight months of 1983 were ahead of the same period in 1982. Harrison, President Harold Smith and other senior executives agreed to purchase the subsidiary in January. The Baldwin Piano Pro, an electric piano with a conventional spinet case, has attracted considerable interest.

Wurlitzer has also been aided by sales of its Omni Keyboard Computer instruments. Sales for the first nine months of 1983 increased, and the company posted a profit. During the same period in 1982 the net loss had been over \$3 million.

Aeolian Pianos resumed production of grand pianos in Rochester under its new ownership in August



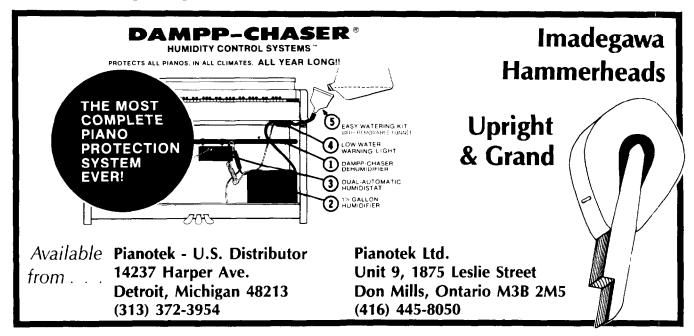
1983 after a 13-month shutdown. By the end of October, total production of the Rochester and Memphis plants had more than doubled, and dealer orders for the Memphis-made pianos exceeded daily production by 26 percent. Special marketing emphasis was placed on Chickering and Cable pianos.

(To add a historical footnote concerning Aeolian, exactly 60 years ago George Gershwin wrote his "Rhapsody in Blue" and performed it on a Chickering Piano in Aeolian Hall in New York City on February 12, 1924. See the announcement of the concert that appeared in the New York Morning Telegraph. The small print under Gershwin's name reads "New typically American compositions by Victor Herbert, Irving Berlin and George Gershwin will be played for the first time.")

In September 1983 the National Piano Manufacturers Association filed a petition with the International Trade Commission asking that the duty-free status of Korean pianos be terminated. Under the Tariff Act of 1974 designed to aid Third World nations, pianos manufactured in the Republic of Korea have been exempt from the current 6.9 percent duty on imported pianos. Contrary to the large flow of pianos exported from there, the Korean Cultural and Freedom Foundation recently purchased 17 Steinway grand pianos for their school and performing arts center in Seoul.

### Kimball Inquiries Redirected

Kimball Piano and Organ Co. in French Lick, Ind., has announced that service inquiries should now be directed to Judy Weikert, administrative service manager, at P.O. Box 432, French Lick, IN 47432.



### The Piano Technicians Guild's 27th Annual Convention & Institute July 2-6, 1984 - Hyatt Regency Indianapolis

WIN SI The INDY AND!

# INDIANAPOLIS: There's More In '84

Just as we promised, here are descriptions of all the 1984 Institute classes. along with instructors who will be teaching them. This preview will show just how much knowledge awaits you in Indianapolis this July. Next months Journal will list a complete schedule of classes, so you can plan your week of piano technology well in advance.

#### Dick Bittinger Institute Director

Here's how to build good relations with satisfied customers. from the first impression over the phone to a regular commitment for piano service. The class will cover

Customer Relations — Sid Stone

conduct and ethics in the home, reminders, discounts, appraisals, estimates and guarantees.

Electric Grand Piano -Joe Dennis, Wayne Williamson (Yamaha)

How it works and how to repair it.

### Electronic Tuning —

Al Sanderson

Sanderson will show how to tune a piano using his microprocessorcontrolled tuner. Designed to make tuning easier, it reads intervals directly in digital cents, stores entire piano tunings in its memory and later recreates the settings for subsequent tunings of the same piano.

Grand Action Troubleshooting -Jack Krefting, Willard Sims (Baldwin)

This class will focus on diagnosis and correction of grand action performance problems. Common symptoms will be analyzed for

quick identification of specific malfunctions. Unusual symptoms and their relationship to parts substitution, incorrect action spread and non-standard keystick ratios also will be discussed. Touch weight, both actual and perceived, will be considered in light of friction, regulation and design criteria.

Grand Dampers — Joe Dennis, LaRoy Edwards, Andy Nishio, Jack Caskev (Yamaha)

Installation of dampers in a grand piano will be covered from beginning to complete damper regulation. Troubleshooting section will include repair of bent dampers.

Grand Hammer Installation -AlGrenning

Grenning will deal in depth with selecting the correct replacement set, hammer tapering, hammer undercutting, tail shaping, hammer-checking geometry, repairs relating to hammer installation and dealing with action geometry. He also will demonstrate jigs and hanging techniques.

Grand Regulation — Ray Reuter, Eric Johnson, Roger Weisensteiner (Kimball)

Action models and tools will be



Stone





Krefting





**Edwards** 



MIN 31 The INDY AAO







Johnson



Weisensteiner



Pettit



Ford



Jordan



Eaton



P. Rappaport



J. Rappaport

provided by Kimball for a handson class in grand regulating. The class will consist of analyzing the specific regulation requirements for the various actions used by Kimball and Bosendorfer. A high-speed film at the end of the class will reinforce and clarify the action functions discussed.

Grinding, Sharpening And Tempering Tools — Tom Pettit

A lecture and demonstration on making and sharpening hand tools using simple and inexpensive equipment.

Hammer Boring — Dave Betts
Reasons for boring your own
hammers, finding correct measurement for a particular piano and action, and various jigs that can be
made or purchased will be
discussed.

History Of Pianos — John Ford
Ford will present an enlightening trip through the history of the piano manufacturing industry.

How To Tune The Not-So-Grand Piano — Ruth Ann Jordan

Here's another approach to aural tuning with the use of the expanded temperament. Use of the expanded temperament will be demonstrated with all its available checks. A new temperament pattern suitable for craftsmen or apprentices will be used. The new pattern is designed to facilitate temperament setting in poorer pianos, whether the tuner uses fourths and fifths or thirds and sixths.

Humidity Control And Installation — Allen Foote, Wendell Eaton (Dampp-Chaser Electronics)

Situations where climate control systems would be appropriate will be discussed, along with costs and revenue-producing possibilities. New installation procedures and use of proper tools will be demonstrated.



Kistler Harvey

Keys And Grand Action Construction — Priscilla Rappaport

Building a replacement action into a grand piano is the ultimate solution to a badly damaged action. Measurements and parameters of grand action construction will be discussed.

Key Repair And Related Work — Joel Rappaport

The focus will be on key repair and overhaul in rebuilding and general maintenance. Everything on and in the key will be discussed, as well as how the proper function of the key affects the touch and regulation of the piano.

Let's Keep The Profit -Ron Kistler

As an accountant and the husband of a piano technician, Kistler is very aware of the financial aspects of our business. His class will deal with expenses, depreciation, family employment, issuing form 1099s, Keogh and IRA plans, tax shelters and other financial matters.

 $\begin{array}{l} \textbf{Mini-Technicals} - \textit{Bob Smit}, \\ \textit{moderator} \end{array}$ 

A wide variety of subjects will be covered by four instructors in each day's class period. Each day will feature different 20-minute technical sessions and instructors.

Pianos From A To W - Jim Harvey (Kawaii)

Harvey will take a short subject approach to current technical events.

Piano Stripping & Refinishing — G.L. Bixerman (Bix Manufacturing Co.)

"Mr. Bix" will teach the methods and techniques of stripping paint, varnish and stain from pianos. He also will discuss refinishing methods, wood or veneer repairs and available products.



Bixerman



Spurlock

Practical Key Recovering — Bill Spurlock

Spurlock will feature a keyrecovering system which results in high-quality recovering of sharps and naturals without the use of expensive equipment. An ordinary drillpress, router and router table are adapted with simple jigs to mill keys and trim key tops.

Preparation Of The Piano For The Concert Artist — Wendell Eaton, Rick Butler (Dampp-Chaser Electronics, Inc.)

Eaton and Butler will present a lecture and slides on preparing pianos for the concert artist.

Rebuilding: It's The Little Things That Count — Wally Brooks

This fast-moving class concentrates on the little procedures used in grand rebuilding that are not always brought out in individual classes.

### Reconditioning The Grand Action — Bob Russell

In this practical step-by-step demonstration on preparing a grand action for regulation, Russell will use slides and action models to demonstrate special procedures and tools.

### Reconditioning The Vertical Action — Raye McCall

A player piano expert, McCall knows the importance of reconditioning an action before regulating the piano and the player action. His class will deal with the breadand-butter approach, as well as the complete restoration treatment.

See What You Hear — Jon Shallop, Ph.D.

An audiologist, Shallop will provide us with a basic understanding of the human ear, concentrating on sound perception and hearing problems. He will use audio-visual equipment to attempt to let us "see what you hear."



Robinson



Garlick

Servicing Teflon Bushings — Fred Drasche (Steinway and Sons)

This will be a hands-on operation, including inserting bushings into shanks, reaming teflon bushings to fit center pins and installing bushings and pins into hammer shanks and flanges.

Soundboards And Bridges — Dave Campbell, George Defebaugh (Aeolian)

Theoretical background, materials, engineering practices, problems and field repairs will be covered. Campbell and Defebaugh will present a factory viewpoint of the future.

### Special Tools, Applications And Procedures — Chris Robinson

This presentation is designed to acquaint both the shop-oriented rebuilder and the outside service technician with current laborsaving and accuracy-improving tools and the techniques for using them to their best advantage.

Tone Regulation and Factory Procedure — Joe Bisceglie, Bill Garlick (Steinway and Sons)

This slide presentation and demonstration on procedure and voicing as done by Steinway includes the first regulation procedure that is rarely seen or done by technicians.

Troubleshooting The Vertical Action — Bill Brandom

Brandom will show how to pinpoint the exact problem in a vertical action and tell what to do after locating it.

Upright Dampers and Hammer Application — Gary Green (Sohmer)

Green will discuss theory and practice in utilizing the Pratt-Read action, its design, installation and application in the Sohmer piano, with emphasis on placement, settings and procedures for damper setting and hammer gluing.



Bisceglie



Brandom



**Butler** 



**Brooks** 



Russell



McCall



Shallop



Drasche



Campbell



Defebaugh



Oxford



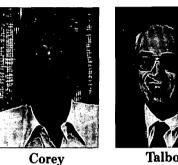
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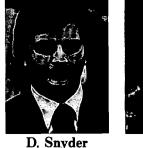














rebuilding the original wippens. This process saves time and the trouble of fitting new parts to an old action. Better regulation results. Working With Wood — Cliff Geers, Tony Geers (Geers Piano Co.) How to work with wood, in-

cluding wood and veneer repairs on a piano, will be the focus of this class. Gluing and clamping set-ups, types of glue, surface preparation and other aspects of woodworking will be included.

Woven Felts: Manufacture and Problems — Peter Van Strattum (C.W. House Co.)

Van Strattum will present a hands-on discussion of particular felts, flange bushing, manufacturing processes and problems encountered with various types of

Special Classes

Bridge Construction — Ed Trefz, John Trefz, Ralph Onesti

Upright Piano Service In The

built problem piano to

Campbell)

problems.

Jameson

(Wurlitzer Co.)

Home — Otis Oxford, Baxter Ed-

This team will use a specially

demonstrate repairs for back pro-

This hands-on class will cover the proper steps in regulating an

upright action and key, using ac-

Learn how to save money for

vourself and vour customer and do a better action-rebuilding job by

tion models. Minor repairs and pro-

blems, loose bridges, loose ribs,

split pin blocks and other

Vertical Regulating — Dick Eckburg, Bud Corey, Larry Talbot

blems also will be covered.

Wippen Rebuilding — Sally

misten and Dave Lowe (Kohler and

This class will include bridge recapping on a grand piano which of course is the same principle used in vertical pianos. It also will include instructions on top and side bearing, drilling of bridge pin-holes, notching, toolsharpening, glue joints and much more. Technicians may wish to bring a hobby-saw and a straight lathe chisel for hands-on participation on practice bridges. Class continues for three and a half days.

Tuning Tutoring Forum — Tony Manna/Fred Odenheimer

Manna and Odenheimer will conduct separate three-hour classes in

all phases of aural tuning from temperaments to hammer techniques.

Pin Block Installation And Restringing - Willis Snyder, Dave Snyder, Ken Sloane

Starting with appraisal and record-making through every detail, including restringing, this pinblock class will guide you toward a perfectly fitted pinblock. Extras such as plate suspension systems (in-depth analysis by model), plate construction and stress factors will be covered during lulls when work is proceeding on piano. Class continues for three and a half days.

ing, Player Piano Forum and

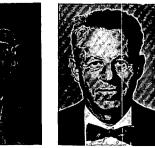
Visually Handicapped Committee

### Committee Classes

Forum.

And don't forget these special Guild committee classes: College and University Technicians forum, Certified Tuning Examiner Train-





Manna Odenheimer

W. Snyder Onesti

12/APRIL 1984 PIANO TECHNICIANS JOURNAL

# INDIANAPOLIS:

# More Ways To Win At The Indy 440!

Editor's note: You'll be busy taking advantage of all the educational activities at the Piano Technicians Guild's annual convention in Indianapolis, Ind., July 2-6, but you may also take a few minutes to savor the atmosphere of this graceful and growing city.

> Fred O. Rice, Sr. RTT Indianapolis Chapter

A new TV station in our city started its advertising campaign a few months ago with the phrase, "Indianapolis is a good place to call home." After 17 years in the city, I can concur wholeheartedly.

I realize that all of you will never be able to share that truth fully, but there is one way you can share it in part — Indianapolis is also a good place to visit.

With that in mind, we of the Indianapolis chapter would like to extend to all our fellow technicians a hearty invitation to visit us in July at the national convention. Here you will get a taste of our good old-fashioned Hoosier hospitality and share some of the good life. You will find some

unique things here at the cross-roads of America. Allow me to share just a few of them with you.

Our location is ideal for the traveler. Except for those west of the Rockies, you will find us less than 1,000 miles from almost anywhere in the country — Canada, New York, Florida, Texas, Colorado. Check it out. This means moderate air fare if you fly in. If you drive, 24 hours maximum driving time for probably 90 percent of the membership and much less for most.

For those who make the convention a part of their vacations, you will find our state unique. Visit Lake Michigan and the Dunes State Park to the north with its beaches of "singing-sand." This is the only place in the world, except in China, where this type of sand is found. And the southern part of the state is bordered by the "Beautiful Ohio" River, where you can watch world championship boat races at the Madison Regatta. In between, you will pass thru the famous hills of Brown County, see the watermelon center of the world at Vincennes, observe the limestone quarries where the renowned Bedford Limestone is quarried, and through the mid-section of the state see some of America's best farmland.

We also boast of the Kimball Factory at French Lick. You will visit it during the Guild's postconvention tour.

You will find Indianapolis itself most interesting. There is the new Domed Stadium (no team yet, but a stadium); Market Square Arena, home of the NBA Pacers; and many amateur sports facilities. Indianapolis is fast becoming the amateur sports center of the world. There also is Raceway Park, where the



Monument Circle in downtown Indianapolis will be a familiar sight to those attending the annual Piano Technicians Guild Convention and Institute July 2-6. Photo by Barbara Martin

National Drag Races are held, and to top it all, the world famous Indy 500 Race Track, better known as "The Speedway."

For those who enjoy other entertainment, there is the Indianapolis Art Museum, the Indianapolis Symphony, the Indianapolis Repetorie Theater, Conner Prairie and a host of other places of interest. On the night of July 4th, you will enjoy a fireworks spectacular from the circle.

All of this and more — only the fringe benefits of attending the 1984 Convention in Indianapolis. We'll be looking for you!



## Vertical Rebuilding: Damper Placement

### Jack Krefting Technical Editor

robably the most troublesome aspect of damper installation is getting the correct vertical placement of the felt on the strings. If it is just a little too high or too low there will likely be problems with tone or leakage or, worse yet, ringing harmonics. We also must consider the fact that the best place for the damper is also the best place for the hammer, and since both are on the same side of the string we must of necessity place one above the other. Changing the strike point is unthinkable, so the dampers have to be placed above or below the hammers. This is the main reason we have more trouble with damper efficiency in vertical pianos than in grands.

The overdamper "birdcage" design used in some English pianos represents one approach to the problem. It has not found wide acceptance elsewhere, partly because it is relatively inefficient and partly because the design precludes easy muting of the strings during tuning. It has been assumed that there are considerable cost savings from a manufacturing standpoint, but this is doubtful in our view, especially considering the extra action rail needed for the damper flanges.

In any case, since there are so few birdcage pianos in this country, and since very few of even that number would be good candidates for rebuilding, we will not cover that aspect of now. In the near future we will, however, consider the conversion of a birdcage to a conventional piano by building in a new action. In the meantime we will focus on the underdamper arrangement in common use.

We would like to place the felt as high as possible on the strings without interfering with the hammers, remembering that extra clearance is needed to allow for the whipping of the shank, and consequent up-and-down movement of the hammer head, on a hard blow. We also would like the bottom of the felt to be in a "safe area" between nodes if at all possible.

Figure 1 shows measurements taken from a typical 743 scale Hamilton studio model. Note the location of partial nodes, indicated by the triangular projections from the vertical line which represents the top portion of the string. The bottom of the lower wedge on note 28 is right where it should be, in the safe area between the fifth and sixth partial nodes.

If the damper were higher or the wedge shorter, there would be increased likelihood of a ringing sixth partial after a staccato blow. If the wedge were half an inch longer or the entire damper were placed half an inch lower, it would increase the incidence of fifth partial ringing. If we were to lengthen this damper, the damping efficiency would likely

### **Multi-Purpose Tool Contest**

Our multi-purpose tool contest is still going on, and will continue so long as entries are received and interest is expressed. This month's entry is submitted by Charles Gibson of Caledonia, Mich.

Five-inch curved-jaw Vise-Grip® pliers, used for:

- 1. Holding that very small (#60) drill bit for on-the-spot vertical hammer installation. The drill bit is used to make glue relief in a hammer moulding.
- 2. A primitive but workable clamp.
- 3. Emergency wire cutters.
- 4. Twisting and installing the loop end of a bass wire in those hard-to-get-at places.
- 5. Strongly securing small objects too numerous to mention.
- 6. The best tool, by far, for making loops (knots) when splicing piano wire.

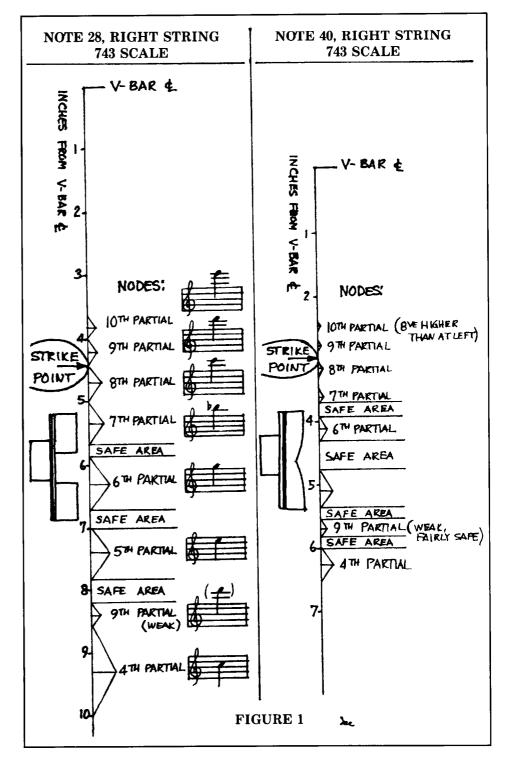
decrease, unless we extended it a full inch to get the bottom of the felt into the next safe area.

As we have seen, the vertical position of the felt on the strings can be a major factor both in damping efficiency (stopping the fundamental) and in preventing the partials from sounding after the key is released. If the bottom of the felt is defining a nodal point, the string segment from there to the bridge may continue to vibrate at a partial. This condition is worsened by weak damper springs or by bichord wedges off to one side, which put more pressure on one string than on the other.

If the dampers worked fine before the action was removed but have a harmonic after-ring when the action was re installed, it is likely that the action is not seated in the same position as before. The slight difference in the height of the action is the problem, not because the damper is too high or too low on the strings in this case, but because the strings in the tenor and bass are angled. If the action is not seated precisely every time, the dampers will exert more force on one string than the other. Our readers may wish to experiment by lightly touching the string at various points with a rubber mute while plucking the string from below.

It is also possible to have a harmonic after-ring that is the result of sympathetic vibration rather than the condition described above. That is, instead of the strings of note C16 subdividing and producing a harmonic themselves, note G47 (the sixth partial of C16) is ringing on at its fundamental because its damper is not properly adjusted. One could spend hours bending and rebending the wire on C16 without effecting the slightest improvement. The problem is elsewhere, even though it is only apparent when the lower note is struck.

To diagnose, play the offending note and mute its strings with your thumb immediately after releasing the key. If the harmonic stops, that particular damper is at fault. If it doesn't, continue playing a staccato pattern on the bad note while alternately muting other strings until the harmonic



stops, indicating the faulty damper.

It is important that replacement damper felt be close to the same thickness as the original felt, because the range of adjustment is limited. If radically thicker or thinner felt is used, a major re-bending will be necessary. Even then, it may not work for reasons we shall discuss presently.

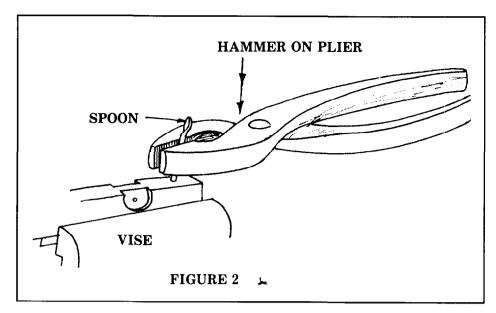
Damper lever felt, the usuallygreen material that touches the spoon and the lift rods, should be inspected and replaced if necessary. Generally speaking, the felt should be replaced if abnormal compression or wear is apparent, or if the felt is transferring to the spoons. The latter condition indicates that either too much glue was used originally, and it is softening and wicking through the felt somehow, or that an acid/base imbalance in the felt itself is causing the spoons to corrode. Simply

cleaning the spoons is not good enough, because that doesn't get at the cause of the problem. In any case, if the plating has been penetrated by corrosion, the spoons will have to be replaced. This is an easy problem to diagnose because it is the only action repetition problem that actually *improves* when the damper pedal is depressed.

The spoons could be replated and re-used, of course, but that would require removal and replacement anyway. Unless the existing spoons are of unique conformation or diameter for which no replacements are available, it would doubtless be cheaper to install new ones. I want to reiterate that cleaning and lubricating corroded spoons will not solve the problem in the long term; replacement of spoons and felt is the best answer.

Before removing spoons, note the depth to which they are driven into the wippens, as this affects not only the side spacing but also the leverage. Since they are fluted. they should never be twisted, but rather pulled out and driven in. The best removal tool to our knowledge is a snap ring plier (available at auto supply houses) with a slot filed in the jaw tips, as has previously been featured in these pages. Simply place the tool in position with both jaw slots around the shank of the spoon. and squeeze the handles. The jaws spread instead of closing like a conventional plier, and the spoon pops out.

Replacing the spoons is a bit slower, quite a bit slower as a matter of fact. Not only must they be driven in without hammering on their tips, but they also must be pointing in the correct direction and the convex face must square with the lever felt. One method, indicated in Figure 2. involves grasping the spoon shank firmly with ordinary pliers and driving it in by hammering on the pliers. Another method involves chucking each spoon in a drill press and using the quill to press the spoon into the wippen. Other methods undoubtedly exist as well, but unfortunately I know of none that does not require removal of the support flanges from the rail. Incidentally,



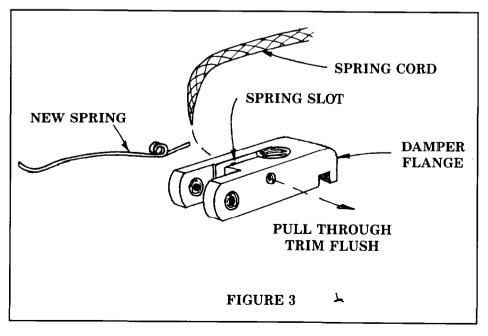
be sure the new spoons are tight in their holes — glue-size the wood if necessary before installation so the spoons can't twist on a hard blow. Otherwise the spoon adjustment will not hold.

Spring replacement, illustrated in Figure 3, is indicated when more than two or three have broken in use, or when springs are corroded or have been vandalized. There also might be occasions when stronger springs are desired. We should be aware, though, that this will have a noticeable affect on touch weight, and must be weighed against the probable improvement in damping with the heavier springs. The rebuilder must not compensate for this by weighting the keys, as this could

result in poor repetition and very light touch when the damper pedal is depressed. Consider the practical aspects under all possible playing conditions before making any modification. After all, the design must have worked satisfactorily at one time or the piano could not have been sold. If it worked once, it can be made to work again without being redesigned.

Damper regulating was covered in some detail in our May 1980 issue, (pages 8-12) so we will refer interested readers to that article to avoid excessive repetition. A few regulating tips may merit mention here, however.

Our initial in/out bend at the bottom of the wire is made for evenness of lift with the pedal.



These bends must be made before the spoons are bent because the former adjustment affects the latter. Figures 4 and 5 show that, while the essential problem is to bend wires so the dampers lift evenly, this can be done only within certain limits or the bottoms of the damper levers will be too far in or out. If wires are bent as shown in Figure 4, for example, the levers may actually touch the strings in the bass. Even if they don't, by the time the spoons are bent to regulate damper lift with the key, they are at such a radical angle that they tend to dig into the lever felt, especially if they happen to have a sharp burr on top.

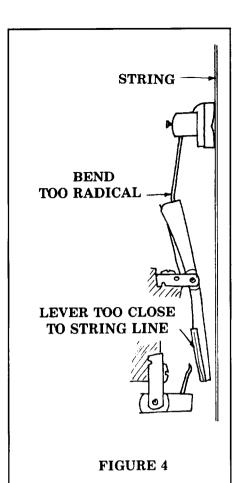
If the in/out bend is too far the other way, as shown in Figure 5, it will be difficult or impossible to avoid "fast dampers" (early lift with the key) without the spoons clicking against the flange screws. If either of these conditions exist, even if only one or two notes show such evidence, it will be necessary to re-bend all of the wires to get the bottoms of the levers into a reasonable position. If the technician tries to cheat by bending wires on only the noisy dampers, the noise might be solved but those dampers will lift early or late with the pedal. Even if it works that way, it looks terrible.

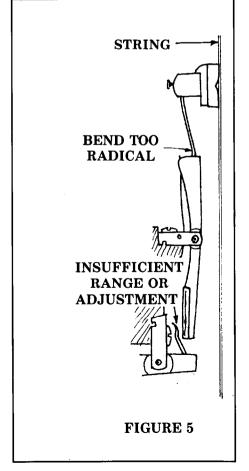
Next month in this space we will consider our damper discussion.

### Best Time To Tune

For the short time that I have been a Registered Piano Technician, there has been one lingering question, which many of my customers pose, that I can answer with little authority. It goes something like, "What is the best time of year to have my piano tuned?" or "Isn't it better to wait until the cold months to tune it?"

From what I understood, there are many factors that contribute to fuel this misguided controversy. All things being dry and overtaxed here in Michigan, there is no "best time" to tune one's piano, and if one's piano needs tuning on a regular basis, then tune the darn thing, be it July 14th or Feb. 22! This is my opinion on the subject.





What is your viewpoint on this musical can o'worms?

Charles Gibson Caledonia, Mich.

First I think we have to decide just how in-tune we expect the piano to be, and how much the owner is willing to spend for the luxury of always having a beautifully tuned instrument. Professional pianists and piano teachers should really have their piano tuned every two to three months, depending on humidity control, the number of hours the piano is played, and other individual variables. Recording studios seldom allow more than two weeks to elapse without a tuning, and often will schedule regular weekly tunings whether the instrument will be used or not. Concert instruments are tuned before every rehearsal and every performance, of course.

Since the average piano owner isn't aware of even major discrepancies in intonation, it is not surprising that he would resist the suggestion that his piano really needs to be tuned every two to six weeks if it is to sound in tune all the time. Piano manufacturers are in general agreement that two to four tunings per year will suffice in the average home situation, but we all know that very few pianos receive more than two tunings per year, and most of them get a lot less. Unfortunately, when the piano tuner tells the owner that pianos need frequent tuning, it looks like a conflict of interest. To get around that, it is a good idea to refer the owner to the piano manufacturer's printed material on the topic. Since the manufacturer makes no money on the tuning, he is a disinterested party and therefore has more credibility.

Now, having said all that, if I were paying for two tunings per year I would try to schedule them for May and November in this part of the country, after the soundboard has made its biggest move. That way, the piano will be closer to being in tune for a longer period of time.

### Bass String Breakage

I have been servicing an inexpensive spinet (Mendelssohn), which is about nine years old. Within the last year seven bass strings (wound, twostring unisons) have broken. One of the new strings put in six months ago recently broke. It was a universal replacement string, as were all the others. What is the problem?

The hammers were very hard and the regulation was poor, so I voiced and regulated. The upper V-bar does not seem to be rough or pitted. The strings are breaking at the upper V-bar.

The piano is played hard by a 14-year-old, but he does not play any rock music.

Aeolian says they have not had any specific problems with string breakage on this piano. There do not appear to be any structural problems with bridges, pinblock, plate position or bearing. Have I overlooked something in checking the structure, or in the string friction points?

> Richard Capp Boulder, Colo.

In my experience, when the strings break at the Vbar it is a sure indication that the piano is being played with excessive force. The pianist may not be playing rock music, but he is playing heavily enough to fatigue the strings. This condition is common in cocktail lounges and in churches where a relatively small acoustic piano is used in conjunction with other instruments, some of which may be electronically amplified, but it can occur in the home as well. Certain styles of music, notably rock and gospel, are commonly thought to contribute to string breakage, but hard evidence is not abundant. We do know, however, that if a string is struck with great force (the speed of the stroke may have more to do with it than the force) the string will become fatigued and eventually break at the nearest termination of the speaking length.

Another factor here is the hardness of the hammers. It has been



fairly well established that hard hammers can cause string breakage, although this is more readily demonstrable in the treble than in the bass.

It may be difficult to convince the client that the piano is being abused, particularly when he or she is a bit defensive because of a nagging suspicion that the piano really is being flogged but cannot admit it for whatever reason. Sometimes the only way to prove the point is to have the strings examined under magnification. A clean break at the V-bar indicates metal fatigue, most likely caused by repeated heavy hammer blows. A jagged break anywhere indicates

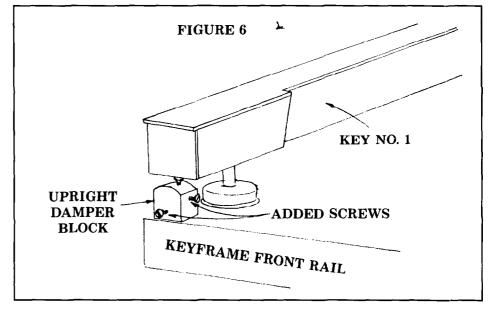
an imperfection in the wire, probably caused by a speck of dirt or other foreign matter in the metal when the wire was drawn. A splintering break at the becket or hitchpin is an indication that the wire is too hard and therefore brittle. Breakage at the base of the tuning pin coil indicates tuner error or excessive friction at the pressure bar.

Strings may also break at the top of the hitchpin loop, a workmanship flaw on the part of the string-winder who weakened the wire at that point by putting a kink in it.

### **Tech Tips**

Barry Heismann of the Cincinnati Chapter suggests an answer to the problem of string replacement in a newer vertical that has bent-over beckets. Simply slip a coil setter over the tuning pin and give it a sharp rap with a hammer, breaking off the protruding tang. The string can then be removed normally.

Russell Gordon of Goldens Bridge, N.Y., recently contributed an idea for uniform drilling of bridge pin holes using a modified Portalign drill guide. We had a drawing of the jig in that issue, and now Russell has sent a photograph for our futher benefit (see photo). He also sends the following idea to simplify the application of decals: "...Center decal and then put a piece of masking



tape along one edge. The decal can now be folded back for applying varnish and the tape acts as a hinge for precise, worry-free repositioning."

### Gadget Of the Month

Sally Jameson of the Central North Carolina Chapter suggests a good way to keep end keys firmly positioned at the correct height when leveling keys. Instead of using a stack of cardboard punchings, which have a tendency to compress, Sally uses an upright damper block with a couple of extra screws to that virtually any key height can be accommodated. Figure 6 shows the block in use, adjusted so the front of the key is resting on the screw.

### Tool Idea

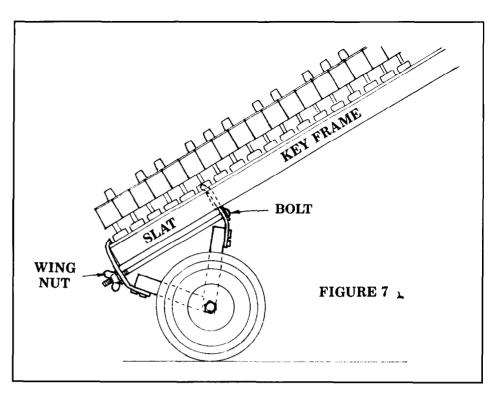
For those who do veneer patching and general casework, there is a special needle-nose glue injector on the market. It will, according to the seller, apply glue into places no other applicator can reach. Available at Constantine's, 2050 Eastchester Road, Bronx, N.Y. 10461, the injector is priced at \$4.75 plus shipping and handling, and includes an 8 oz. bottle of Titebond glue.

### **Reader Comment**

Dear Jack:

On page 13 of the October Journal you picture the rig with wheels for moving a Grand Action, which was sent in by Herman Koford. Knowing the value of an action I certainly would not recommend fooling around with any such rig attached to the action rails.

For years I have used a hand truck with 10" wheels. With this I can go up or down a flight of stairs in perfect safety. Use four book straps to secure this to the truck, two on each side over the action rails and down under the truck rails and up to the buckles.



I got the idea when having to carry a heavy Baldwin Action some distance over an uneven icy walk to my wagon.

Errol P. Crowl Athol, Mass.

Actually, we received a number of letters objecting to Herman's device, but I have to take the blame because I didn't understand quite how it worked so the drawing was incorrect. Here's Koford:

Dear Jack,

I am sorry I did not give better instructions on attaching the wheels. The clamps go under the action, the reason for the 5-inch bolts...

Herman Koford Los Angeles, Calif.

My apologies to everyone for the mistake. The corrected drawing appears here as *Figure 7*. Incidentally, we have mentioned this before, but one of the best devices for transporting a grand action is a luggage carrier commonly used by frequent travelers. It works much like Errol Crowl's two-wheeler but has the advantage of being light and will fold up when not in use. That idea was contributed by Bob

Erlandson of Omaha, Neb.

If other ingenious methods of transporting heavy grand actions are being used by our readers, we would be interested in hearing about them. Please send all technical material for publication to me at this address:

Jack Krefting, Tech Ed Piano Technicians Journal c/o Baldwin Tech Service

1801 Gilbert Avenue Cincinnati, OH 45202



# The Metric System And Piano Technology

James F. Ellis Knoxville, Tenn., Chapter

new system of measurements, known as the International System of Units (SI), is being adopted in most countries throughout the world. This is a special form of the metric system. The United States has been increasingly involved in the conversion to this new system since the U.S. Senate approved a metric conversion bill in 1972.2 The changeover to this new system has not gone as rapidly as planned. Nevertheless, if it continues at its present rate, the time will come when piano technicians will have to change to the units of measure everyone else will be using.3

### The Development Of Units

The history of measurement dates back to about 6000 BC. when the civilizations along the Nile and on the Chaldean plains used units of length based upon man's own dimensions. Since that time, the general trend has been toward better standards. By the year 4000 BC, the cubit (the distance from the elbow to the tip of the middle finger) had become the principle unit of length. In 1324, King Edward II of England decreed the official inch to equal 3 barley corns laid end to end. In 1496, King Henry I established the yard as the distance from the tip of his nose to the end of his thumb. The 12-inch foot and the three-foot vard were well established in England by the year 1500.4

In 1670, a decimal measurement system based upon the earth itself was proposed by Gabriel Mouten. In 1791, France established the

meter as 1/10,000,000 of the distance from the equator to the north pole, along the meridian through Paris. In 1889, the United Kingdom defined the meter as the distance between two marks on a platinum-iridium bar. In 1901, the U.K. established what is now the British Standards Institute, and the United States established the National Bureau of Standards. The U.K. established a committee on metrication in 1966, and set up an advisory committee on SI units in 1969. As noted earlier, the U.S. Senate approved a metric conversion bill in 1972, but in 1973, the U.S. House Rules Committee deferred action on HR-11035 because of objections from organized labor and the National Federation of Independent Businesses. However, about 100 individual firms had declared their intention to proceed with metric conversion, regardless of government inaction.5

"The units of measure that we currently use in piano technology have been determined by the measuring devices to which we have had ready access, and the way we have made the measurements. As a result, the units that we now use are mixed."

### Traditional Units Of Measure

The units of measure that we currently use in piano technology have been determined by the measuring devices to which we have had ready access, and the way we have made the measurements. As a result, the units that we now use are mixed.

We specify touch weight in grams (metric), key dip in inches (English), and hammer weight in an arbitrary system that relates only to the felt used to make the hammers. We specify music wire, tuning pins, center pins, screws, etc., in terms of "sizes," which have either English or metric equivalents. We specify "vacuum," (gauge pressure) in "inches of water," because the low gauge pressures used in players, reproducers, and organs are easy to measure with a simple water manometer.

By gauge pressure, we mean the measured pressure compared to atmospheric pressure (as opposed to absolute pressure). When we refer to "vacuum" in piano or organ work, we are simply talking about slight negative gauge pressures. not vacuum in the true sense of the word.

### **Ideal Units Of Measure**

Although the units of measure that we currently use in piano technology are fairly simple and practical, they aren't very good from the standpoint of standardization. As the shift toward standardized metric units continues, they are apt to become obsolete. I am not criticizing the English

system of units or the mixture of units used in piano technology. I am saying that, sooner or later, the system is in for some changes, whether we like it or not.

The English have gone to the metric system, and the U.S. is now the main hold-out for the English system. I do think we would be better off if the field of piano technology used the same units of measure as other disciplines use. Obviously, we will need some special cases — some dedicated units and sizes for special parts. All things considered, the metric system will offer some new advantages to piano technology.

In spite of its apparent advantages, conversion to the metric system has not gone well in American industry, or even in American research and development labs, in spite of the fact that the scientific community has used the metric system for a long time. The obvious reasons are, first, the resistance to change, and second. the fact that so much of our existing hardware is made to English system dimensions. There is another reason that is not so obvious, but before I go into that, I want to describe the difference between basic units and derived units.

### **Basic And Derived Units**

Length, mass, time, temperature, and electric current are basic quantities. Energy, force, pressure, power, frequency, area, volume, density, velocity, and acceleration are derived quantities. There are others, but I am only discussing those with which we are most familiar. For example: A mile is a basic unit of distance (length); an hour is a basic unit of time; but a mile-per-hour is a derived unit of speed (velocity). A cycle is a basic unit; a second is a basic unit; but a cycle-per-second is a derived unit. A-440 is a derived unit. It describes one quantity in terms of another.

Weight and mass are not the same thing. Mass is a measure of quantity, regardless of size or density. Weight is a measure of the force delivered by mass under the pull of gravity. Conversely, weight is a way of measuring how much mass we have, but weight depends

upon gravity. Mass does not. A pound of key weights won't weigh the same on the moon, because the moon's gravity is less than that of the earth, but the mass will be the same

This is why a balance-type scale indicates mass, as opposed merely to weight. It compares an unknown mass to a known mass. It only needs some gravity to make it work. A spring-type scale only measures force, and therefore only indicates mass if the gravitational constant where it is used is the same as that for which it was calibrated. So what does this have to do with piano technology? We will soon see!

#### S I Units

As I stated earlier, the modernday version of the metric system is known as the Systeme International d'Unites.<sup>6</sup> As its name implies, it is the product of an attempt to establish internationally standardized units of measure. It is also an attempt to establish scientific standards of measure.

As I have just explained, some of our more common units hold true only under certain conditions. For example: In piano technology, we describe the tensions of strings in terms of pounds. In so doing, we are using pounds as units of force and assuming that a pound is always a pound. But it is not! A pound of mass exerts only a pound of force, by gravity, on the surface of the earth, but not on the moon, or Mars, or out in space.

The designers of the SI metric units have attempted to avoid this dilemma by assigning separate units for mass and force. In the SI system, the kilogram (kg) is the basic unit of mass, and the newton (N) is the derived unit of force. It is named after the English scientist and mathematician. Sir Isaac Newton (1642-1727). The newton is not defined in terms of weight, because if it were, it would hold true only at one given location on the earth. Instead, it is defined as the force required to accelerate one kilogram of mass by one meter per second, per second (meaning that the 1-M/sec. acceleration takes place every second). In so far as we know, this derived quantity will hold true anywhere in the universe, because it is not dependent upon gravity.

### **Problem Areas**

From a scientific standpoint, the derived units of the SI system will be a big improvement over the common units now in use, but from a practical standpoint, they will not. Who among us has any mental concept of the force of one newton? It might as well be a word in an unknown foreign language!

On the other hand, we all have a mental concept of the force exerted by a pound under the pull of gravity—a pound of butter, a 10-pound sack of flour, or 500-pound piano. In everyday life, we are unconcerned with the fact that these things won't weigh that much on the moon or out in space.

This is just one example of the not-so-obvious reasons for our delay in converting to the metric system. We just do not have any mental concepts of some of the derived units that we will be using, and we have no convenient way to obtain them.

Let's suppose we did change to SI metric units. Our 3/8-inch key dip would become 9.525 mm which rounds off to an even 10 mm (1 cm) if we increase it by 19 thousandths of an inch. We would not specify touch weight in grams, however, because we are really measuring force when we measure touch weight. We would need to specify "touch force" in newtons. That bass string with a speaking length of 48½ inches and a tension of 220 pounds would have a speaking length of 122.6 cm and a tension of 979 N, not 99.8 kg.

Durrell Armstrong says the stack vacuum on a Duo-Art reproducer ranges from 7 to 31 inches of water (Piano Technicians Journal, Sept. 1983, P.12). Since this "vacuum" is actually a negative gauge pressure, we would need to specify it in pascals (Pa), the SI unit of pressure. The pascal is named after Blaise Pascal, French philosopher and scientist (1623-1662). It is defined as the pressure of one newton per square

meter. Our stack vacuum of 7-31 inches of water would then become 17-77 Pa. Again, we all have a mental concept of the pressure exerted by a 7-inch column of water, but who among us has any concept of the pressure of 17 pascals?

### Compromises

As we convert our present system to metric units, the basic units will not be a problem. We will just be making direct substitutions-mostly with linear measurements—meters for feet, centimeters for inches, and millimeters for fractions of inches. In fact, the metric system will make some of our linear measurements easier.

On the other hand, the derived units will present a problem. We will no doubt have to make compromises. We could measure our pressures and vacuum in centimeters of water instead of inches of water, because it would be understood that these measurements would be restricted to the surface of the earth, which is the only place we are apt to be working with a piano. We could continue to express touch weight in grams, because it would be understood that we would mean the force produced by the specified weight resting on the key at the

surface of the earth. We would need to express tuning-pin torque in newton meters, but that is an easy conversion, and some torque gauges are already calibrated that way. We would need to express string tensions in newtons, and that will seem awkward to us for a while at least.

We should not become discouraged if we become a little confused at first. Scientists and engineers sometimes become confused too. A "Think Metric" column that used to appear in an engineering magazine used to show a picture of a pretty girl in a bathing suit in each issue, and give her statistics in metric units. At one point, there was some disagreement over the units used to describe the girl's weight. Some readers contended that weight should be expressed in newtons, because weight is actually a force; but others contended that it should be expressed in kilograms, because it was mass that was really being described anyway. The "mass" argument won in the end, but the column was later discontinued after repeated accusations of sexism.

### Methods Of Change

A method of metric conversion that has worked fairly well in

other fields, and a convenient way to make the transition in the Journal, is to print the traditional unit first, followed by the metric unit in parenthesis. Example: "The key dip should be 3/8 inch (9.5 mm)". This practice can be followed for a period of time until readers have become familiar with the units, then the order can be reversed. giving the traditional unit last. Example: "The key dip should be 9.5 mm (3/8 inch)". At some later time, the traditional units can be dropped entirely. Notice that the conversion of 3/8 inch to metric units actually comes out as 9.25 mm. We round it off, because we do not want to suggest an accuracy that we never had to begin with. In rounding 9.525 to 9.5, we decreased the dip by a thousandth of an inch - the absolute limit of accuracy for a measurement like this. Some manufacturers may specify a dip of slightly more than this.

### Conclusion

We should keep our units of measure up to date, yet practical. I do not think the Journal should get too far out front, but it certainly should not lag behind. Perhaps it should lead just a little bit. What we are now using in the piano industry is an arbitrary system based mostly upon English units mixed with a few metric units. If and when we do change to metric units, we will no doubt end up with another arbitrary system based mostly upon metric units mixed with a few others. Be that as it may, the pitch of note A will still be 440. We will just call it "hertz" instead of "cycles-per-second" (CPS).

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### CONTINUING EDUCATION

### A Case Of Poor Repetition In An Upright Piano

Stephen H. Brady, RTT Seattle Chapter

1 few years ago, while I was doing some work in a piano store, one of the salespeople was in the process of losing a sale. As the prospects, a man and woman, began to leave the store, the saleperson introduced them to me and asked if they wanted to ask me any questions about the piano they'd been looking at. They thought for a few seconds, and then the wife said, "Well, I like the tone of the piano very much, but I don't like the action. It's hard to play fast passages because the notes don't always repeat. Can that be changed?"

"Would you buy the piano if the action satisfied you?" I asked. "Yes, I would," she replied

without hesitation.

"Then give me about 15 minutes to see if I can help," I said.

The piano in question was a 50-inch upright by one of our best American makers, so I felt that it should certainly be capable of adequate repetition. Though rumor has it that upright actions can't repeat as fast as grand actions, I knew that a well-regulated upright action should hold its own very well, even in the most difficult music (see Piano Technicians Journal, March, 1979, p. 22). As I

checked inside the piano, I wasn't surprised that the action didn't repeat well. I found three good reasons:

1. There was no lost motion at all, to the extent that when I tripped the jacks and released them slowly, many couldn't get back under the butts.

2. The hammer springs were much too strong. When popped out of their slots, they came to rest almost touching the hammer rest rail. The problem with overlystrong hammer springs, of course, is that they force the hammer

"Although rumor has it that upright actions can't repeat as fast as grand actions, I knew that a well-regulated upright action should hold its own very well. even in the most difficult music."

back faster than the jack can get back under the butt.

3. The backchecks were catching the hammers at about threefourths of an inch from the strings. In an upright, the backcheck functions much like the repetition lever and spring in a grand action. The backcheck wire is put under tension when it checks the hammer, and this tension, when released, gives the wippen added impetus down and away from the hammer, allowing the jack to slip back under the butt more easily. To be most effective in this function, the backchecks should catch the hammers at a point no farther than the fiveeighths-inch usually specified.

After making these observations, I set about correcting the three problems. To induce a little lost motion quickly, I shimmed the rest rail forward just to where I could see the jacks were returning easily after playing.

Next I turned my attention to the hammer springs. By inserting my hand, fingers down, palm towards the soundboard, I quickly weakened the springs one at a time by pushing firmly at the base of each one (where the spring goes into the rail) to close the coil

slightly. After this adjustment, the springs pointed to about 5 o'clock when out of their slots.

Now I proceeded to regulate the backchecks, but instead of setting them to check at five-eighths-inch, I set them at about a half inch. I did this, again, by using my fingers, and it was the backchecks that occupied most of my 15 minutes.

After finishing the backchecks, I played the piano and checked visually as well for any repetition problems. Finding none, I called the customers back into the room to try the piano. They loved it and bought it.

In this case, I was lucky because the problem was caused entirely by those three items, which were quickly correctable.

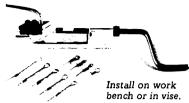
Repetition problems in uprights can also be caused by a variety of other things. First, tight key bushings can make an action balky and sluggish. Tight action centers, particularly in the wippen and jack flanges, can really cause problems with repetition. A tight hammer flange center will cause a loss of power on repeated notes that can be just as bad as a note not repeating at all.

Bridle tapes are often thought to have more effect on repetition than they really do. Their primary function is to keep the wippens from dropping so low that the jacks get stuck under the butt felts when the action is removed. I suppose it is possible, though, for the bridle tapes to be set so tautly that the jack is unable to return under the butt because the wippen isn't returning to a complete rest on the capstan.

Finally, a weak jack spring can be the culprit. This can be very hard to trace, especially for a beginner. If everything else checks out (key bushings, action centers, regulation), then the jack springs are worth checking, especially on older spinets and consoles. In a pinch, a weak jack spring can be strengthened sometimes by slipping the top end out from under the jack tender, and then gently pulling on the spring to elongate it. The real cure, whenever time permits, is to replace the jack springs with a new set.

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### The Eclectic's

### **NOTEBOOK**

### Hammers: Strike-points and Weight

Christopher S. Robinson Connecticut Chapter

### Dal segno

t might be a good idea to go back a little and refer to some of the ideas that were discussed in the last article. As your writer reviewed the material presented, it became apparent that a very important observation had been omitted from that column. Let's postulate this to ourselves in the following question: "Is the ideal strike-point in any given piano always the same for any set of hammers that we may wish to install in the instrument?" To rephrase the question, we could ask if the best tonal output on a certain premium piano would be achieved by mounting either original equipment hammers, imported hammers or domestic replacement hammers along precisely the same striking-line regardless of which of them the technician chose to install.

The answer is that the strikepoint might very well be the same, but in all likelihood it will not conform. In some cases, there may be an extraordinary difference. It is a very great mistake to mount replacement hammers, whether they have been supplied by the original manufacturer or not, using the placement of the existing units as absolute markers.

The original location of hammers one through 57 can provide excellent guides, particularly if the action geometry is correct, but the technician is advised to let his or her ear be the judge in the portions of the scale above that note. A good idea is to set every tenth hammer at its optimum power-producing position.

I was recently able to prove this assertion in no uncertain terms on a fine grand piano which required replacement hammers. The instrument was over-centering very badly and would not check or repeat properly. The tone it produced with original equipment was very strong, although it was mostly characterized by a too-explosive at-

"Is the ideal strike-point in any given piano always the same for any set of hammers that we may wish to install in the instrument?" tack and a decay which diminished very quickly. At every eighth and ninth position in the scale, one hammer of domestic manufacture and one imported replacement were mounted, respectively. All the other hammers were left alone. The action was "equalized" in its regulation so that all of the hammers on the stack would behave in the same fashion once the action was placed back into the piano. The results were instructive:

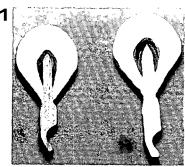
- A. The original set sounded best just as it had been originally positioned, all along the established striking line.
- B. The domestic replacement set sounded OK in the established position, but increased in breadth of dwell and amount of volume when the action was positioned toward the player by 1/16 of an inch or so.
- C. The imported set was very interesting in that it sounded very poor in the established position. At hammer 88 the volume and decay increased greatly when the action was moved toward the player by one sixteenth of an inch, but a move of almost three-sixteenths-inch was required at hammer number 68 in order to elicit comparable tone

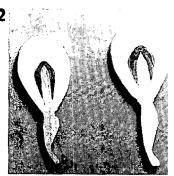
from that note in the scale!

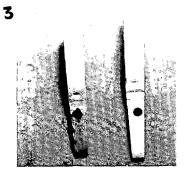
While the difference in set B could certainly be taken up with the available adjustment in the treble keypin guide plate located in the treble keyblock (cheekblock), there is no way that the differences described in set C could be adjusted for without establishing a new hammer striking line on the subject action stack. Please note that this condition is even worth looking for on brand new instruments with tone production problems!

Let's move on at this time to another common problem associated with replacement hammers installed on grand pianos in service. Please look at picture one.

What we seen here are two typical domestic replacement hammers. Please note the heavy shoulders and excessive wooden molding on both these units. Now look at picture two.







Excessive material on both the felt top coat of the hammer as well as wood not actually needed to support the hammershank have been removed from what was apparent in picture one. In terms of the total mass of the hammer a significant reduction in weight has been achieved. One of the interesting things about tapering piano hammer tails is that it is not only necessary for proper clearance in the slanted, or angled, sections of the instrument; the tapering is also crucial for the reduction of unwanted weight! See picture three.

Unwanted? What objections do we have to a little extra weight? Asking the reader's patience, I must go back to the little allegory about Robin Hood in the second of these articles. For the archer, it's a very good thing for energy to be transferred from the bowstring to the arrow, but it is extremely inefficient to allow the piano string to transfer its energy to the felt hammer. The hammer must come up and deflect the wires, set them into motion and then get away without taking back the energy excited by the initial blow. The heavier the hammer, particularly in the non-active portions of its body, the more time and energy will be expended in getting it to reverse its direction and return to its rest position after it has struck the wires.

While the hammers in the photographs are obviously replacement types being prepared for mounting, please note that this writer is not opposed to removing either part or all of a set of mounted hammers to remove non-functioning mass. Or, for that matter, dismounting them to establish a more advantageous striking-line.

The reader's experimentation along these lines is enthusiastically encouraged, with appropriate application of caution!



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# BACKGROUND

## Early Well-Temperament

Jack Greenfield Chicago Chapter

he increased use of 1/5- and 1/6-comma and other meantone temperament variations paved the way for other, more advanced, temperaments with major thirds wider than the just third of 1/4-comma meantone temperament. Although prominent theorists such as Mersenne advocated equal temperament to allow more freedom in modulation. chromaticism and use of tonalities. most musicians and composers preferred the variations in shading of intonation provided by irregular temperaments.

The tuning systems that came into use did not form neat mathematical patterns but consisted of cycles with two or more odd-sized fifths not necessarily placed symetrically but more often clustered or scattered in arrangements designed to make the most-used intervals sound better. Lesser-used intervals, although not sounding as good, were still acceptable. These tuning circles were closed and sharps and flats could be used as enharmonic equivalents.

Some irregular temperaments had been introduced as early as the start of the 16th century. Arnold Schlick, an organist with practical experience, was almost two centuries ahead of his time in tuning. In 1511, he described an irregular temperament he used with most fifths narrowed by the same or nearly the same amount and at least one fifth wider than pure. In

"The tuning systems that came into use did not form neat mathematical patterns but consisted of cycles with two or more odd-sized fifths...clustered or scattered in arrangements designed to make the most-used intervals sound better."

Schlick's temperament, the best sounding major thirds were those formed by pairs of diatonic notes.

Henricus Grammateus' temperament of 1518 (Piano Technicians Journal, January 1983, p. 31) is an irregular system in which the diatonic notes are tuned in a Pythagorian sequence of pure fifths. The whole steps are divided in half to give equal enharmonic diatonic and chromatic semitones. In other later irregular temperaments, equal semitones are formed in a similar manner but the diatonic notes are tuned in meantone or just intonation. Irregular temperaments published by Mersenne in the mid-17th century and later by other French theorists were mainly cycles of small meantone-tempered fifths with several larger odd-sized fifths to close the tuning cycle.

### Werkmeister And Well-Temperaments

Increased interest in irregular

temperaments came later in Germany. German development followed a different path. German theorists designed temperaments based on the Pythagorian cycle of pure fifths with two or more smaller fifths. The development of such temperaments, which came to be known as well-temperaments. was greatly influenced by the writings of Andreas Werkmeister (1645-1706), a small-town German organist largely self-taught in music theory. Later theorists in the eighteenth century, first in Germany and then in other countries, followed principles of tuning declared by Werkmeister.

Werkmeister was born and spent most of his life in towns in a small area of the Harz mountains in Thuringia, a district in central Germany. He showed musical talent at an early age when he began study with an uncle who was an organist. He continued organ study while obtaining an education in local secondary schools. His career as a church organist began in 1664. During his lifetime, he served at several different churches in the same general area.

Werkmeister acquired his advanced knowledge by intensive reading in music, mathematics, philosophy and theology, including classical as well as contemporary literature. He was familiar with the writings of the leading German music theorists. He became famous as a writer himself by publishing a total of six major treatises and a number of smaller studies during the period from 1681 until his death. Much of his writing deals with the relationships between music, mathematics and theology. He was progressive in his views on basing composition on harmonic rather than contrapuntal principles. Besides his status as an authority on music theory, he also was considered an expert on organ design and an accomplished performer. His background in tuning was therefore practical as well as theoretical.

Werkmeister used the words "wohl temperirt" (well-tempered), not as a standard technical term for specific temperaments but as an adjective for clavier tuning "...scholars familiar with the writings of Werkmeister and later German theorists agree that the standard equal temperament used today does not fall within the well-tempered classification."

systems suitable for playing every note in all major and minor keys and transposing at will, while still providing variety in the shades of pitch of intervals in different keys. Although many otherwise authentic modern references on music theory indicate that the term "well-tempered" in German baroque music is synonymous with "equal-tempered," scholars familiar with the writings of Werkmeister and later German theorists agree that the standard equal temperament used today does not fall within the well-tempered classification. Werkmeister did discuss equal temperament in his writings but indicated he preferred irregular temperaments because of the changes of intonation in different kevs.

Much of the music which had been composed up to Werkmeister's time contained few sharps and flats, to some extent because of the limitations on the

"Most of the music which had been composed up to Werkmeister's time contained few sharps and flats, to some extent because of the limitations of the key range of the regular meantone temperaments that prevailed." key range of the regular meantone temperaments that prevailed. In constructing his new temperaments, he believed that intervals in the more frequently used keys would sound better if tempered less, even though this increased the tempering and harshness in keys with many sharps and flats, which he said most ordinary organists couldn't play anyway. However, no interval should be tempered beyond the limit of acceptability, he said.

Werkmeister and many other German theorists expressed the alteration of the fifths in welltemperaments in fractions of the ditonic or Pythagorian comma, approximately 24 cents, the difference between the first and 13th note in a Pythagorian sequence of 12 pure fifths. The smallest fraction, 1/12 ditonic comma, is the amount of tempering of the fifth in equal temperament. However there were also systems based on division of the syntonic comma, approximately 22 cents, because of the use of major thirds in some tuning steps or for other reasons. In these, the difference, or schisma, must be absorbed by one of the pure fifths.

In Werkmeister's "Musicalishe Temperatur," published in 1691, he gave precise details for just intonation, meantone temperament and three irregular temperaments he called "correct." Each of the irregular temperaments was a variation of the Pythagorian cycle with three or more altered fifths inserted unevenly in the sequence to place the major third and other interval variations where desired by Werkmeister.

His most-used temperament is known as Werkmeister II or Correct Temperament No. 1 (1/4-comma) with the four fifths, CG, GD, DA and BF#, each tempered 1/4 comma (6 cents). Werkmeister IV or Correct Temperament No. 2 (1/3-comma) contains five fifths 1/3 comma flat, two fifths 1/3-comma sharp, and only five pure fifths. Werkmeister V or Correct Temperament No. 3 (1/4-comma) has five fifths 1/4-comma flat, one fifth onecomma flat and six pure fifths. Werkmeister also presented a "Septarium Temperament"

(1/7-comma) with five pure fifths and the remainder of various sizes ranging from 4/7-comma flat to 1/7-comma sharp in an arrangement described as eccentric by Barbour. Werkmeister was the only baroque German theorist who used fifths wider than pure.

### Bendeler's Temperaments

Werkmeister's "correct" temperaments had been preceeded the year before by several similar but simpler temperaments in a book, "Ôrganopoeia," on organ construction and tuning by John Phillipe Bendeler (1654-1709). Bendeler, a disciple with the same background, and possibly a student of Werkmeister, was born and lived in the same area. Bendeler taught music at a secondary school and directed vocal music at a local Protestant church. He also wrote on music theory. One of his temperaments consisted of a Pythagorian cycle except for CG, GD, and BF# each reduced 1/3 comma. Werkmeister's change in his first corrected temperament was the addition of the fourth tempered fifth, DA and the reduction of the tempering to 1/4 comma. In another Bendeler 1/3-comma temperament, the tempered fifths are CG, GD, and F#C#. Bendeler also presented a 1/4-comma temperament, with tempered fifths CG, GD, EB, and G#D#.

### Werkmeister III, Correct Temperament No. 1, Intonation And Tuning

Well-temperaments are evaluated on the basis of distribution of interval variations as well as other "By locating the tempered fifths exactly as he did, Werkmeister achieved his goal of having the slowest-beating major thirds in the most-used keys and the fastestbeating in the least-used keys."

qualities. Traditionally, the beating of major thirds is an important factor, slow beating the most desirable. Werkmeister III, Correct Temperament No. 1, has been considered one of the better welltemperaments and is used today for historic performances of German Baroque music. The table, with Barbour's figures for a 1/4-comma ditonic comma (-6 cents) division, arranged in a sequence of fifths, show intonation and variations in the size of fifths and major thirds. Values for major thirds are determined by calculation. For example, a Pythagorian major third produced by four pure fifths has a value of 408 cents, 22 cents (a syntonic comma) above a pure beatless major third of 386 cents. The cumulative total tempering of the three tempered fifths and one pure fifth in the Werkmeister sequence from C to E is -18 cents. This placed Werkmeister E at 390 cents, only 4 cents above the pitch of a pure major third.

By locating the tempered fifths

exactly as he did, Werkmeister achieved his goal of having the slowest-beating major thirds in the most-used keys and the fastestbeating in the least-used keys. The trend of the minor thirds is similar. The triad FAC composed of the narrow major third FA and beatless fifth FC is the best triad. A total of five major thirds, either 4 cents or 10 cents wide, are slower beating than the major thirds of equal temperament. which are all 14 cents wide. Four of the Werkmeister major thirds with the value of 16 cents wide beat slightly faster and the last three, 22 cents wide, beat as fast as the major thirds of a Pythagorian tuning cycle.

For aural tuning, Jorgensen's figures in "Tuning The Historical Temperaments by Ear" for theoretically correct beat rates of the tempered fifths or fourths in the F<sub>3</sub>-F<sub>4</sub> octave are:

F#3B3:2.5 Hz, G3C4:2.7 Hz, G3D4:2.0 Hz, A3D4:3.0 Hz. All remaining fourths and fifths are pure. The slow beating major thirds are:

F<sub>3</sub>A<sub>3</sub>:2.0 Hz, C<sub>4</sub>E<sub>4</sub>:3.0 Hz.

Jorgensen's Equal-Beating variation of this temperament has slightly different beat rates which can be checked more easily and which maintain the same relative speed at any pitch level.

### WERKMEISTER III, CORRECT TEMPERAMENT NO. 1

Tempering of Intervals (¢ from just)
Intonation (¢ from C shown by Barbour)

Interval Tonic	E'(D')	B'(A')	F	c	G	D	_ <u>A</u> _	E	В	$\mathbf{F'}(\mathbf{G}^{\flat})$	$C'(D_p)$	<b>G'(A</b> b)
Fifth	0	0	0	-6	-6	-6	0	0	-6	0	0	0
Major Third	+16	+10	+4	+4	+10	+10	+16	+16	+16	+22	+22	+22
Intonation	294	996	498	0	696	192	888	390	1092	588	90	792



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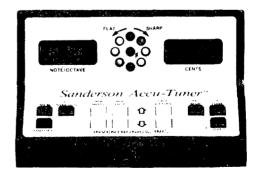
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### **Coming Events**

DATE	EVENT	SITE	CONTACT
April 12-14	Pacific Northwest Conference Vancouver, BC Chapter	Coquitlam Motor Inn Coquitlam, BC	Karl Verhnjak 20939 - 177 Avenue Maple Ridge, BC Canada V2X 2G4 (604) 467-2225
April 28	Los Angeles Chapter PTG Seminar	El Camino College Torrance, CA	Allan Cate 5307 Cortolane Dr. La Crescenta, CA 91214
May 4-6	New England Conference Seminar Montreal Chapter	Hotel Du Parc Montreal, Quebec	Marcel Carey C.P. 374 Crookshire Quebec, Canada JOB 1MO
May 11-12	PTG Intermountain Convention	Brigham Young University, Provo, Utah	Jack Reeves 486 N. 300 W., Orem, Utah 84057
May 17-19	Piano Tuners Association Convention	Royal Clifton Hotel Southport, England	Dan Evans 4100 Beck Ave. Studio City. CA 91604
May 19-20	Golden Gate Chapter Grand Action Regulation Seminar	Store or school	Sid Stone 16875 E. 14th Street San Leandro. CA 94578 (415) 481-1903
June 23-26	NAMM Summer Expo	McCormick Place, Chicago, IL	Bob Russell 1414 Lander Rd. Mayfield Heights, OH 44124

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June 29-30	PTG Executive Board Meeting	Indianapolis, IN	PTG Headquarters (816) 444-3500
July 1-2	1984 Council Session	Indianapolis, IN	PTG Headquarters (816) 444-3500
July 2-6	1984 PTG Convention	Indianapolis, IN	PTG Headquarters (816) 444-3500

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### Each One Reach One

### Membership Is Everybody's Business

Charles P. Huether Vice President

We write these articles and address them to those who already are members, not to prospective members. Why? Because it is obvious that this is a page read by members who are checking the listings of new people and points scored for the President's Club.

It seems to me that anyone who is a member of the Piano Technicians Guild should have a reasonable amount of pride in that fact. This is in addition to the obvious reasons of self-benefit, which also help him or her to become a member and continue as one

Are you proud of your membership? If so, then it must be something of value to you. As such, it should be something you might just want to share with someone else. If this is all so worthwhile and beneficial, it must be continued.

Things do not live forever. They must be renewed from time to time. Sponsoring new member applicants is the best way I know to ensure that this organization, The Piano Technicians Guild, of which you are so proud, will continue and grow.

And if you are not so proud? Then why are you not working to see that it is more what you would like to be? One way is to make sure that new membership growth is of a caliber to ensure the type of group you can be as proud of as you would like to be.

So, keep the Piano Technicians Guild up front in your heart and in your expectations. Help it to grow better and more effective. Encourage those you feel would be of benefit to its best principles to join.

### **NEW MEMBERS**

### Registered Technician

#### Central Iowa Chapter

Marling, Scot A. 2020 8th Avenue S.W. Cedar Rapids, IA 52404

#### Central Pennsylvania Chapter

Smith, Albert J. P.O. Box 288 St. Michael, PA 15958

### El Paso Chapter

Heinrich, Richard E. 2512 Tulane Avenue Alamogordo, NM 88310

#### Kansas City Chapter

Gabriel, Dennis G. 1612 S.E. 2nd St. Blue Springs, MO 64015

#### Long Island-Nassau Chapter

Bila, Joseph 135-55 126th St. So. Ozone Park, NY 11420 Higgins, Michael J. 54 Hastings Road Island Park, NY 11558

#### Allied Tradesman

#### New Hampshire Chapter

Ostman, Eric J. 400 D. W. Webster Highway Merrimack, NH 03054

### South Texas Chapter

Dimas, Alfredo S., Jr. 1881 N. Lexington Blvd. Corpus Christi, TX 78409

### Apprentice

#### Detroit-Windsor Chapter

Lebeau, Howard A. 22760 Lambrecht East Detroit, MI 48021

#### Eugene Chapter

Granholm, John R. 1244 Segermond Roseburg, OR 47470

#### Memphis Chapter

Gage, Charles F. 259 Kenilworth Place Memphis, TN 38112

#### Reading-Lancaster Chapter

Lieberman, James W. 3411 Fifth Avenue Whitehall, PA 18052 Martyska, Barbara 3411 Fifth Avenue Whitehall. PA 18052

### South Central Pennsylvania Chapter

Crone, Joseph J. 5770 Pinchtown Road Dover, PA 17315

### Associate

#### Indianapolis Chapter

Evanoff, Pat C. 8632 West 46th Street Indianapolis, IN 46234

### Reading-Lancaster Chapter

Bonds, Ralph J. 381 W. Lancaster Avenue Strafford Wayne, PA 19087

### Student

### Atlanta Chapter

Chapman, Joe F. Route 2 Hartwell. GA 30643

### Baton Rouge Chapter

Reason, Rev. Irving I. 3012 Newton Street Baton Rouge, LA 70802

### Central North Carolina Chapter

French, Nancy L. 1719 E. 8th Street Charlotte, NC 28204

Simmons, Leon J. 2133 Lombardy Circle, P.O. 35132 Charlotte, NC 28235

### Connecticut Chapter

Comstock, Brian N. 20 Easton Road Westport, CT 06880 Van Patten, Aija B. (Ms.)

Van Patten, Aija B. (Ms.) 14 Lynn Road Ivoryton, CT 06442

### Detroit-Windsor Chapter

Gugala, Gary A. 20441 Exeter Detroit, MI 48203

### El Paso Chapter

Fowler, Warren H. 10045 Jamaica El Paso, TX 79922

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Presley, Stephen J. 4062 LaSalle Avenue Louisville, KY 40215 Son, Kenneth T. 4402 Alicent Court Louisville, KY 40207

### Fort Worth Chapter

Dollahite, Vic V. 32 Benton Road Fort Worth, TX 76134 Loveall, Benjamin E. 66 Sherman Drive Carmel, IN 46032

#### Indianapolis Chapter

Trubitt, Brian W. 6459 N. Central Avenue Indianapolis, IN 46220

#### Los Angeles Chapter

Lich, Diane V. 4358 Berryman Ave., #13 Los Angeles, CA 90066

#### Maine Chapter

Simmonds, Ronald J. 137 Spring Street, Apt. 1 Portland, ME 04101

### Milwaukee Chapter

Yount, Tim J. 1582 S. 60th Street West Allis, WI 53214

### New Hampshire Chapter

Rowe, Susan G. 567 Union St., Apt. 13 Manchester, NH 03104

### Oklahoma City Chapter

Jones, Jesse C. 618 S.W. 18th Oklahoma City, OK 73109

### Orange County Chapter

Bell, Elisabeth T. 535B Bernard Street Costa Mesa, CA 12627

### Ozark Chapter

Houser, Steven D. 317 Indian Meadow Jefferson City, MO 65101

### Portland Chapter

Wallace, Leona M. 19660 S. Redland Road Oregon City, OR 97045

### Redwood Chapter

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#### South Florida Chapter

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#### Southwest Florida Chapter

Eschman, Charlotte G. 2520 Sunnybrook Drive Sarasota, FL 33579

### Tucson Chapter

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McDonald, Kirk 3415 E. Monte Vista Tucson, AZ 85716

### Twin Cities Chapter

Koch, Theodore H. 785 Linwood Avenue St. Paul, MN 55105 Lindh, Thomas C. 8424 Sumter Avenue N. Brooklyn Park, MN 55445

### Waukegan Chapter

Roeser, Robert F. 6 Court of Nantucket Lincolnshire, IL 60015

### Wichita Chapter

Sutherland, Robert C. 1300 W. 12th St. Emporia, KS 66801

### Youngstown Chapter

Spahlinger, Merrill H. 832 Harbor Drive Lake Milton, OH 44429

#### Member At Large

Manderfield, Donald R. 415 Archer Drive, #438 Sherman, TX 75090

### **Affiliates**

Aliraqi, Hassab Alsayed P.O. Box 8543 Salmiya Salmiya, Kuwait, Guyana

Caines, Deven T. Caribbean Union College, Box 175 Port-of-Spain Trinidad, West Indies 9 Dowling Street
Arncliffe, N.S.W., Australia 2205
Lin, Kuo-Hai
c/o Guangzhou Piano Factory
Fong Cun District
Guangzhou, China
Vandermark, Mark S.
Queen Street, Apt. 895
Hamilton, Bermuda
Whitney, Keith J.
33 Latona Avenue

Dockrill, Brian G.

### RECLASSIFICATIONS

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Blue Grass Chapter Rains, Mark A. Vogt, Lawrence T.

Blue Ridge Chapter Freeborg, Gregory J.

Central Illinois Chapter Guill, Sid W.

Central Washington Chapter Clayton, Paul E.

**Detroit-Windsor Chapter** Pipho, Alfred R.

Houston Chapter Gurlik, Philip, Jr.

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New Jersey Chapter Misbin, Bernard

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Pittsburgh Chapter Barr, David J.

Portland Chapter Cornetta, M. Christie Puget Sound Chapter Snyder, James D.

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Rogue Valley Chapter Lowell, Tom A.

Syracuse Chapter Buswell, Nancy

Texoma Chapter Probst, Dale E.

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Wichita Chapter Swafford, Kent E.

Wilmington Chapter
Jones, Henry L.

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# Auxiliary EXChange

### President's Message

It is only three months until our convention in Indianapolis. If you have never been to a convention. this is the year to pack up and go! Indianapolis is so centrally located that it isn't a great distance for anyone. It will be inspirational! Your spouse will receive a "shot in the arm" that will keep him or her going for the entire year - and with much more enthusiasm! As Dick and I began to work with the planning people who make our conventions happen, we realized it involved hours and hours and more hours of work and planning! It is not only planning by the Institute Director and the management company. A large responsibility lies with the host chapter. In other words, everyone involved is working hard and long to make your stay at the convention each year a memorable one. Believe me. each

convention is memorable.

We had attended many conventions over the years as observers, but in 1979, our chapter in Minneapolis hosted the national convention with a record-breaking attendance. It gave us a new appreciation of the work and planning involved. The technicians and the auxiliary ate and slept PTG convention for one year. The cooperation was fantastic! It was a year our chapter will never forget. It was with real pride that we welcomed the many people from across our land. We had made the final preparations for a great convention! The rewards were great. We were glad we could be a part of such a "growing and going' organization.

There were many times as our family was growing up that we wondered how we could possibly make it to the conventions...but we would pack the car, pack our lunch basket, take the children and away we would go. It was a sacrifice in some ways but our children have fond memories of many of those trips. It was our "vacation" and probably one we would never have had if it had not been for the PTG convention. My husband is a successful and capable technician today. He has never quit enjoying the excitement of learning. We encourage you to determine this year to make the PTG convention a priority. Lots of information will be forthcoming.

The Auxiliary has a full program planned for all spouses. Details of the program will appear in next month's *Journal*.

We'll look for you in Indianapolis, July 2 through July 6!

Belva Flegle

President

### **Technicians And Time Off**

We have recently seen the United States Congress debate whether to make Martin Luther King Day a national holiday. Many people will be affected by the decision, so it took them a long time to decide if the nation should take this day as an official holiday. A self-employed person also needs to sit down and figure out which days are holidays. Many self-employed people remember days when they worked as someone else's employee, days when holidays were just that, and the problems of the workplace could be left behind. They may feel a touch of nostalgia for the time when holidays were holidays.

The self-employed person encounters two hurdles when it comes to enjoying a holiday: no money comes into a business when the self-employed person (especially in a service business) doesn't work, and it is hard to get away from a business that is in the home. However, a self-employed person is entitled to enjoy holidays just as other people do, so some special efforts should be taken to make holidays happen for the self-employed.

The self-employed person and his or her family should sit down and compare work schedules and then decide how many and which holidays should be observed. In

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Editor, Auxiliary Exchange

#### JULIE BERRY

6520 Parker Lane Indianapolis, IN 46220 our piano tuning business we decided to take off the week between Christmas and New Year's because there is not a lot of business then anyway. School is out at that time (I teach school), and the piano technician really needs to unwind from the preholiday rush of business. However, my husband-technician has decided to keep working on days like Presidents' Day and Veterans' Day, because they are good times for many of his working customers to get their pianos tuned.

Some people are so engulfed by their work that they feel they simply cannot take holidays. If this is the case month after month, perhaps the person has unrealistic expectations about how much work he or she can accomplish. Holidays are not just frills for the idle rich. In addition to being days which commemorate significant events, holidays give us a chance to break out of routines and pause for refreshment. They also give us time to appreciate important parts of our lives which have nothing to do with our businesses. If holidays weren't important, they wouldn't be such a big part of contract talks. Since the nation's biggest employers and the federal government give workers time off to celebrate several holidays a year, small employers and self-employed people might do well to follow suit. (It is not always wise to follow the example of the federal government, but this time it seems like a good idea.)

Self-employed people also have another interesting option open to them. They may celebrate their holidays at a time different from the normally recognized day. A piano technician, for instance, may decide to work on the official Veterans' Day so he or she can take off work on another day. Museums, theaters, shopping centers, and resorts are not as crowded on non-holidays, so a selfemployed person might want to take time off when other people are working and call it holiday time.

We all need a holiday here and there. It is important not to overlook them. When you are in your own business there is nobody to tell you when you can take time from your work, so you will just have to tell yourself. Happy holidays...whenever they are.

### Let Us Welcome You To Indianapolis

The Indianapolis Chapter of the Piano Technicians Guild and its Auxiliary would like to welcome you in advance to Indianapolis, crossroads of America and capital of the state of Indiana. If you plan to arrive in Indianapolis by car when you come to the convention, you will discover that Indianapolis is very easily accessible. We are within one day's drive for half the population of the country! Interstates 70, 74, 65, and 69 all come to Indianapolis. Once you get to town you should have no trouble finding the Hyatt Regency, our convention hotel. It is quite centrally located close to the State House on Washington Street between Capitol Avenue and Illinois Street.

If you plan to arrive in Indianapolis by plane it will be even easier to locate the hotel, because we would like to take you there ourselves. Members of the Indianapolis Chapter and its Auxiliary will be most happy to pick you up at the Indianapolis International Airport and take you directly to the Hyatt Regency. Just drop us a line in advance in care of Ron and Julie Berry, 6520 Parker Lane, Indianapolis, IN 46220. Let us know your flight number and arrival time and date. We'll be there.

If you arrive in Indianapolis by bus, you will discover it is just a couple of blocks to the hotel. If you have any questions about how to get here or how to get to the hotel once you arrive, just contact the Berries, Barbara Martin, Guy McKay, or any member of the Indianapolis Chapter or its Auxiliary. For many years you have all made us feel welcome at conventions in your part of the country; now it is our turn to roll out the red carpet for you. Welcome in advance to Indianapolis.

### Why Have An Auxiliary?

There are lots of people around the country who are married to piano technicians. When the technicians go to seminars and conventions many of these people travel with them. When piano technicians want to talk about fussy customers or unusual pianos they have encountered, these people are there to listen. There are lots of things these spouses of technicians have to share with other spouses of technicians around the country. One reason we have the Auxiliary is for all these spouses to get a chance to meet each other and to enjoy each other's company. The Auxiliary provides the vehicle for friendships and mutual understanding among people who have a personal interest in piano technicians. If you have not yet met other people who are married to technicians and you think you might enjoy making some new acquaintances, you should consider joining the Piano Technicians Guild Auxiliary. It costs \$8.00 to join. Contact Louise Strong for details at One Knollwood Drive, Rome, GA 30161.

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For example, on most Wurlitzer Pianos you'll service, the music desk assembly and fall board are removable without tools...just lift off the music desk assembly and unsnap the fall board equalizer.

By removing just two screws and one nut, you can lift off the drop rail, leaving the keys totally serviceable.

How many times have you wished you could keep the key slip from touching the keys? With a Wurlitzer, it's easy...thanks to the key slip adjusting screws. And adjusting the pedal bolts is just as easy.

All of this, of course, makes for a more dependable piano that can make your job a little less frustrating.

Our continuing commitment to you, the

technician, goes beyond product design. It's apparent in our ongoing willingness to teach and train. Our key technical people attend PTG meetings and conventions and conduct training sessions. Our service department continues its seminars. Our technical staff is at your service to provide any assistance you might need, just call 800/435-2930 toll-free between 8:00 a.m. and 4:30 p.m. For parts call Code-A-Phone 800/435-6954. In Illinois call 815/756-2771.

We recognize that a quality instrument must be well maintained. That's why Wurlitzer Pianos are designed, engineered and built with you in mind.

# **WURLITZER®**

The Music People

Dekalb, Illinois 60115