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DEVOTED TO THE PRACTICAL, SCIENTIFIC and EDUCATIONAL ADVANCEMENT of the Tuner

MAY, 1929

Volume 8

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WEAVER PIANO CO., INC.,
Factory & Executive Offices
YORK, PA.
of the purchasers of his pianos, on receipt of which he would send a letter to these
customers congratulating them on their good judgment in buying a fine piano; giving
them some timely and helpful instructions concerning the importance of having the
piano tuned from two to four times a year; stressing the fact that frequent and
efficient tuning service is essential to the well-being of the piano, and embodying in
his letter the reasons why a piano gets out of tune. Then suppose that six months
later he should send another letter expressing the belief that the piano is giving the
fullest measure of service, satisfaction and enjoyment, and add, by way of a re-

If such letters were sent every six months it is not difficult to vision what a
tremendous amount of good will would be created for the piano and its makers. And
this would be a potent factor in creating sales.

A high grade piano is a beautiful work of art, and its ownership and care is
a sacred responsibility. If this feeling of respect and love were engendered in
the hearts and minds of piano owners by the dealers the piano would not be regarded
as it now is by hundreds of thousands of people as a useless, meaningless piece of
merchandise.

To get the money! That is important, of course, but even more important,
since it is fundamental, is the creating of a spirit of respect and reverence for the
well-kept piano because it is the greatest medium through which one of Heaven's
richest gifts comes to man.

__Protect Your Investment__

The competent tuner has spent much time and earnest study in acquiring a
proficiency which represents an investment of many years of hard work. When one
makes an investment it is with the expectation that it will yield satisfactory returns.
It is therefore the part of wisdom and sound business judgment to protect the in-
vestment with every possible safeguard.

Some tuners have realized for some time that there is a pronounced falling off
in the demand for their services. In other words, because of a recession in the tuning
business their investments are being jeopardized. In the face of such a danger, it is
necessary that they make what plans they can to avert it. It is true that few of us
aspire to become a tuner must hear, well any experienced tuner

and possess a minimum.

of useful tools and to refrain from
using resonators and other mechanical
means. Therefore, and select those which are best suited to the
mechanism, and its sounds, because of their upper
partials, have pointed the way and been
the best suited to the
needs of the tuner.

The mechanism producing the human
voice was probably the first musical instru-
ment, and its tones, because of their upper
partials, have pointed the way and been the
pattern for the formation of scales which
have led to the modern diatonic and chro-
matic scales.

Each tone of the piano and human voice
is composed of many simple tones, called
partials, the lowest of which is the pitch
tone, or fundamental, and all occur in an
harmonious series; that is, if the instrument
is perfect, each compound tone, forming a
single note, is in perfect harmony with itself.

Any experienced tuner should not have
difficulty in segregating and listening to
any of the partials up to the sixteenth in
any of the tones below middle C. Scientists
use resonators and other mechanical means
to prove the existence of partials, but the
 tuner need not resort to these, since his
daily occupation cultivates a super-percep-
tiveness.

As the aim of this article is to simplify
some of the difficult problems in the sci-
cific adjustments of tone relations in the
musical scale, no attempt will be made to
prove that we cannot tune all intervals per-
fect, assuming that all tuners will admit the
impossibility. However, if there still be
one—and there was one about thirty-five
years ago who wrote a booklet in which he
tried to prove that perfect fourths and fifths
could be used in tuning—let him tune
three perfect major thirds three thirds one above another, and notice how far

__MAY, 1929__

In many cases there has been a falling-off in the tuning business of from ten
to twenty-five per cent. Are those who have been thus affected going to let this
falling-off process continue, and six months or a year hence find that their business
has declined from fair to poor, or from poor to bad? Or are these men going to
find out how the trouble may be remedied? When the cause is known the remedy is
usually not hard to find.

The wise tuner is going to attend the convention. He has too large an invest-
ment to hazard its safety. He will gladly spend fifty or a hundred dollars, or even
more, to keep its yielding him a comfortable livelihood.

And of course the tuner whose business is good—and we know of a great many
whose business is better than it was last year—will be there because his business is
due to what the Association has and is doing for the tuning business.

It is none too early to begin making plans to attend.

Chicago, August 19, 20, 21 and 22, 1929, Hotel Sherman.

__Partials__

By Grant Vaughan, Member, Los Angeles

All will admit that it is absolutely
necessary for a piano tuner to possess
tuning hammer and a mute before he

function, in even the most primitive
fashion. Other tools are desirable and
productive of greater efficiency and satis-
faction.

It will be granted, also, that one who
aspire to become a tuner must have well
and possess a modicum of knowledge, either
inborn or cultivated, of certain combinations
of musical tones. Some have operated quite
well with this meager equipment, but is it
advisable or desirable to deprive one's self
of the tools and to refrain from mas-
tering the scientific groundwork of practical

Without going into the early history of
musical scales, it is fitting to express our
gratefulness to all scientists before and since
Pythagoras who have delved into the secrets
of nature and given us the laws governing
musical tones, which we may now accept
and select those which are best suited to the
needs of the tuner.

The mechanism producing the human
voice was probably the first musical instru-
ment, and its tones, because of their upper
partials, have pointed the way and been
the pattern for the formation of scales which

have led to the modern diatonic and chro-
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As the aim of this article is to simplify
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musical scale, no attempt will be made to
prove that we cannot tune all intervals per-
fect, assuming that all tuners will admit the
impossibility. However, if there still be
one—and there was one about thirty-five
years ago who wrote a booklet in which he
tried to prove that perfect fourths and fifths
could be used in tuning—let him tune
three perfect major thirds three thirds one above another, and notice how far
they are from the perfect octave and how different are the two results.

It is true that many fine tuners do not consciously use partials in their work, but all tuners do and must hear partials when tuning, whether or not they be aware of the fact, for the beats are caused by two partials, one of which is being placed, either sharp or flat, as desired, by tuning its fundamental. This is the whole, simple thing in a nutshell. Tuners do not tune intervals properly but listen to the pitch tones, for the pitch tones are placed and determined by the relative pitches of two partials.

The science of tuning and tone regulating rests almost exclusively on the laws of partials, and the art of tuning on the proper application of these laws. Science furnishes a perfect pattern for one to follow.

Partial are not imaginary, elusive nothings, but distinctly real, simple tones which must be placed with the most delicate precision to avoid extreme inharmonies. For instance, the interval of a minor third. Here are the two younger tones will not sit quietly side by side (the sixth partial of the lower note and the fifth partial of the upper note) are laid happy about two and a-half octaves above their fundamentals, but both try to sit on the same note with their loudmouthed necessities, to the evident discomfiture of the poor tuner. This pair is the worst.

Then follows the interval of the major third with the fifth and fourth partials clashing, then the interval of the fourth with the fourth and third partials juggling, then the interval of the fifth with the third and second partials wrangling. These are all of the intervals generally used by tuners.

If one wishes to ascertain the beat rates of any of these intervals, one must know the vibration rates of the two fundamental tones, also the vibration rates of the nearly coinciding partials. For example, when considering the interval of the minor third, multiply the vibration rate of the lower note by six and the vibration rate of the upper note by five. This will give the vibration rate of the partials, and subtracting the smaller from the larger will give the number of beats per second.

Is this plain to G. Gosh of Fly Bow, West Virginia, and will it comply with the specifications of our good friend Lester Singer?

If not, let those who would rather not use mathematics because of little brain fog involved refer to page 304 in THE TUNERS' JOURNAL for March, 1929.

It would be well for every tuner to become thoroughly familiar with and to know the location of each partial up to the tenth, at least, in all of the keys. He should have the frequencies of a tempered octave, and at his leisure obtain from these all the frequencies of all the notes on the piano. Having these, he may then obtain the frequencies of all the notes by multiplying by the integral numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and on as far as he may wish to go.

He who would know partials may sound one note, preferably in the bass section, and if he listens intently, in quietude, he will hear most wonderful harmony, as follows:

fundamental, its octave, then fifth, another octave, then major third, then fifth, another octave, then whole note, then major third. This is up to the tenth partial, and if applied in the key of C would be as follows:

C C G C G E G B B C D E

After obtaining the beat rates produced by the conflicting partials in all intervals used by tuners we have all that science can do for us, and we should become increasingly aware of these glorious simple tones and consciously aim at scientific perfection in tuning the equal temperament.

Essential as partials are to tuning, this is but the beginning of their usefulness. Without them music itself could scarcely exist, except as something expressionless, insipid and lacking the power to awaken emotion in the human soul. With them, music runs to the heights, from which may be seen a portion of the great mystical symphony of life. It is a combination of faith, hope, consolation, peace, resignation and joy, to form one harmonious tone in the great mystical symphony of life.

How to Capitalize Every Source of Tuning Service

By Allan E. Pollard, Member, Houston, Texas

To capitalize means to convert into capital. Capital is generally thought of as cash resources or profit-producing assets.

"How to make money though a piano tuner" can not be fully set forth in a brief statement; and, again, there are too many avenues of profit open to the piano tuner for him to walk in at all of them at the same time. The days are not long enough. It is usually better for him to analyze himself carefully and then to follow only the roads in his profession which he is best equipped to travel, which are usually the branches of his work that he likes the best.

There are two general classes of men in the tuning profession, employed tuners, those who are working on salaries, and independent tuners who are in business for themselves.

The opportunities for the employed man to capitalize on his abilities are naturally fewer than those of the independent man. To get into the more profitable branches of piano service a tuner must be of the independent class. Of course there will always be those who prefer the salaried job to the responsibility of building up clientele, but the trend should be toward the independent side of the fence.

Tuners who are on salaries quickly get into a rut. They soon form the habit of sleeping mentally, quietly, and peacefully drawing their salaries on pay day, performing such work as is required to be done in their work, and letting those in charge worry about running the business. Usually when an employed tuner fully wakes up he either climbs over the fence to the independent side or gets kicked over because of the demands he makes on his employer.

Of course some employed tuners increase their earnings by the occasional sale of a piano, but it is not a part of the tuning profession. It is piano selling. If the employed tuner could convince his employer that it would be to their mutual interest to arrange for a commission on piano tunings and repair work, it would help to level out the rut, and would place the employed man more nearly on a level with the independent man. It would make him begin to take an active interest in the business side of piano tuning, because to do so would mean more money for him.

Give the store tuner a commission of twenty per cent on every pay tuning or repair job he does, and watch the result. He suddenly stops knocking the firm and becomes a booster. Add a little knowledge of salesmanship to this commission form of employment and see him begin to capitalize.

A money-making possibility in the person of the store tuner would relieve him of the job of "store goat" in the dealer's establishment. It is the solemn duty of every employed tuner to dispel the idea that he is an inanimate evil. A business man respects a business man. An employed tuner should and can demonstrate to a dealer that his tuning department is the backbone of his business, and that without it his business cannot stand up.

The first step of the employed tuner, then, in capitalizing is to win the respect of his dealer employer. He cannot do this by presenting a slovenly appearance, having bad breath, an unshaven face, black finger nails, unpolished clothes and shoes which appear to have been slept in. Do you like a surly, ill-tempered man? Would you like to have a clock-watcher working for you? Can you respect a man who continually has to be called on to do work over which he had reported finished? Or who habitually tells you wild tales about the next time when he was supposed to be making service calls?

Put yourself in the dealer's place, and see what kind of a man you would want working for you if you were he, and then try to make yourself such a man.

Of course there are stores where the tuner is expected to uphold the salesman in all of
his fabrications about the nature and care of the instrument. In such a case there is only one thing a tuner can do. He must stand up for his guns. He must be true to himself and his profession. He should do it tactfully and kindly, but firmly and immediately when the necessity arises. He should endeavor to show the dealer that when he sends out pianos, used or new, in the best repair possible, clean inside and out, back, bottom and key bed, and tuned to pitch, to customers who are properly instructed in their care, it will keep that he is building on the solid foundation of every customer a booster.

An employed tuner who has won his dealer’s respect will have solved the biggest problem in capitalizing on his profession.

To the independent tuner the problem of how to capitalize is the all-important one. On its solution depends his bank account. Capitalizing on every source of piano tuning service might be called the business of selling his knowledge of piano tuning in every place possible. The most vital part of the whole thing for a tuner to know is the business of selling.

Many tuners have spent years studying the different phases of their work from the technical side. They have learned the temperament, the why’s and wherefore’s, the piano action and its diseases and their cure, the player, the grand and in some instances even the organ. But most of them are woefully lacking in the knowledge of the business of selling. If they could sell their services half as well as they can perform them they would all need to become familiar with the income tax collector.

One great fundamental of this business of selling is the ability to see the situation through the eyes of the prospective customer. Tuners must learn that there are two reasons for which piano tuning service is never bought. One is that the piano owner never feels his poor piano may be better. The other is that he never feels sorry for the poor piano tuner. Neither of these makes any direct appeal. A man who is attempting to capitalize on either of these arguments will make very slow progress.

The school of salesmanship is in endless session. Its textbooks would fill libraries but, briefly, well tuned and service a tuner should first of all engender in the minds of his prospective customers a desire to keep their music-producing equipment—piano, player or organ—in the best possible condition. This desire may be brought about by the excitement of certain emotions. Just which emotion is aroused most profitably in each individual case must be determined by the conditions surrounding that case. Some of the emotions which react in a desire for piano tuning service are a love of music, pride in a well-kept piano, the spirit of competition—the desire to keep the piano in as good a condition as the neighbors—and a fear of loss by mice or moths. There is also the appeal to reason, under which arguments might apply, such as protecting a rather substantial investment, and so forth.

One rule of selling is that the human mind accepts with less resistance a thing which is not absolutely new to it. If a totally new idea is presented the emotions set up often lead to resistance rather than to acceptance. However, if the new idea is blended sufficiently with something with which the mind is familiar acceptance is easier.

This is largely the reason for educational propaganda and advertising. Advertising means to turn the attention to. Neither the independent nor the employed tuner should ever miss an opportunity to put out educational propaganda, and the more so if the plan is to link his name with the educational propaganda. In this way a sense of familiarity is engendered in the minds of his customers, which keeps afloat the emotions of resistance and connects up with the individual tuner when the desire for service is provoked.

The definition of advertising shows us that it need not consist entirely of newspaper space. Anything which will aid in turning the attention favorably to the individual or his work may be advertising. Par instance, the care of certain public pianos may carry with it advertising value far in excess of the fee generally charged for such services. The tuner’s address, his personality, his habits of work, his automobile, his public affiliations—all are advertising, either good or bad, depending on the tuner himself.

Once a tuner begins to understand these things and to act on them he will find no lack of demand from the minds of his prospective customers a desire for piano buyers are divided into three classes. There are those who buy cheap pianos, those who buy medium grade pianos and those who buy fine instruments at high price. Salesmen know that they must be able to speak the language of the class to which they wish to sell. The salesmen of the cheap piano finds it hard to sell to the buyer of an expensive instrument.

The same is relatively true in the selling of tuning. There is a class of piano owners who will always try to buy cheap tuning. There are others to whom high-priced services can be sold. But the tuner who thinks in terms of cheapness will not be able so readily to sell his services to the latter class.

To sum up the matter, tuners must win the respect of the dealers. They must acquire an understanding of the business of selling. They must endeavor to make themselves into the kind of men with whom they, themselves, would like to do business. They should sell the piano as the essential musical instrument for every home, work with music teachers, urge group piano instruction in public schools, and endeavor to see that music departments in colleges and other institutions provide correct information to the students on the future and care they should join in the musical life of their communities.

They must be ever on the alert for prospects, and to quote The Baldwin Piano Company, they must talk, think and live pianos, to the end that health, contentment and prosperity may be theirs.

**The Tuners’ Journal**

### MAY 1929

**Theory and Practice**

By Charles Walter Beach

One of my college professors once said to his class, by way of mild censure to a man who was all too plainly pretending to know something, "Don't think you can fool people about what you know. A word, a phrase, or even a failure to say what you should say at some critical moment may show off your ignorance!"

The favorite defense of men who do not possess theoretical knowledge is, "I do not think it necessary, or practical." Modern advancement everywhere, however, illustrates that theoretical dreams come true. One can scarcely touch a product of today's industries without coming in contact with the results of what Mr. Tallarico calls "perfect job of tuning" might be fairly described by an understanding mind.

By using for every final test the sensitive gauge present in the major third unisons can be tuned until they will not show one beat in five seconds, which is quite a remarkable refinement when one considers that some of the nearest to perfect tuning forks (chromatic) are "guaranteed to within one vibration per second true." By way of explanation, let me say that such results entail no waiting, no counting and no twiddling, but can be accomplished with more nearly instaneous results than by any other method.

### Theory and Practice

By Charles Walter Beach Member, Springfield, Mo.
Mr. Tallarico's "A, B, C test" is "just too easy" for a tuner who understands and uses the sixths and thirds method of tuning; but that group of laws operating against even the finest tuner in the world in such a way—elasticity, accumulating tension, resultant compression and inevitable transmission of compression and tension—should be taken into account. These would alter the results while he worked, on the very finest piano ever made, even if he were doing the excellent work possible through the employment of the knowledge of the generation of beats, watched especially in the major thirds. Was Mr. Gulbransen entirely theoretical when he asserted that one "cannot alter the tension on any piano string without affecting every other string in the entire instrument?" Not if there are molecules! I have never said that a tuner must know all of the tempered ratios so that he can think or say them in decimals. Why not? Mr. O'Meara knows, but I will defend these ideas as universal truths, and not as my own ideas. They should be yours, also!

The chief use of the knowledge of the various beat rates of tempered intervals is to convince one of the futility of trying to adjust a delicacy of refinement greater than the laws of tempered tuning are capable of. Any accuracy of tuning (unattainable by fifths and fourths), yet which is possible through the laws of sixths and thirds. Only here and there can one take a positive measurement by means of a known interference rate. All other tempering is determined by common sense technique, which technique is not quite as exacting or as sure, and which requires more time to get a correct result. A quicker or more certain method for securing the greatest possible accuracy in tuning than a full knowledge of the law of the generation of beats. For fifteen years I have been using this knowledge in my tuning for a conservatory of music, where I frequently tune two pianos together. I complete one piano, and then go to the other, and always secure a "heartless" oneness between the two pianos, a test which is infinitely more difficult than Mr. Tallarico's "A, B, C" suggestion.

I was only trying with clumsiness when I said the knowledge of the two pianos in E to E one hundred and one pitched pitches. I invite any "knighthood of the pencil" to find a flaw in the following statement: "A perfect tuning of the equal-tempered piano is impossible; the fifths have an increase averaging less than four-hundredths of a beat a second (in the octave below middle C)." This is for this four-hundred-thousandths of a beat increase is controlled by half as much of a vibration (if the change in temper is effected by alteration of the upper one of the fifth) is, two-hundred-thousandths of a vibration. Taking the vibration difference between F# and G, I can divide two-hundred-thousandths into it five hundred and fifty times, which represents the smallness of the difference we must work with in the tempering of this fifth, and every other with reference to the fifth just preceding it. This is only play in the "clarity." Take the lowering tone of the fifth. Its alteration occurs three beats in the third partial, so that the four-hundredths of a beat would be accomplished by one and a third-hundredths of a vibration difference divided into the vibration of approximately a quarter A, which gives 825. Refined to 1/825! Think of it! Am I not pretending that we consciously divide such a small difference I am telling you that we operate on just such delicate figures, if we even approach a true job of tuning!

A tuner needs as nearly a perfect ear as is humanly possible to have, but we should as well remember that a perfect ear, unguided by the laws of tempered intervals, is utterly useless in tuning. One of the worst pianos I have ever been called to tune had been tuned by a violinist with a "perfect ear." He was a good violinist when I got his piano back in tune again. A "musical" ear in modern music must be "tempered" or it may easily lead to hedonism. The vocalist who fails to learn the tempered scale will underscore or overextend the tuned pitch in an unaccompanied cadenza, only to find it impossible to proceed with the accompanying musician or musicians until the pitch is retaken. This trouble is not confined to novices only. It takes a long and painful schooling, or at least long association with tempered music to avoid this calamity.

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The Duo-Art

WHILE it is not intended in this series to deal with grand and upright action regulating, attention should be called to the fact that the knowledge of the temper IS effected by alteration of the upper one of the fifth is, two-hundred-thousandths of a vibration. Taking the vibration difference between F# and G, I can divide two-hundred-thousandths into it five hundred and fifty times, which represents the smallness of the difference we must work with in the tempering of this fifth, and every other with reference to the fifth just preceding it. This is only play in the "clarity." Take the lowering tone of the fifth. Its alteration occurs three beats in the third partial, so that the four-hundredths of a beat would be accomplished by one and a third-hundredths of a vibration difference divided into the vibration of approximately a quarter A, which gives 825. Refined to 1/825! Think of it! Am I not pretending that we consciously divide such a small difference I am telling you that we operate on just such delicate figures, if we even approach a true job of tuning!

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The TUNERS' JOURNAL

In conclusion, if what has already been said is not sufficiently convincing, there is still a world of material that can be presented which bears on this subject. There is a splendid explanation of partials and their effects in a recent address, published in THE TUNERS' JOURNAL for March, page 400. I know of no better way for any tuner to learn the usefulness of theory than to study these things by reading them many times with understanding, and then try to apply their truths in his work.

Except for some alterations that might be made in the wording, which are immaterial to the true meaning, I would say that The Comparative Texture Process of Tuning Pianos and The Thoroughly Dependable Philosophy of Tuning Pianos contain ideas that when digested and applied should be of decided help to every tuner. Every adverse criticism yet offered has shown either a failure to understand, or a prejudiced attitude, or both! The truth will stand unchallenged when we have all passed into the Dreamland of Hope or into the Vale of Unknown Shadows.

Electric Reproducing Pianos

By Wilberton Gould, Member, New York City

(Copied in March, 1929)

The Duo-Art test roll on the carrier shaft and with the lever at "Play" and the tempo at O, test for quietness. Eliminate any undue noise. Set the tempo at 50, and with the roll running test the speed of the tempo; correct if necessary. On this test the Duo-Art lever must be at the "Off" position, and the test roll should run seven feet a minute, or three and one-half feet in one-half minute. If the tempo is too fast decrease the tension of the governor spring, and too slow increase it. (Refer to section "M," page 35 of the 1927 service manual.) The tracking device may also be tested at this time. (Refer to pages 32 and 33 of the service manual.)
Sustaining and Soft Pedal Test

With the sustaining and soft pedals in the off position, for the wedge dampers should clear the strings at least one-eighth of an inch and the hammer rail should move freely and do not bind; one inch of the strings. In the grand, the hammers should lift five-eighths of an inch from their normal position. Spring No. 1, illustration "N," page 34, is a lock screw and must be loosened before it is possible to adjust the movement of the knife valve, through the medium of screw No. 7. Failure to loosen screw No. 8 is apt to damage adjusting screw No. 7. After the arpeggio test is set correctly tighten lock screw No. 8. In the grand, tighten lock screw No. 7 to the left to make the tone soft, and to the right to make it loud. On the grand, turn adjusting screw No. 7 to the left to increase and to the right to decrease the volume.

In setting the arpeggio test as above, observe the movement of the accompanying and theme regulator pneumatics. As the volume increases the pneumatics will tend to collapse in their order, Nos. 1, 3, 4, and 6, on both the accompanying and theme sides. Should they fail to operate in their given order test directly at the primary accordion valve box, removing the tubing leading to the dynamic that is not operating, and correct.

Accompaniment Zero Setting, Tempo 80

As this setting is the most important, it is essential that on the first arpeggio test the notes should sound evenly, distinctly and softly. Watch for weak notes in the second run, and correct if too loud. When making adjustments, do not tamper with the leather unit on the accordion dynamic support rod. (No. 14, illustration "E," page 17.) They are set correctly at the factory, and should be left alone. Regulator springs Nos. 2 and 35, as well as all other springs, were covered in a previous article in this series. Carefully read instructions on this test, page 34, of the service manual.

Adjusting screws Nos. 7 and 8 are of different colors, one being blue metal and the other white. (See illustration "F," page 18.) Screw No. 8 is a lock screw and must be loosened before it is possible to adjust the movement of the knife valve, through the medium of screw No. 7. Failure to loosen screw No. 8 is apt to damage adjusting screw No. 7. After the arpeggio test is set correctly tighten lock screw No. 8. In the grand, tighten lock screw No. 7 to the left to make the tone soft, and to the right to make it loud. On the grand, turn adjusting screw No. 7 to the left to increase and to the right to decrease the volume.

Theme Zero Setting

As previously stated, the theme zero setting is only one of the many through the accompanying. When adjusting the theme zero setting follow the same procedure as when setting the theme. It will be noticed that the loud pedal is on with the first run of notes on the theme arpeggio, then off with the next run, making it considerably harder to play than the accompanying run with the loud pedal off. The reason is because the notes are shorter and consequently play faster. In the second run of the accompanying with the loud pedal off there are nineteen notes played and in the theme run, with the pedal off, there are fifteen shorter notes played in one-half the space. It is easily seen that more pressure is needed to play the second run with the pedal off and the shorter notes. If the theme zero is then set so that it plays about every other note on the second run, with the pedal off, the requirements of the chord test in the roll. Note carefully, and also test re-roll and repeat in the order given in the service manual.

Key Slip Control Levers

Test key slip manual control levers to see that they move freely and do not bind. In extremely damp weather the bushings may become swollen, when the levers will bind. This binding must be corrected, as any constraint in the freedom of these levers will affect the movement of the knife valves in both the accompanying and theme regulators.

Now, a final word about any and all adjustments and regulations of the reproducing mechanism: know what you are doing and why you are doing it. Be honest with yourself; if you do not know how to make the adjustments do not attempt it. It will be safer.

Any questions on the operation and adjustment of any type of the Duo-Art mechanism which a service man desires to ask will gladly be answered in THE TUNERS' JOURNAL through the department devoted to that subject.

This completes the articles on the Duo-Art reproducing piano.

(To be continued)

Organization Trips

National President Nels C. Boe attended the annual banquet of the Toledo division on April 18, a detailed account of which will be found in "Division Activities" in this issue. Mr. Boe's address was on co-operation. He said, in part:

"It is true that an organization is just as alive as and active as are its officers. Effective officers who are not alive to the problems before them and not willing to work for the members and you have a dead organization; elect men who use the organization for selfish purposes and you have a company. But effective officers who are not only willing to work for the members but with them, and you will have an association that will develop and grow. Elect officers who will respect the organization, because so many tuners still seem to feel that they are the necessary. You cannot afford to pay this money without prestige no man who sells his services to the public can exist."

The employed tuner should try to realize what could happen if the independent man were not kept busy, and at prices which would enable him to stay on the outside and not come to the main floor. The employment of tuner was simply a case of supply and demand. The employed tuner should not forget that if the independent man fails he cannot but fail with him.

Every organization needs new members, and our Association is no exception. New members are like fresh blood to a dying fire. They revitalize our organization and give a new life to it. Why not begin now to make friends with other members? Learn how to make them feel at home in your own line. It is the duty of the employed tuner to be willing to work for the members but with them, and not in opposition to them. If the employed tuner will work with the independent tuner to solve our problems, and we may feel sure they will let us be the independent tuners.

Many think that the improvement in the status of the piano is the result of natural causes, and that all he enjoys to-day is coming to him. He has it coming to him, all right, and we are glad because he makes his living with the other note on the theme arpeggio, then off with the next run, making it considerably harder to play than the accompanying run with the loud pedal off. The reason is because the notes are shorter and consequently play faster. In the second run of the accompanying with the loud pedal off there are nineteen notes played and in the theme run, with the pedal off, there are fifteen shorter notes played in one-half the space. It is easily seen that more pressure is needed to play the second run with the pedal off and the shorter notes. If the theme zero is then set so that it plays about every other note on the second run, with the pedal off, the requirements of the chord test in the roll. Note carefully, and also test re-roll and repeat in the order given in the service manual.

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Any questions on the operation and ad
Mr. Shero reports:

During my trip I addressed four divisions, interviewing many of the leading dealers of the Pacific coast, explained to them the ideals, policies and purposes of the National Association of Piano Tuners, and am pleased to report that in every instance I experienced the utmost courtesy, consideration and good will toward the Association. Each dealer took the trouble to make me acquainted with his manager and shop foreman, and in the instance of the largest dealer in my territory I am informed that the Association has not only the good will of his firm but that it is "willing to go much farther." In the two largest dealer shops of the Pacific coast the foremen requested that we expend some effort to secure the memberships of all of their tuners. This particularly impressed me, and I asked why. Their answers were that they would be pleased to have their men bear the credentials of the Association for the logical reason that they feel a large percentage of complaints would be forestalled if the tuners had some authoritative credentials to prove that they are capable. Those of us who have worked for large shops as outside tuners know that the fine tuner receives just as many complaints on his work as the poor tuner does and that if an employed tuner could exhibit proper credentials to each of the firm's tuning patrons the public would believe that they were employing a professional secretary for that responsible position.

The topics on which I spoke before the several divisions included the following:

An explanation of the new commission form of government adopted at the Cleveland convention, under which the Association is now operating, how it is working, and so forth.

That the Association is particularly fortunate in the election of Nel L. Boe as National President, and that there is every reason why the Association should continue to progress and prosper under his able leadership.

The wisdom of the board of directors in employing a professional secretary for that responsible position.

The necessity of new members and the obligation of existing members to expend personal effort to secure new members.

I urged every member to use his personal influence to place The Tuner's Journal in the hands of as many capable tuners as possible, as in my opinion it is the most favorable introduction any tuner can have to the Association, and the foremen who read it will want to support the Association with their memberships.

The Green plan of divisional operation, and how it functions.

Publicity and broadcasting as practiced successfully by the various divisions of the Association.

The desirability of licensing tuners and the plan under which this idea is being pursued in California.

The earnest desire of the National Office and of the Western Director to co-operate, encourage and support any endeavor intended to further our national or local welfare.

May I take this opportunity to thank the many officials and members of the Association whom I met for the generous hospitality and courtesies extended to me personally and to express again my sincere regrets that I could not practically include Spokane in this itinerary?

Chords and Discords

By Hoom

In the "Trouble Shooter" column of the April Journal, page 451, appears a letter by G. Tallarico, the last paragraph of which does not "click" with us. The last paragraph of Mr. Boe's reply does click. We never knew a musician, unless he were also a fine tuner, who was capable of applying the tests in the extreme upper treble which Mr. Boe prescribes. We believe any Association tuner would resent being told by any musician whether or not his intervals were correct. We have been trying for more than twenty years to tune a perfect upper treble and rarely, if ever, have we succeeded. Hence, if a musician who has never tried to do this and whose ear is entirely untrained in the art of piano tuning should undertake to tell us are we wrong we should feel justified in thinking him highly presumptuous, to put it mildly. We suspect that Mr. Tallarico has given more respect for his artistic ability as a musician than he has for his artistic ability as a piano tuner.

Greetings, Robert MacDonald of Ft. Worth, Tex. Another open, receptive mind. More power to you!

Also greetings to H. F. Hazelleaf of Kewanee, Ill. An excellent discourse on sharp treble (April Journal, page 438). Mr. Hazelleaf wonders what the verdict on sharp treble will be. We are wondering when.

We read with great interest the account in the April Journal of the promotion work being done in the East by Eastern Director F. E. Lane. Knowing Mr. Lane, as we do, to be not only a very able man but also a most enthusiastic Association booster, we should say that the East is very fortunate in having so dynamic a fellow to go among them with his unfailing logic to inspire them and to strengthen their morale.
What Some Tuners are Doing

The annual Tune-up Week of the Dallas-Fort Worth division occurred April 25-May 4. While its success was anticipated, because of the growing attention it has attracted during the last three years, not even the members themselves were quite prepared for the unusual interest that was manifested this year. This movement is showing a marked increase in popularity and in results. It has been a very effective and impressive medium for making known to piano owners the importance of regular tuning service.

The dealers of Dallas and Fort Worth cooperated generously and enthusiastically. It was of course to their advantage to do so, as any event which brings the piano conspicuously to the attention of the public is very much worth while. Both numerically and in the matter of lively concern the cooperation of the music teachers exceeded expectations. This is a promising development for the members of the division, as the teachers when once awakened to their full responsibilities will regard it as their duty to know whether or not their pupils' pianos are in tune.

Much credit is due the members of this division for their splendid work; and we want to assure them that the Association is entirely at one with you as to the importance of keeping pianos in the best possible condition. We will try to incorporate this sentiment in our talk on April eleventh.

Mr. Stonaker reports that in the middle of the address "How Can Young America Be Made Musical?" which Dr. Damrosch delivered on April 11 to the Parent-Teachers' Association of New York, he said:

"Now if you have a piano, for goodness' sake keep it tuned. It's much more worth while. Both numerically and in the matter of lively concern the cooperation of the music teachers exceeded expectations. This is a promising development for the members of the division, as the teachers when once awakened to their full responsibilities will regard it as their duty to know whether or not their pupils' pianos are in tune."

Another answer to the question, "How often should a piano be tuned?"

January 3rd, 1929.

Mr. A. V. Minifie, Portland, Me.

Dear Sir:

Your favor of December 11th is at hand. Of course, as a tuner, you know that it is impossible to set an exact number of times a piano should be tuned a year, as this depends on so many variable factors.

No piano stays absolutely in tune for any length of time. This is why a concert artist has his piano tuned every time he uses it and why the manufacturer sends a concert tuner with the artist on tour.

Changing atmospheric conditions throw a piano out of tune, and if it is subject to marked atmospheric changes, it will require tuning, though it has been tuned but a short time before.

The keeping of a fine piano in tune and up to pitch is of the utmost importance, and, certainly, it will require tuning with the changes in the seasons and whenever, for any reason, it is appreciably out of tune. If the audience cannot bear out of tune, four or five tunings a year is generally sufficient, but if the piano receives hard usage and it is subjected to draughts with sudden thermal changes it may require tuning as often as once a month.

Very truly yours,

MASON & HAMLIN CO.

Wm. P. Marsh, O. P. Vise President.

The following comments by William Geppert, editor of the Musical Courier, are taken from the April 27 issue of that interesting and widely read publication:

A Suggestion From a Tuner on Ways and Means of Reawakening the Public's Interest in the Piano

From the piano tuners of this country have come some remarkable things. The piano industry owns a greater debt to the tuner than to the manufacturer. The tuners are the ambassadors of tone among the public. Not only are they the tuners responsible, in a great measure, for the formation of correct tonal concepts among ordinary music lovers, but in a larger sense, they help to set the musical standards of the nation.

Through the courtesy of The Tuners' Journal, the lively little publication which is the official organ of the National Association of Piano Tuners, we have been privileged to read the following article by F. E. Lane on setting the temperament from A, that started the tuning movement in California through the radio. The article is printed in full. The Lichner tells us that he does not subscribe to this particular plan, but he does recognize the usefulness of this practical method of starting something that will lead to ultimate benefit. The article reads as follows:

[Published in The Journal for April, 1929, page 409.]

Other Interesting Material

In the same issue there appears a reprint of a report delivered by William C. Stonaker, president of the New York division of the N. A. P. T. This series has already been commented on by the Musical Courier, and there is nothing to add, except that this talk, as the others, is valuable and presented in an interesting manner.

E. U. Will of Portland, Oregon, writes:

"The April number of The Journal is a good one. Everyone who cares for pianos generally might read several of the articles in this issue. I should like to comment on the article by Mr. Lane on setting the temperament.

"The mere thought of jazz music over the radio makes one want to come up with a new idea. Mr. Lane gives some good ideas to work out. I find one common fault which is the use of piano music over the radio. The tone of the piano used in the studio is too metallic and twangy, and some of the piano sound made from the automatic music box is not only off pitch but out of tune.

"The performers in the studio often have the manners out of condition; consequently, there is a poor quality of tone."

I hear many people say that they do not listen to "jazz music" over the radio. They turn away from it as if they had just heard "trash." I do not blame them. I like to hear a good tuned piano but not a jingle jazz toned one. Manufacturers should interest themselves in the tone of studio pianos.

Just previously to receiving the April Journal I wrote to a firm broadcasting from San Francisco over NBC that the piano in the studio needed attention.

"Why We Belong to the National Association of Piano Tuners" is briefly but characterizedly written by Mr. Lane. An attractive little pamphlet prepared by the New York division, and which reads as follows:

After a lengthy contemplation of all available evidence, the membership firmly convinced that the piano tuner-technician's only hope for better economic standards and income lies in a strong and sincere organization. To our minds the N. A. P. T. is the only confederacy capable of serious and important functioning. It contains the commentary incentives of professional uplifting, clean morality, superior craftsmanship and universal good will. No other man can object to such a program or purpose.

It has long been in the field, and succeeds in accomplishing a considerable amount.

Small, scattered, and consequently weak, independent societies do not.

The N. A. P. T. commands the respect and has the commendation of worth-while piano manufacturers that are the leaders of the intelligent musical public.

All these factors conspire to make the Tuners' Association one of the most effective and powerful of its kind.

We are sorry that we were unable to attend the convention which was held recently, but the entire population of that fair city is determined to have a national piano tuners' convention. They generally get what they want and, besides, 500,000 people can't be wrong. Oh, yes! There is the little formality of making the official decision at the Chicago convention, but everybody wants to come to Toledo, and 1930 is the time.

Divisional meetings, please instruct delegates to vote for Toledo on the 1930 ballot, so as to be as kind as possible to each of the other delegations which hopes that its city will be chosen. The selection of Toledo will be a beautiful tribute to that old N. A. P. T. war horse and present member of the Board of Directors, Chastine O'Harrow, an outstanding member of the Toledo division and one of the founders of this great Association.

We thank you.
DIVISION ACTIVITIES:

Grand Rapids.

We held our annual banquet on Saturday evening, April 8, at the Association of Commerce. Richard Kampeman did the honors as toastmaster.

We were very happy to welcome our National President, Nels C. Boe, Vice President A. V. Minifie, D. S. Farmer and T. M. Wise, president and secretary, respectively, of the Detroit division, and several out-of-town visitors from Kalamazoo and Holland.

In his talk President Boe stated that nine large retail stores in Chicago have agreed to co-operate with Association tuners and charge $5 and up for tuning. Lyon & Healy charge $5.50, and for three or more tunings a year make a contract charge of $4.50 a tuning. Charge accounts are to be paid within ten days, and no complaints are considered after ten days. Raising pitch one-half tone calls for a two-tuning charge ($11) and the customer pays for any breaking of strings. Thorough cleaning of the inside of pianos is done by non-tuners, and the charge is $7.50. All Lyon & Healy salesmen are instructed to sell tuning contracts to all piano purchasers.

D. S. Farmer, who is manager of the service department of Grinnell Bros., spoke of the difficulty of getting salesmen to sell tuning contracts. Their reproducing service contracts call for a tuning charge of $5.50, other service $4.50, or a total of $10 a piano for three or more calls a year. Their service department, with twenty-two outside men, did a business in 1928 of $119,500 in Detroit alone. Mr. Farmer said that too many tuners are thinking a lot about what they can get out of the tuning business without putting anything in it. Grinnell Bros. believe in the N. A. of P. T., and co-operate with it in every way possible.

A. V. Minifie contrasted the growing tuning business with the shrinking production of pianos. In 1924, 370,000 pianos were manufactured, 215,000 in 1927 and 160,000 in 1928. Mr. Minifie said that the healthy growth of the tuning business is due to the educational propaganda of the National Association of Piano Tuners and to the cooperation of such houses as Grinnell Bros., Lyon & Healy and others; that individual effort amounts to very little compared with results obtained through united strength, and that this is the day for organization work in all lines. Mr. Minifie told how he and others in his territory have increased their business through direct-by-mail advertising—letters, folders and blotters, each carrying a direct message regarding the care of the piano, and stressed the value of good stationery and the importance of a tuner's personal appearance. He also emphasized the value of radio stations sounding an A-440 gong. Mr. Minifie takes only verbal contracts, and charges $3 a tuning irrespective of the number of times during the year. Many Detroit tuners have purchased vacuum cleaners especially designed for the cleaning of pianos, for which service they charge $5, or if done in connection with a tuning they charge $3.

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dinner to be held at Hotel Commodore
Perry on April 18, to which members
and their wives from Detroit, Cleveland and sur-
rounding towns have been invited.

Chairman Disler proposed a friendly local
contest between store and independent tun-
ers; ten points to be credited for each new
member or reinstatement, and one point for
attendance at meetings, the losing side to
pay for a luncheon sometime around the
first of the year.

The Toledo division voted to try to secure
the 1930 national convention. Toledo is fa-
vorably located, and has fine facilities to
handle such a gathering.

Two members who had dropped out were
present at this meeting, and we are hopeful
they will apply for reinstatement.

Our annual banquet on April 18 was a
great success. In his capacity as toastmaster
chairman Disler covered himself with glory.
Our out-of-town guests were National
President Nels C. Boe of Chicago, Vice
President and Mrs. Minifie of Pontiac,
Mich., Directors Chaistine O'Harrow of
Findlay and E. A. Weise of Chicago, D. S.
Farmer and wife, Max Gordon and wife, O.
Kanouse, Russell Oak and D. D. Brown of
Detroit, T. M. Wise and wife from Mt.
Clemens, Mich., and Hirum Basinger of
Lima. Mr. Lehmkuhl of the Toledo Cham-
ber of Commerce, W. E. Brown of the
Baldwin Piano Company and Mr. Schlach-
ter of the Music Trades, also honored us
with their presence.

The music was provided by the Exchange
Club Trio of Toledo, and Duo-Art selec-
tions were rendered on a Weber grand fur-
nished through the courtesy of Grinnell
Bros.

The speakers, in the order of their ap-
pearance, were:
Mr. Lehmkuhl said he is glad Toledo is
going after the 1930 convention, and wants
help us secure it.
Mr. Farmer spoke on the employed
tuner, how he can help to build up a tuning
business for his employer, and thus increase
his own income. He is proud of his posi-
tion as manager of the service department
of Grinnell Bros., and says that if the tuners
will only work together to one end the tun-
ing business will eventually be a fine one.

Chaistine O'Harrow sees a marked im-
provement in the piano tuners of to-day as
contrasted with those of years ago. He en-
tertained us with some very clever stories.

Mr. Schlachter has attended previous
dinners of our division, and remarked on
their steady improvement in the matter of
attendance, speakers, and so forth.

Mr. Boe's subject was co-operation, which
he stated is absolutely necessary to a tuner's
success, and stressed the tremendous im-
portance of integrity and honesty in a tuner's
character. He stated that the National Of-
Fice is anxious to do all in its power to help	he divisons, but that the problems of each
division are chiefly local, and must of neces-
sity be worked out largely by its own
members.

Vice President Minifie gave us some idea
of the hard and unselfish work that the
members of the Board of Directors are doing
for the Association, and of their contact
with the various divisions either through
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members of the Board of Directors are doing
for the Association, and of their contact
with the various divisions either through
correspondence or personal visits. He em-
phasized the importance of the tuner's spend-
ing some money for advertising. He
especially favors the direct-by-mail plan.

T. M. Wise said he owed his success and
his position in his community to the N. A.
of P. T., and thinks tuners should talk about
getting more work and not spend their time
hustling conditions. He bore down on
the statement that tuners must be gentlemen,
and that courtesy and patience will break
down a customer's resistance.

As a final shot he said, "The advertising gun brings
down the game."

E. A. Weise spoke on the importance of
the approach and conduct of the tuner in
gaining the confidence and friendship of his
customers.

H. F. CLAREANS.

Los Angeles.

Meeting night: first Friday of each month.
Place: Chamber of Commerce Bldg., eighth floor,
parking C or D.
Secretary: E. Prumey, 1554 West 165th St., Los
Angeles, telephone Thornwall 1601.

We had an attendance of thirty at our
April meeting.

A resolution of sympathy was ordered
sent to Martin Bros., on the death of J. D.
Martin, one of the local dealers who did all
he possibly could to get us started as an organization.

Ex-chairman Riley is quite ill, and a report of his condition is rather discouraging. Brother Riley has worked hard for the Association and to have been the delegate from this division to the next national convention.

Chairman Green asked some rather pointed questions regarding different kinds of piano actions, and as some of the members were a little "shy" on their answers he said he would have several different actions on hand and give a talk regarding the difference between their construction and operation.

Western Director R. Shero was asked to report on his trip to Seattle, Portland and San Francisco. He was gone three weeks, and stated that he was well received by all the dealers he met. He further said that much interest is being shown in the Association by both the dealers and the tuners all over that north country, and that the outlook is bright. One subject was of particular interest; that is, the licensing of tuners by the state, and that when this is done the public will get better service. We must keep the examining of the tuners in our own Association. We do not care who makes the other examination. One feature in this connection is that the tuner must put up a bond, which may work a hardship on some. It will be to the benefit of the Association to have tuners give bonds. This division has Scott, Howard and Zeller working on this angle. Scott and Howard know state senators, and both of these men seem to be interested in seeing a bill passed to license tuners.

Mr. Shero drove in from San Francisco (483 miles) in one day in order to report at this meeting. San Francisco holds its meeting the first Thursday of the month, and ours is the first Friday, so that boy "rambled" some to get here. He is now going to Sacramento to form a division there, and that will place some right on the ground to watch the progress of this licensing movement.

Mr. Shero reported that the San Francisco tuners agreed to raise the price of tuning. The price was published, the dealers raised theirs to a little above those of the tuners, when the tuners raised theirs again to the level set by the dealers. Cheer up, fellows, and work; better prices are on the way.

F. Percy Green gave a demonstration on voicing, which he preceded with a detailed and to-the-point talk on tone regulating. If there were any present who had ever done voicing with a pair of pliers they learned better before he got through. All of us old-timers have seen some "hard" looking sets of hammers that have been voiced—already the mark!
The TROUBLE SHOOTER

Address all communications for this column to Nels C. Boe, in care of "The Tuners' Journal, P. O. Box 390, Kansas City, Missouri.

A Question On the Sustaining Pedal

Dear Mr. Boe:

A better and as long as the dampers of a piano are correctly placed and the strings well tuned, nothing should be done to the strings that would have any difference in loudness or in the quality of the tone if the dampers were raised higher or lower to different positions above the strings?

I had an argument lately with a tuner here who said he had studied piano tuning in Berlin, Paris and New York under able professors, and who claims that the higher the dampers are over the strings the louder the tone, and vice versa.

I cannot see this, and if there is a scientific theory to that effect I should like to be enlightened.

An answer from such an authority as yourself will be final and will close the argument. I will appreciate greatly hearing from you.

This is a little finance involved in this argument.

DECKRAO SCROBUC
New York City.

If your tuner friend has in mind exactly what you have said, he loses and you may collect your bet, because, first, the sustaining pedal does not make the tone of the piano louder; and, second, no manipulation of the sustaining pedal, however skillful, can affect the tone quality or the color of the tone as long as the dampers do not touch the strings.

But before we go any farther let us consider the pedal and see what it really does.

We do not know who first called this pedal "the soul of the piano" or who applied to it the misnomer "food," but the fact is that the first description is the most apt one that can possibly be given it, because all that makes piano playing lovely would be lost without the use of this arrangement.

It is, in fact, the damper pedal which changes the piano from a mere glitter of sinuous tones without life or sustaining quality into a noble silvery, with a breadth and richness which rival that of the violin and the human voice. But it does not do this, as we said above, by any manipulation of the dampers above the strings or without touching them. Neither does the tone become louder by the same sort of manipulation or any other kind of manipulation.

The best and only thing that the sustaining pedal can do in this respect is to sustain, or prolong, and enrich the tone produced by the hammers, the strings, the soundboard and other parts in combination.

As we all know, the sounds we evoke from the piano are generated by the vibrations of the strings. The peculiarity of stretched piano strings is that they do not merely vibrate in their whole lengths, but likewise and simultaneously vibrate in various segments of their lengths. Each of these segments produces a tone of a pitch corresponding to their length, and as a consequence the sounds of the strings in their entirety are composed of a number of tones, one louder than all the rest, which determines the pitch, and numerous smaller tones which are higher in pitch and fewer in intensity, but which nevertheless have an immense influence on the color and quality of the tone.

Now, since all of these segments, or partial tones as they are called, are in direct harmonic relation with the prime tone in the string, it follows that there will be partial tones in each string of the same pitch as other partial tones in other strings. Therefore, when a note is struck on the piano and the dampers rise, a motion is excited in these strings and their partials, through the principle of sympathetic vibration, and they give out sounds which correspond with the prime and partials of the strings in the note so struck. For example, if we strike the key of C and simultaneously depress the damper pedal, every other C string will begin to vibrate and will mingle its sounds with those of the C first sounded. The same process, although with less intensity, will take place in all the E's and G's throughout the piano, and less strongly still in the F's, A's and B flats. What takes place in one note takes place in every note struck simultaneously, or in every note or chord struck thereafter, as long as the pedal is held in its position.
depressed position.

Naturally, the reinforcement by such means tends to impart greater richness of color to the tone and also greater duration, but it does not in any manner make the tone louder.

The opinion held by your friend on the function of the sustaining pedal is really not new nor is it unheard of, even in the more enlightened days. This opinion is held by many, including some pianists, who ought to know better, but who through their manipulation of the sustaining pedal have proved, more than once, that they know absolutely nothing about it nor what it can bring out of the piano when it is operated to its fullest advantage.

We shall relate an experiment or demonstration given behind the scenes a few years ago by one of the world's most celebrated pianists. This master of the keyboard laid bare to us, as well as to a few other selected ones, the wonders of the sustaining strings joined with the original tones struck. He struck a chord simultaneously with each hand. Holding the chord, he lifted the dampers. At once the color of the sound changed and became richer and warmer as the sympathetic sound from the other strings joined with the original tones struck. He then released the pedal, just for an instant and only long enough so that the dampers barely touched the strings. At once the sound again changed in color and only the lower partial tones could be heard, as the higher components had been wiped out by the touch of the dampers. Once more the pedal was released in the same manner, and this time only the fundamental, or ground tones were left. Again and again he released the pedal, to depress it immediately, and in each instance there was brought out something different in color. In fact, this man played on the strings with the sustaining pedal in the same manner that the violinist plays on the strings with his bow, and for the first time in our life we learned what the sustaining pedal really is, and what can be accomplished with it when it is manipulated by one who has studied it and who knows what he is about.

Of course, as any one will understand, such results were not, and could not, be accomplished by merely raising the dampers higher or lower above the strings. The dampers did and must touch the strings in each instance, as otherwise how could the partial tones be damped off, and the tone color be changed?

If your friend can answer that question then you lose, but we are afraid he will find it very difficult.

Opinions On Theory and Tuning

My Dear Mr. Boe:

Allow me to explain that I do not advocate that the tuner dispense with theoretical knowledge. Far from it. I am a friend for knowledge, and I believe that every tuner should have technical books on piano tuning and should study them.

As no blind tuner can compete in efficiency with the tuner who sees, so no tuner with only his practical knowledge can ever compete with one learned in everything. The greater the knowledge we possess the more resourceful we are and the more we are valued. But at the same time I maintain that true piano tuning can be done, discarding any knowledge of vibrations and ratios, except those relating to the thirds and fourths and fifths.

What I meant in my previous letter is that some mathematical figuring cannot be applied to practical tuning.

To illustrate my point, let me bring out Mr. Vaughan's table of beats on page 404 of the March Journal. While it is enlightening to note how proportionately the vibrations grow as the notes go up, what does it mean in practice? If a tuner is able to get a fine temperament he will know, without any effort on his part, that if his tones are played chromatically they will have as many vibrational beats as in the table, and that the intervals will have as many beats. Of course, he takes that for granted, for no ear can tell exactly.

He points out that as the minor third and its corresponding major sixth beat alike, it furnishes proof that the octave is perfect. Now if one has to resort to such a test to see if an octave is true, and the third is found to be a trifle off, how can he tell which is wrong? Suppose there is a slight difference between the beats of the third and the sixth. Can the ear detect the difference?

It seems to me that in tuning old pianos and the new cheap ones the tuner is always confronted with new difficulties, especially in the bass and high treble, which cannot be helped by any theoretical knowledge. He has to depend entirely on his ear, and if he fails, the musical customer will point out to him his error, the notes that sound wrong.

G. Tallarico,
New York City.

We are glad to learn, Mr. Tallarico, that you do not believe that a tuner can dispense

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The TUNERS' JOURNAL
MAY, 1929

with theoretical knowledge and still be a good tuner. We are also happy to hear you say that the more knowledge we possess the more resourceful we are, and the more we are valued. But why do you spout it all by saying that fine tuning can be done, discarding any knowledge of vibrations and beats rates, except those relating to thirds, fourths and fifths? If theoretical knowledge is necessary in certain parts of one's work, why is it not also necessary to know about minor thirds, major and minor sixths and tenths? They are just as important in fine tuning as thirds, fourths and fifths, because in fine tuning they cannot be dispensed with.

It is true, of course, that some mathematical calculations of beat rates cannot be applied in their fullest sense of perfection to practical work, but should that fact alone discourage one and cause one to say that they are of no practical use to a tuner? Every conscientious tuner strives for perfection, and such mathematical calculations provide an ideal or goal for which to strive. No one, we believe, will seriously deny that the man who has an ideal of perfection or goal for which to strive is more apt to reach that goal than the one who has no conception of such an ideal, or says such an ideal is of no value, and who therefore can do no more than just to satisfy himself—a satisfaction which is as apt to be as far removed from the point of perfection as it is close to it.

We agree with you that if a tuner is able to set a fine temperament he will know how proportionately the vibrations and beats grow as they go up. If he did not know this he would not be able to set a fine temperament nor, for that matter, be able to tune a piano even fairly well. But we cannot agree with you that this proportionate increase or decrease, as the tuner ascends or descends from the temperament octave, is obtained without any effort on his part. On the contrary, if the tuner does not pay as much attention to the correctness of the octaves, the beats in the thirds, the fourths, the fifths and the sixths in the octave above and below the temperament, as he does to the same intervals in the temperament octave itself this proportionate increase and decrease will not be realized, and the piano will not, as a consequence, be in tune.

The temperament octave is not, as many tuners seem to believe, the most important and the only must-be-tuned-correctly octave on the keyboard of the piano. The other octaves, both above and below the temperament, are just as important and must all be tuned with the same care and patience as the temperament octave. To tune octaves on the ivi- and-sixths and tritave principle is not good piano tuning, and a tuner is making a very great mistake who permits himself to be swayed by the belief that as no one can tell exactly he need not exert himself. He is fooling no one but himself, and some day to his dismay he will be found out and he told the truth.

Who Is Oscar Gosh? and Other Matters

Dear Mr. Boe:

It is very seldom that I bother you with foolish questions, but I have been greatly amused at different times by letters appearing in THE TUNERS' JOURNAL signed "Oscar Gosh, Fly Bow, W. Va." Is there such a man or place? I have never met him at any of the conventions and I have failed to find Fly Bow on the map, so have come to the conclusion that Oscar may be some wisecracker from a large center using a false moniker. Perhaps you could enlighten me through the "Trouble Shooter" column.

While I am writing I should like to mention that I often come in contact with pianos whose owners claim they have had regular attention and yet I find them below pitch. In my territory pianos run sharp in the treble during the summer months, and during the winter the bass will be sharp and the rest of the piano flat. I find it better to tune a piano even fairly well. But we cannot agree with you that this proportionate increase or decrease, as the tuner ascends or descends from the temperament octave, is obtained without any effort on his part. On the contrary, if the tuner does not pay as much attention to the correctness of the octaves, the beats in the thirds, the fourths, the fifths and the sixths in the octave above and below the temperament, as he does to the same intervals in the temperament octave itself this proportionate increase and decrease will not be realized, and the piano will not, as a consequence, be in tune.

The temperament octave is not, as many
at our next convention. Won't you come and meet him? You will meet a real "guy," and we know he will be happy to meet you.

To lower the pitch when it has been raised by expansion of the sound board and other wooden parts seems to us a poor policy and is something which in our opinion should not be done unless, of course, the demand is for a uniform pitch during all seasons of the year.

It has been our experience, too, that by tuning up to the highest pitch register we experience less difficulty in keeping the piano up to its correct pitch during the late winter months, but we have also observed that the tone of the piano has been considerably affected by the higher pitch and that the manner in which it has been affected has not been on the side of an improvement. Have you noticed this?

Division Activities
(Continued from page 387)

Brother Green's talk and demonstration did a tremendous amount of good.

After this date all meetings will be open to members only.

During May our division is to entertain the dealers, and we are looking forward to a better understanding and a fine time.

CHAS. W. HOWARD.

Dallas-Fort Worth.

Our April meeting was held at the Young Women's Christian Association, where an excellent dinner was served to those in attendance. On account of a hard rainstorm shortly before the meeting hour, none of the Fort Worth brothers was present. Kiker started, but he didn't have a boat and had to turn back.

Plans for Tune-up Week, April 28-May 4, were discussed and a great deal of interest and enthusiasm were manifested. For campaign material this year it was decided to use the Stonaker radio talk as published in the February issue of TUNERS' JOURNAL. This was conceded to be the best sales talk on tuning and on behalf of the N. A. of P. T. that has yet been put in print. It is not only practical, but readable and interesting. No one who starts to read it will stop until he has finished it. We interpolated one or two paragraphs from Mr. Stonaker's talk as printed in TUNERS' JOURNAL, December, 1928, and we consider it the best educational matter we have ever sent out. By contracting for several thousand copies we secured a special rate, and will hold the type a short time for any who may wish to use the same talk. It is gotten out in pamphlet form, as published as "A reprint from THE TUNERS' JOURNAL," and is full JOURNAL page size. We feel deeply indebted to Mr. Stonaker for such a splendid article, and we hope to see the other divisions use it freely.

Other features of Tune-up Week will be letters to tuners, music teachers, dealers and customers, envelope slips and a radio program on May 4, at 6:30 p.m. The program will be contributed by the department of Music, Southern Methodist University, Paul von Katwijk, dean of music. Mr. Katwijk is recognized as the outstanding leader in musical affairs in the Southwest. Details of the radio program will be given in our next report.

CLARKE BURR, President.

Seattle.

The Seattle division is growing in numbers, slowly but surely, and the class of men that are coming in is of a really worth-while type. We have another member added to our ranks, and expect to keep on.

Through the efforts of our worthy president, Alfred Krahn, we have enlisted as a booster one of the most progressive piano houses in the Pacific Northwest, the Cline Music House, with branches in many towns on the coast. The manager of the Seattle house, Mr. Ruthven, is a wide-awake, live wire. He has had advertisements in the press stating that the Cline Music House employs only members of the National Association of Piano Tuners, and that the work is of the highest standard because of this fact. This is the first ad of this type that has come to our notice.

Mr. Ruthven has a striking and magnetic personality and has influence here. The fact that our president, a man whose position is unassailable, has been able to bring such a man to our side reflects credit on both Mr. Krahn and Mr. Ruthven. The latter induced one of the broadcasting stations to sound a 440-a gong, and in connection with...
The TUNERS' JOURNAL

that the Seattle division plans to furnish educational matter to be sent over the air. We are looking forward to an increase of business through this publicity.

We noticed in the March number of THE JOURNAL what Mr. Howard of the Los Angeles division had to say in regard to the number of tuners flocking there. The same condition applies here, and the music houses encourages this. The manager made the statement that if there are plenty of applicants for the tuners' jobs it will keep the wages down. And because men are constantly being fired, no man is sure of his job and therefore will not ask for a raise. This is another reason why all eligible tuners should become members of the N. A. P. T.

In March, Mr. Sherer of Los Angeles paid us a visit. He drove here in his car and encountered snow and cold, quite a change from his sunny California. A special meeting of the Seattle division was held so that we might become acquainted with our Western Director.

When are we going to see some more of those humorous and entertaining letters from Mr. Lane of the New York division? We suppose he is so busy with his regional activities that he does not find time to do anything else, but if this should meet his eye we hope that he will remember that anything which adds to the gayety of nation and the tuning profession will be appreciated. So please, Mr. Lane, pull out a few of those humorous incidents and reminiscences that we may have a few laughs and banish dull care for a time.

We wrote Chas. Deutschmann regarding the licensing of piano tuners, and his reply was illuminating. The gist of it is that inasmuch as the tuner works only on the piano and this in no way affects the health of the community, there is no hope of the piano tuner's being licensed by the state. But he said that we must all work for the N. A. P. T., so that in time it will be powerful enough to command the situation.

A. F. Harrell, Secretary.

New York.

There was a good attendance at our April meeting, and a keen interest was manifested in the proceedings.

Brother Wm. F. Stonaker's broadcasting is surely bearing fruit in the matter of publicity, according to the reports received from time to time. An especially interesting letter was read from Frank Damrosch, stating that in his address before the Parent-Teachers' Association of New York on April 11, he would be pleased to make a few remarks on the need of regular tuning.

The various standing committees reported marked progress in their activities.

Treasurer A. C. Klein's quarterly report showed a healthy condition of our finances.

The publicity bug has bitten our membership quite deeply, as shown by the editorials regarding tuning service appearing in various newspapers in outlying districts. This publicity is bound to stimulate the demand for tuning.

Through the activities of our board of directors, two of the largest dealers in the metropolitan district have advanced their tuning prices, which is very gratifying.

The Green plan, as adopted by the Los Angeles division, has been commented on very favorably by our members, and our board of directors will work out a system to put this plan into operation among our members.

L. Berman, Secretary.

Springfield, Mass.

At our April meeting members voted to change the name of our division to the Springfield division, as we cannot expect to control the whole of the Connecticut Valley, which embraces quite some territory. We think we shall like the change, which will not, of course, interfere in any way with tuners in neighboring towns joining with us. Early in our existence we had two members from Hartford, Conn., but Hartford has since formed a division of its own.

It was suggested that educational discussions and demonstrations be a feature of all future meetings, and that all members take part in them to the end that we may all become more efficient in our work.

All the boys said they had enjoyed the meeting and promised to be present at our next regular meeting, to be held in Carnegie Hall.

A. H. Miller, Secretary.

San Francisco.

At our April meeting we were given a great surprise and treat when Western Director R. Sherer walked in, after driving nearly all the night before to get here for our meeting. He talked most interestingly for an hour and a half, and gave us a very comprehensive account of the activities of the N. A. P. T., its officers, and Board of Directors and of his long trip to visit the coast divisions. He held us spellbound every minute of the time. He dwelt at length on the advantage of a state license for tuners and urged us to give the matter consideration.

R. T. Waldeck, Corresponding Secretary.

Cleveland.

Our division held a special meeting April 23, and discussed several very interesting questions concerning our profession.

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Baltimore.

We had the pleasure of having our Cumberland member, L. C. Reichert, present at our April meeting.

After the routine details, we had quite an interesting talk and an opportunity to observe a modern "grand" pin block, which C. B. Burgner brought with him, together with a new one made to order at one of our local factories. We all agreed that this was the limit in construction, material and workmanship, and it was suggested that we preserve the old block and exhibit it at our next convention.

We expect to have quite a delegation at our coming convention.

R. SCHULZE, President.

Reading.

On April 28 Max Muthig, aged fifty-one, a member of the Reading division, died following an operation for appendicitis.

Muthig came to America from Cuxhaven, Germany, where he conducted a piano factory until the outbreak of the World War.

He was a thorough and conscientious tuner, a loyal Association member, and was always present at the meetings of the Reading division.

E. D. KAINS, Secretary.

Toronto.

Our April meeting was well attended.

The feature of the evening was a lecture on grand action regulating by Frank Woodhouse of the factory of Heintzman & Company. Mr. Woodhouse has had many years of experience, formerly having worked for Nordheimer of Canada and the Mason & Hamlin and Kurtzman factories in the United States. He took us through the various steps in regulating, just as it is done in the factory, and used the new three-key model recently presented to our division by J. M. Loose & Sons. He also gave us some valuable pointers on player piano troubles.

The information received at this meeting would have well repaid any tuner for the few dollars spent for membership fees.

We have again decided to change our meeting place, and hereafter we shall meet in the National Piano Company Building, 15 Blow Street, West, on every third Thursday in the month. Our next meeting will be May 16, 1929.

E. THACKERAY, Secretary.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF AUGUST 24, 1912.

Of The TUNERS' JOURNAL, Published Monthly at Kansas City, Mo., by the NATIONAL ASSOCIATION OF PIANO TUNERS, April 1, 1929.

STATE OF MISSOURI.

COUNTY OF JACKSON.

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared Thomas J. O'Meara, who, having been duly sworn according to law, deposes and says that he is the Editor of The TUNER'S JOURNAL, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication, part of this statement to be made upon the honor system, required by the act aforesaid.

1. That the name and address of the publisher, editor, managing editor, and business manager are:

Publisher, National Association of Piano Tuners, Kansas City, Mo.; Editor, Thomas J. O'Meara, 5050-35-37;

2. The owner is:

(a) A corporation, National Association of Piano Tuners, 5050-35-37;

(b) A non-profit or benefit corporation, National Association of Piano Tuners, 5050-35-37;

(c) A trust, National Association of Piano Tuners, 5050-35-37;

(d) A person, Thomas J. O'Meara, 5050-35-37.

3. That the known bondholders, mortgagees, and other security holders are:

(a) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders if any, contain not only the list of stockholders and security holders, but every person in whose hands are located the books of the company as trustee, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee, an accurate statement of the number of shares of stock held by such person as stockholder or security holder?

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