

this temperament. he isn't even the second. Owen Jorgensen has an article in this issue on the subject. and we also have the following by Martin Tittle:

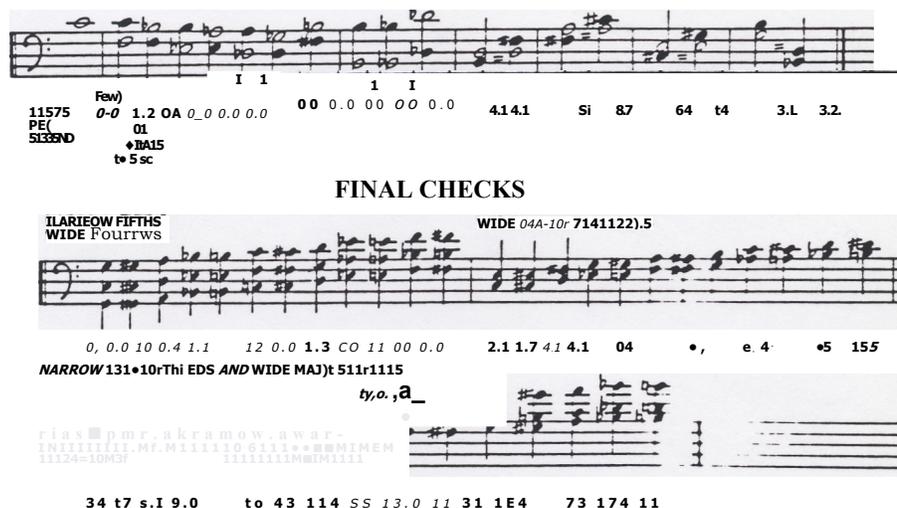
"Steve Fairchild's 'altered equal temperament' was, according to Mark Lindley's article, 'Instructions for the Clavier Diversely Tempered' in the January, 1977, *Early Music* magazine, '... praised by Tartini in 1754 for its qualities of *chiaroscuro* [and] was used at Padua by Francesantonio Vallotti, organist and resident composer from the 1720's until his death in 1780.' It is a 1/6 comma irregular circulating temperament very similar to the Thomas Young Temperament #2. which is very well known among musicians, especially harpsichordists. The Vallotti has its own following as well, so I see no reason for not publishing a tuning scheme for it if you want to. I worked one out for myself in 1976 and enclose a copy (Figure 6). Since I was considering it an historical temperament, I started my outline on C, as is usual among early temperaments. In each interval, the half note is the note being tuned, and the quarter note is the already-tuned reference note. Bar lines only divide the procedure at what I considered logical points. You'll notice I have this tuning schematic labeled 'for Van Biezen (Thomas Young #2 transposed).' That's because Steve was not the first to rediscover this particular tuning.

A man named Van Biezen rediscovered it and called it his own in 1970 and it was published as such in Gem Klop's *Harpsichord Tuning*, a widely distributed tuning manual for harpsichordists."

**Martin Tittle, WIT**  
**Ann Arbor, Michigan**  
**Detroit-Windsor Chapter**

Martin is right, of course. at least in terms of theoretical beat speeds. But in fairness to Steve it should be pointed out that those theoretical ratios are not realized in the average spinet because of the high inharmonicity, so his temperament is really not exactly the same when applied to small pianos. as he intended. The other thing we should point out is that we showed Steve copies of Tittle's letter and Jorgensen's article before publication. and he encouraged us to go ahead and print them for their educational value even if it made him look a little silly. It does, a little. maybe, but then again maybe not. As an instructor, Steve's job is to teach. and we all learned something from this, right? Besides, many of our history books still assert that Columbus discovered America. when he probably wasn't even the second to do so, but there's glory enough to go around.

**Figure 6** TUNING SCHEMATIC FOR VAN BIEZEN (THOMAS YOUNG #2, TRANSPosed)



## Repinning Upright Butts Using New Flanges

Our next correspondent, Dave Tabachnick, has submitted the following information:

1. Make sure the new flanges are an identical match to the old. Do so by changing one or two in the piano prior to removal of action.
2. Space guide hammers to strings in piano before removing action to shop.
3. Prepare all parts and tools needed:
  - 2 sets of new flanges it is easier to re-bush over-reamed flanges in your spare time
  - complete supply of center pins
  - cutting nippers or pliers
  - knurled center pins and pin vise (See *Journal*. Apr. 81. p. 12. Paragraph 1)
  - burnisher
  - center pin extractor
  - 2 sets of gram weights so you have sufficient amount of 1 and 2 gram sizes to gauge torque after re-pinning
  - screw holding screwdriver
  - pliers with buckskin glued to jaws (to remove pins when sizing so as not to scratch)
  - \*gram resistance gauge if available. I don't have one. but it is now available through American Piano Supply
4. In workshop, remove butts one section at a time (except for guides).
5. Remove old flanges carefully. Try to avoid pushing cut side of pin through the birdseye.
6. Size new center pin in birdseye. The pin should not go in by hand pressure alone. It must fit very firmly.
7. Ream new flange with knurled center pin. Fit each side separately by feel. I make a few sizes of knurled center pins. Sometimes I use the same size as center pin in the birdseye. sometimes a half size smaller or larger. It is convenient to have these handy, set in a marked pin vise.
8. You must be sure that new flange has proper side clearance to the birdseye. If too tight, file the inside

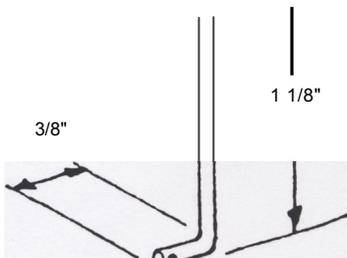


Figure 7 3cz

of the flange arm. Re-pin flange to butt and be sure *not* to cut the pin at this time. If a gram resistance gauge is available, you can measure the torque very accurately (See .Pages 8-12. *Journal*. Apr. 1981). If this is not available to you, your round gram weights can be used as washers added to your flange screws. For example:

Weigh your flange screws, which will be approximately 2 to 3

grams. By using a 2 gram washer between the screw and flange, you will have approximately 5 grams of resistance based on actual weight of screw. I used between 5 and 7 grams on a console action as it was in a damp area. You can go higher if you feel it necessary.

If the fit is too tight, the flange will not drop with the weight of the screw and washer. You must push out the center pin and ream a little more. If it is too loose, you have over-reamed. You should begin again with a new flange. You can re-bush the over-reamed flanges in your spare time. When your torque is measured and found to be correct, you cut the center pin.

9. Install re-pinned butts to the rail. Space and travel hammers.

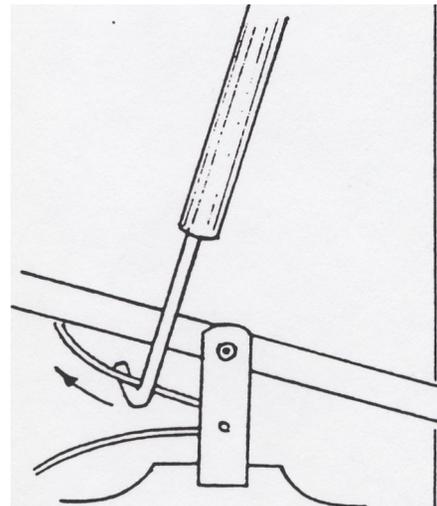


Figure 8 lc\_

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**n1/4**

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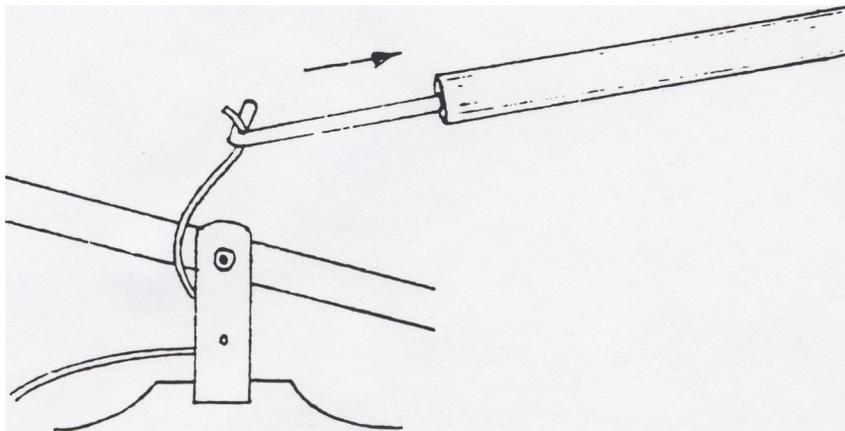


Figure 9

10. Check spacing of hammers when action is put back in piano. Make sure everything else is working properly.

**Dave Tabachnick**  
**Long Island - NY**  
**Suffolk Chapter**

### Gadget of the Month

Clair Davies always comes up with tools that not only do the job, but also look good and have a nice feel in the hand. One has only to pick up one of Clair's tools to realize his love of them. This month's feature is the nicest spring tool I think I have ever touched: not as heavy-duty as some of the all-steel tools available, but easier to use because of its balance and overall light weight. If you do more than occasional regulating on

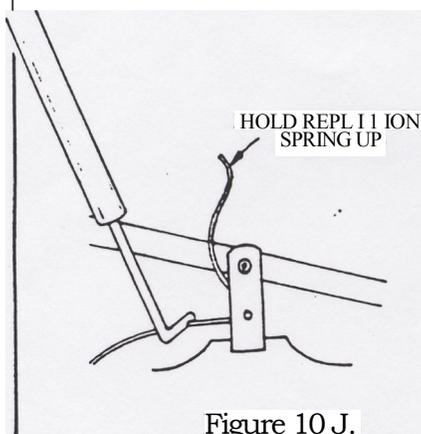


Figure 10 J.

butterfly whippens, you should try one of these. Here's Clair:

"The technical stuff in the *Journal* keeps getting better and better, not only yours but esen•body's! I *know* what's happening. We're turning each other on! Technicians all over the country are taking a new look at what they're doing and then doing some darn good writing about it. I feel proud of all our new technical writers — and not just a little jealous.

"I want to add some things to the article on the regulation of the repetition spring by David Pitsch (Sept. '82). My perception and approach differ a bit from his.

"The best tool I've seen for regulating the spring is one I made myself (Figure 7). It's extremely simple and extremely cheap. With a 3 inch piece of coat hanger and a 5/8 inch piece of dowel you can make, in a few minutes, a much better tool than you can buy anywhere. Some think a notch on top of the wire is also needed but it's not.

"I got the idea for this tool from Henry Zimmermann in the shop at Steinway Hall in 1960 when he was teaching me to regulate. Henry drank warm tea from a glass all day long, a very European habit come to find out. But I was just a green kid, new to the cosmopolitan life of the city and I thought he was drinking straight whiskey all day long. It was a long time before I found out the truth. How he staved so stern and keen-eyed was a real puzzle, and *impressive* — until the day I stole a nip while 'Heinrich'

was nut of the room. Tea! Good gosh!

"I felt kind of let down for awhile, then I decided I was glad Henry was not a drunk. Henry knew a heck of a lot and I wanted to emulate him, but I sure didn't want to go that far.

"Henry taught me the old-fashioned way: if the strength of the spring is within the right range, you regulate it by making small changes in the curve of the upper segment. Weaken it by stroking up on it while it's in the balancier groove (Figure 8); strengthen it by removing it from the groove and pulling on it in the direction of the balancier flange (Figure 9). Neither operation will affect the coil when carefully done, and it's uncomplicated.

"After I left Henry, experience taught me some more: When disengaging the spring from the groove it's easy to accidentally push it down too far. This will close the coil and *completely kill the spring*: no amount of bending of the upper segment then will make the hammer wink. I've seen springs bent into a half circle to no effect. I've seen them kinked.

"The solution is to open the coil again. No fear, it's engineered to a loose fit on its pin anyway. (If the pin is tetlon replace it with cloth and a center pin. Replace them all. Be brave, it's quickly done and will eliminate at least half of your mysterious clicks.) To open the coil place the spring tool on the *bottom segment* of the spring near the coil (Figure 10). A very little pressure downward with the tool while pulling up on the upper segment with the fingers will open the coil enough to allow the spring to be regulated in the usual way — Henry's way, that is.

"Not everybody liked Henry. He was picky, he breathed down your neck. He breathed down my neck and helped make *me* picky. I'll always love him for it."

Clair Davies, RTT  
 Lexington, Kentucky  
 Blue Grass Chapter

### Tech Tips

Our first tip concerns the replacement of an upright action without damaging its