

BLUTHNER
UPRIGHT PIANO
PIANO SERIAL NO.28021

**CHRONICLE OF THE RESTORATION PROCESS OF A
BLUTHNER UPRIGHT PIANO OF 1885**

by
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IN THE YEAR OF 2019

BLUTHNER UPRIGHT PIANO REBUILD:

Here is the process of a full piano restoration. This time it is a Bluthner of 1885. It is straight strung and overdamped with 85 notes.

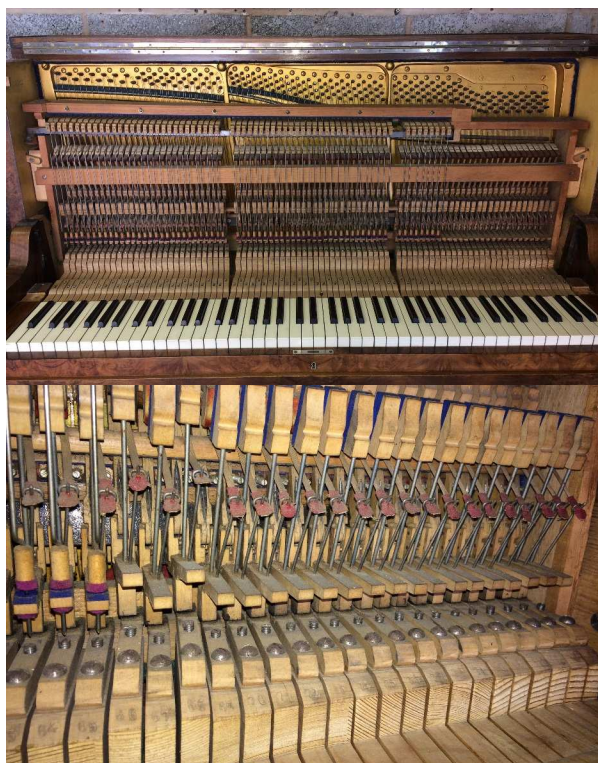
The start of the build was to remove case parts and action. Then work started on removing the old rusted strings. The bass strings of which are copper wound had a rubbing made so that a bespoke set can be manufactured by the string maker.

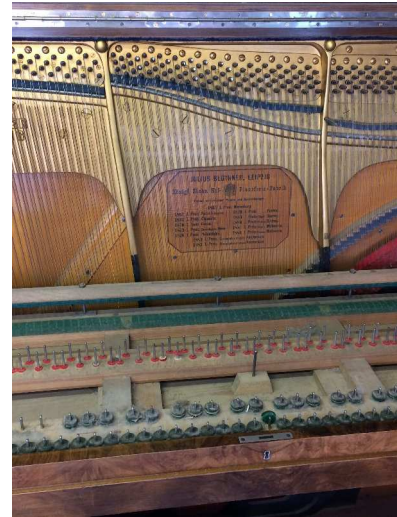
Next was to remove all of the remaining strings and then the process of removing the old rusty tuning pins. This piano suffered from many loose pins thus making it virtually unplayable.

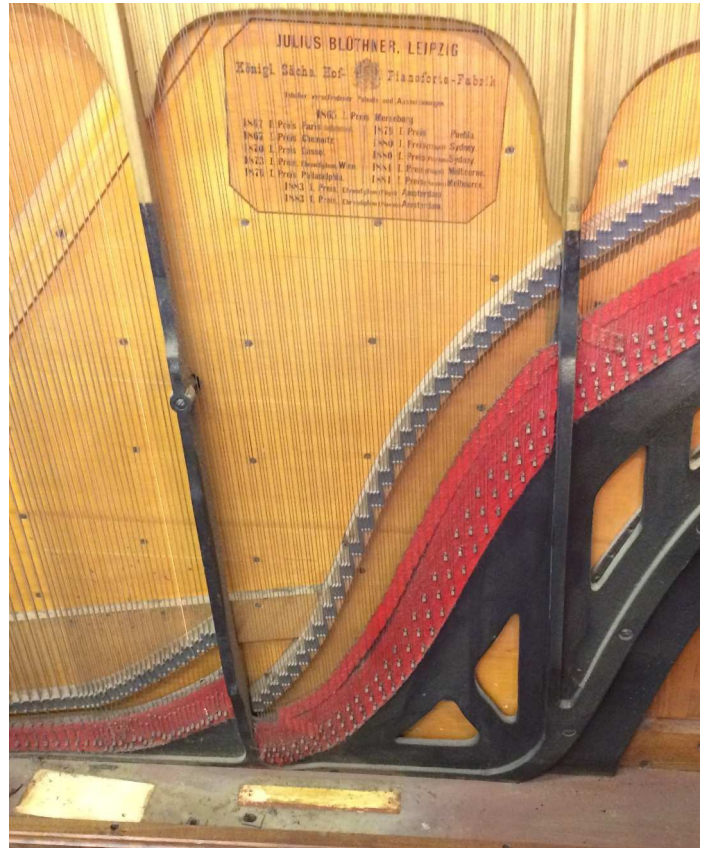
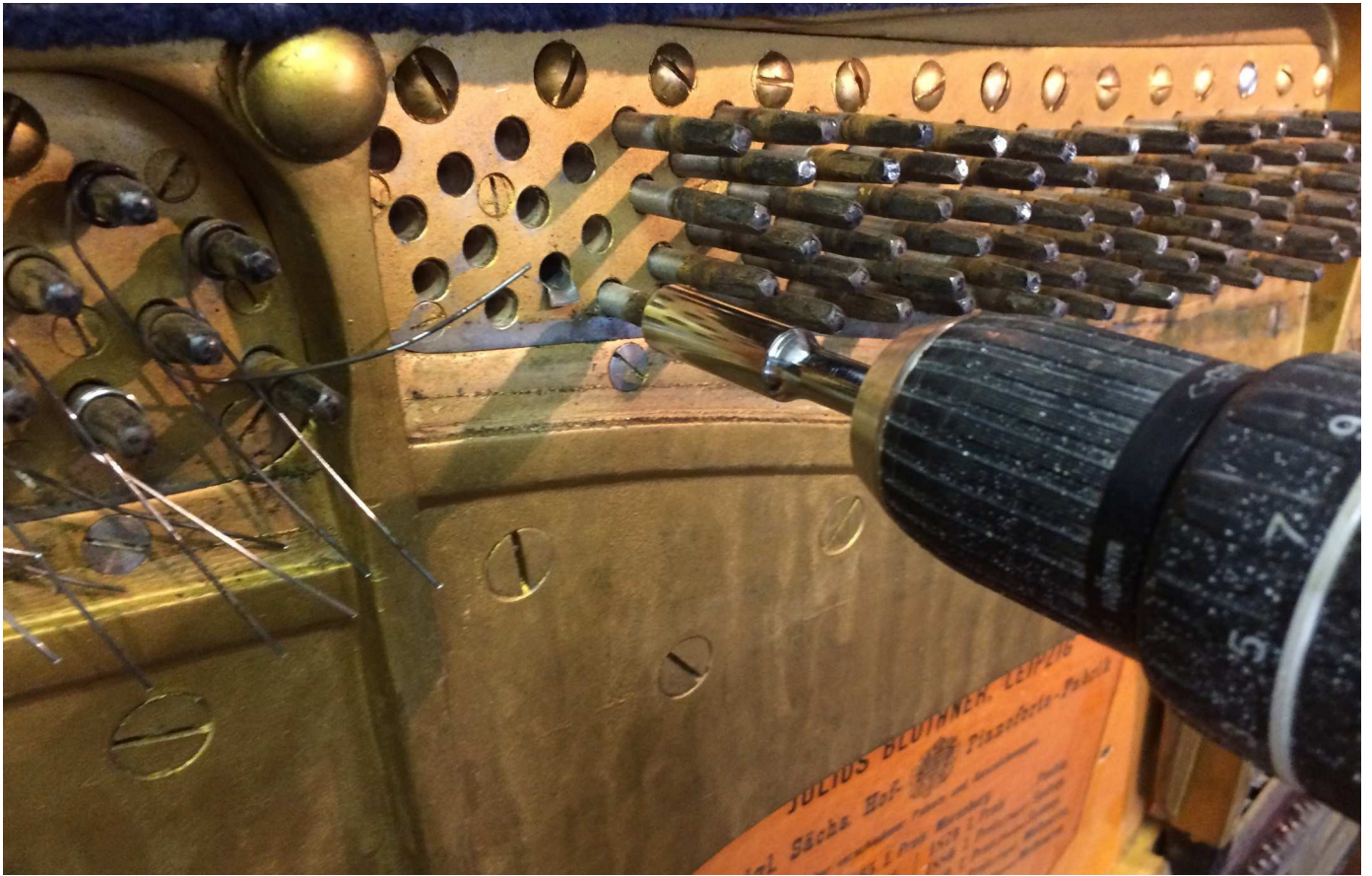
A new set of strings will be fitted along with the new set of bass strings. New tuning pins of correct size to restore the tightness and new felting throughout.

28/6/19 The first major procedure is to strip the soundboard of old varnish and assess its condition. There are a few splits in the board which will be rectified by installing wood shim. Then the whole soundboard will be refinished in many coats of clear varnish. The soundboard transfer will be replaced with one of the same design.

See pictures below of overview and disassembly process..







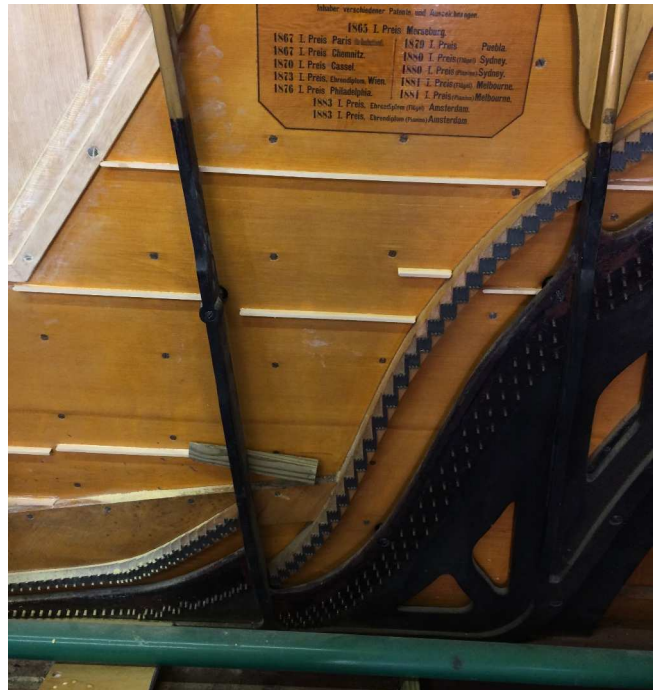
4/7/19 The hammers ... They are are totally worn out and need to be replaced. Because of the age of the piano there are no off the shelf replacements anymore so the best option is to have the heads recovered with new German felt. This will bring the hammers up to spec with the correct shape and sound quality.

Work has started on the main case, frame and soundboard.

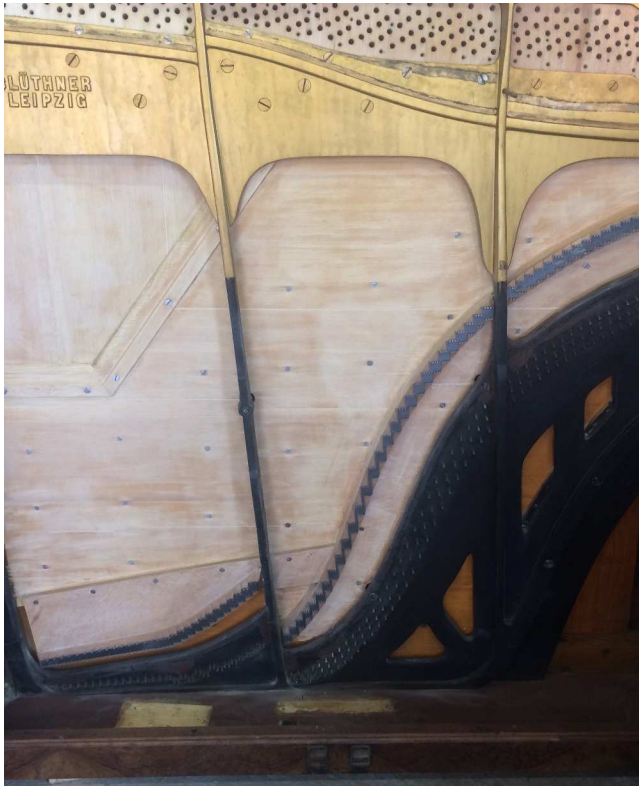
It is usual to completely remove the iron frame from the case so that access is easier to the soundboard but as with many old pianos of the era, the case is built around the frame and without completely taking the case apart, (which is not practical and would warrant major joinery and expense) the best option is to renovate everything with the frame still installed in the casework. The end result will be the same although extra work is involved because of difficult access to everything.

The photos below show start of removing the hammers and packing them ready to be sent for re felting and also 2 pics of the start of shimming the soundboard cracks prior to refinishing same. The original soundboard transfer will be lost sadly as stripping the old finish will take the transfer with it. A new one of same design will be installed.





8/7/19 After the soundboard shims were glued in, they were planed flush with the soundboard. The whole was then sanded in preparation for coats of varnish. The bridges were checked and 2 minor splits were dealt with. The bridge pins were cleaned and the tops of the bridges treated with graphite. The black finish on the frame was sanded and primed, then sprayed with gloss black. The gold part of the frame (upper section) was primed and sprayed with antique gold lacquer. The tuning pin area had plates which had been crudely painted gold by a previous repairer. I decided to dip the plates in paint stripper and found that they were chrome on brass which after hours of cleaning and buffing, looked beautiful. The plates were then screwed to the tuning pin wrest plank. It only remains for the soundboard to have its coats of varnish and the frame was completed in readiness for re stringing.



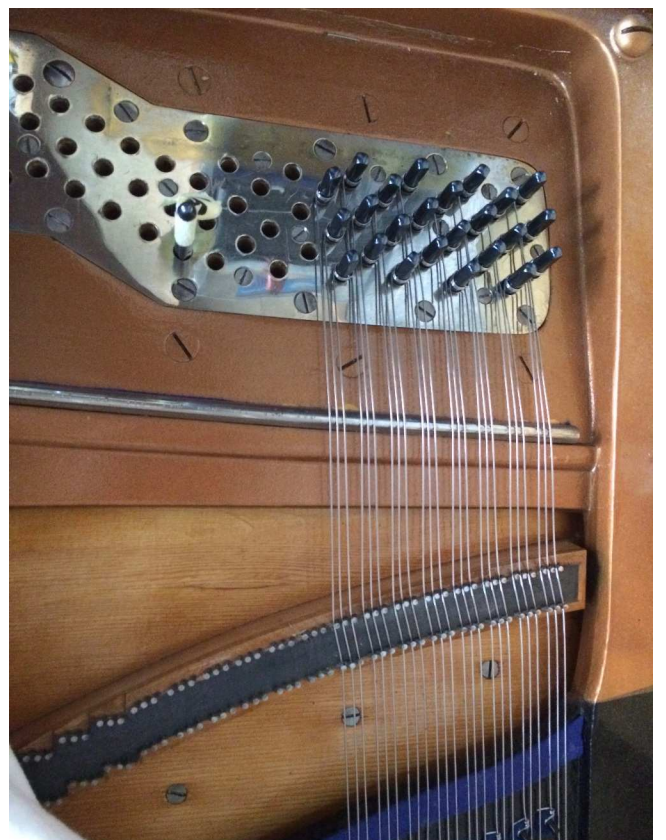
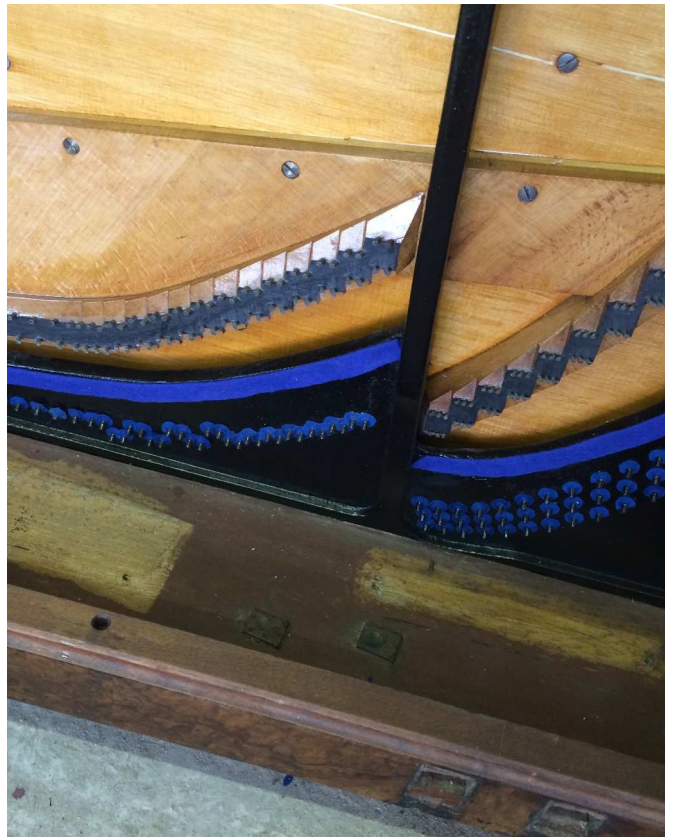


12/07/19 This week saw the start of the re stringing process. This takes many hours of meticulous work.

Starting at the treble side and driving in new tuning pins of increased size to restore the tightness and stability of tuning. It takes about 5 minutes to install just one string and there are over 200 in the piano!

This work will extend in to next week and then the frame and strings are completed. The next stage is the action. *See pics.....*





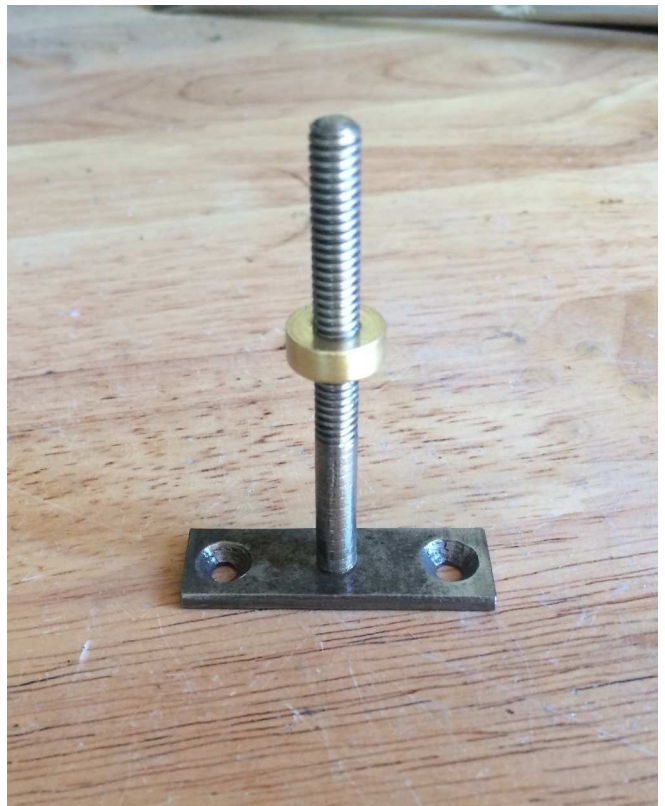
20/7/19.

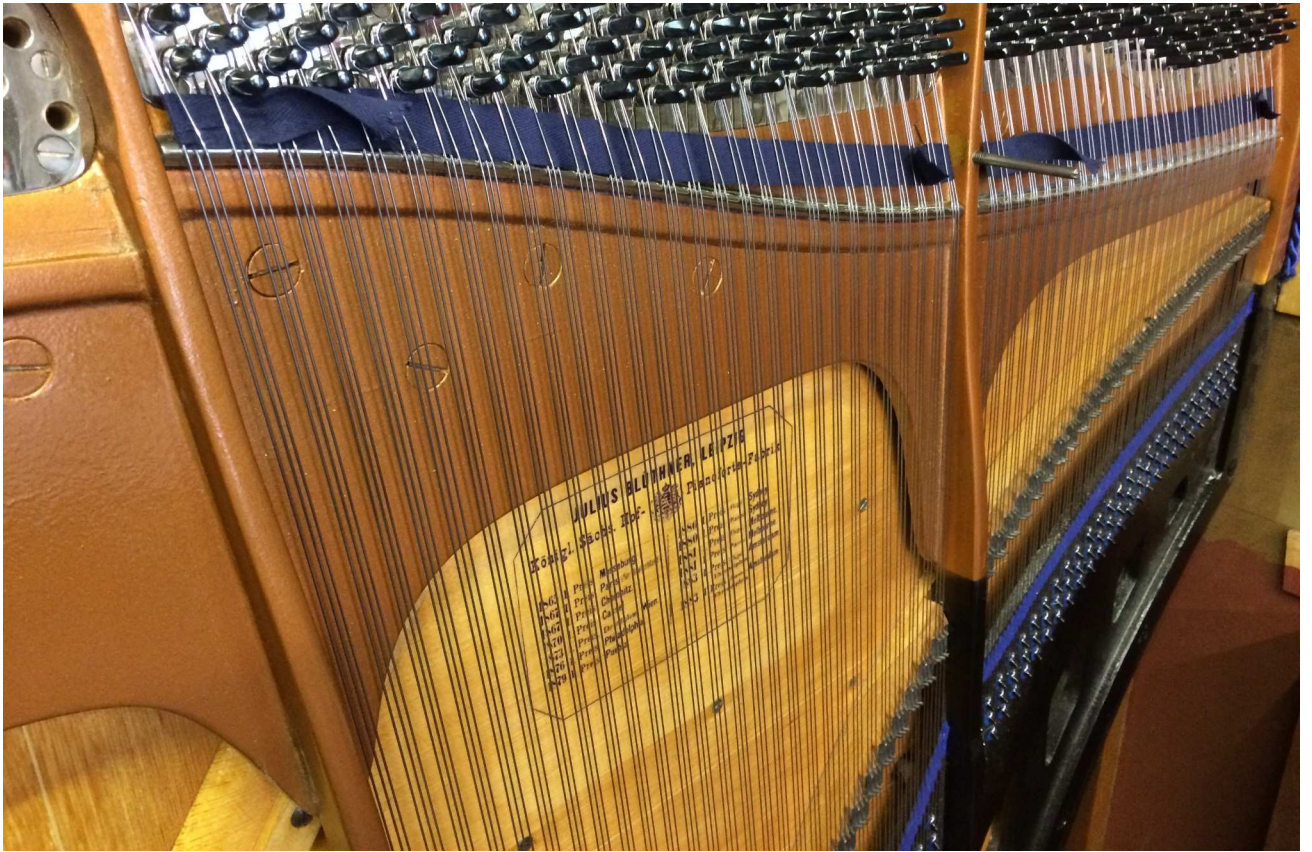
Today saw the completion of stringing the plain strings. The wound bass strings will be installed when I receive them from the string maker. I have also installed a new decal on the soundboard to replace the original that was stripped off when removing the original soundboard varnish. After a lot of searching I managed to find one that was similar to the original except for dates which were after the build date. With some 'photoshop' editing, I removed the offending dates and printed the result on clear film and placed it on the soundboard.

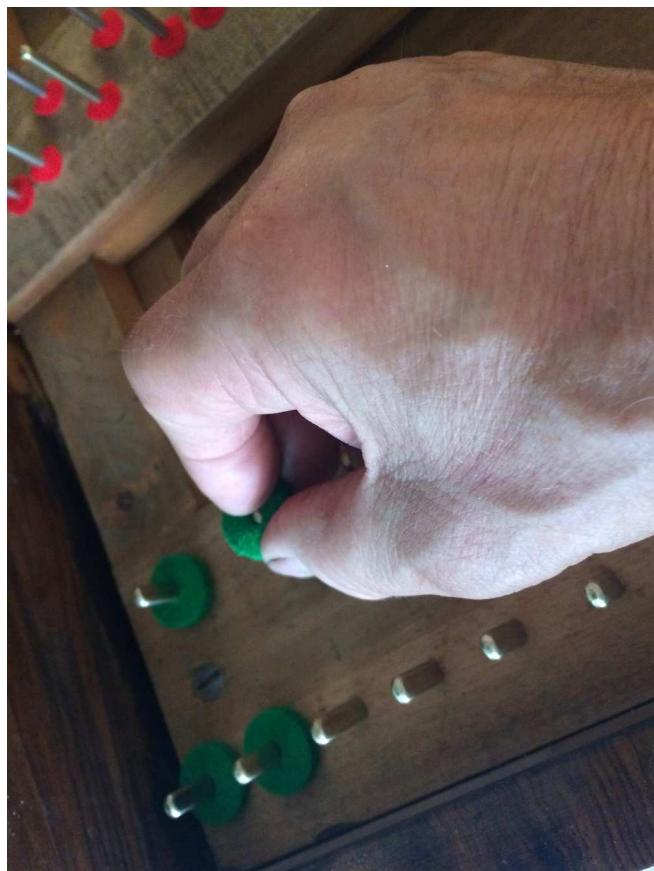
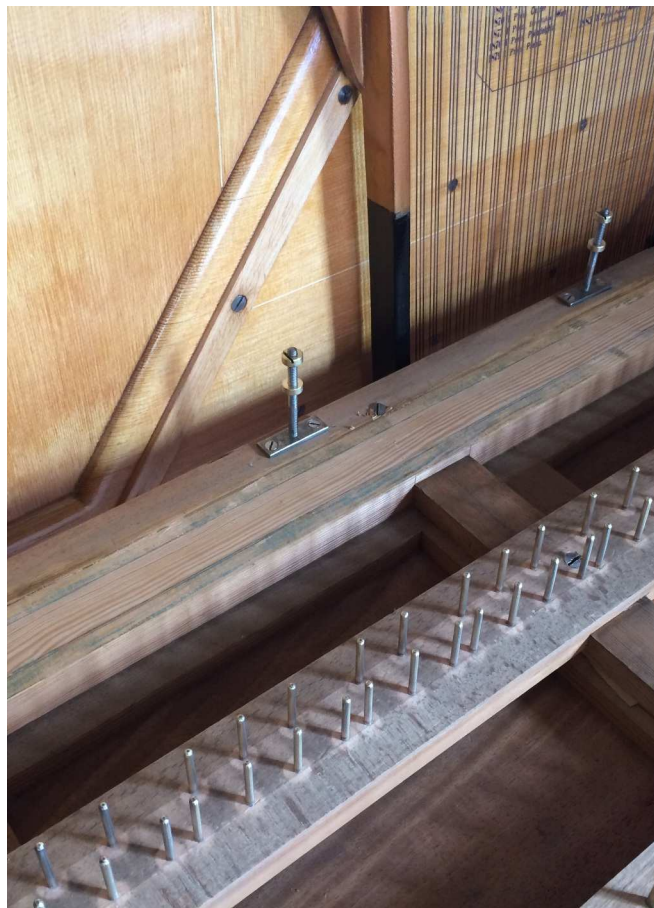
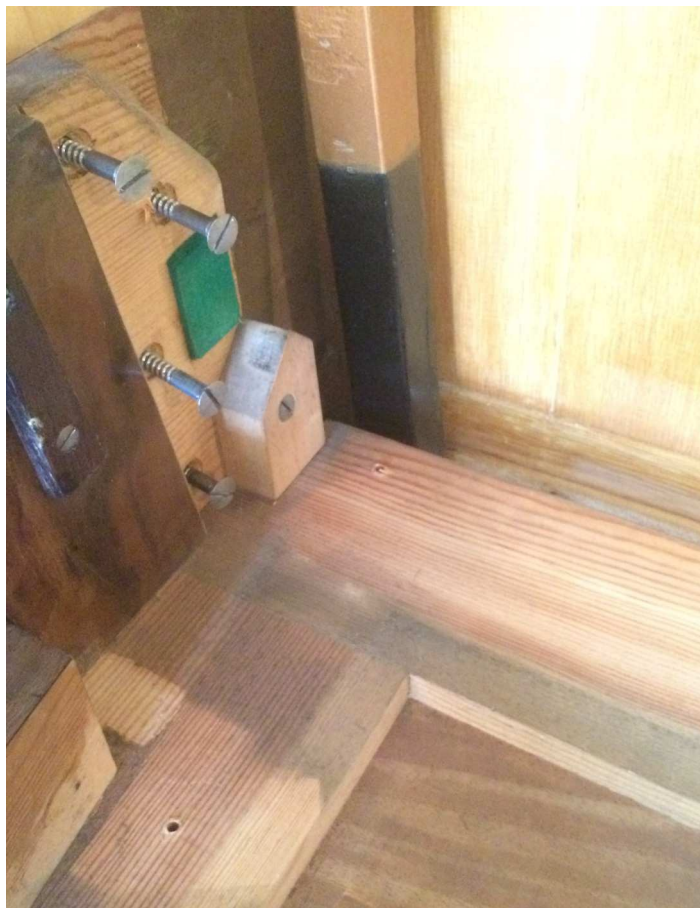
22/7/19

The key bed and frame was next given attention. The whole was cleaned and the front and centre rail pins were re polished. The keybed was then re screwed to the main case. Next was to install new felt washers ready for replacing the keys. Attention to the keys involved cleaning the wood and swelling the felt bushings to correct clearance with the key and its front and centre pin.

see pics







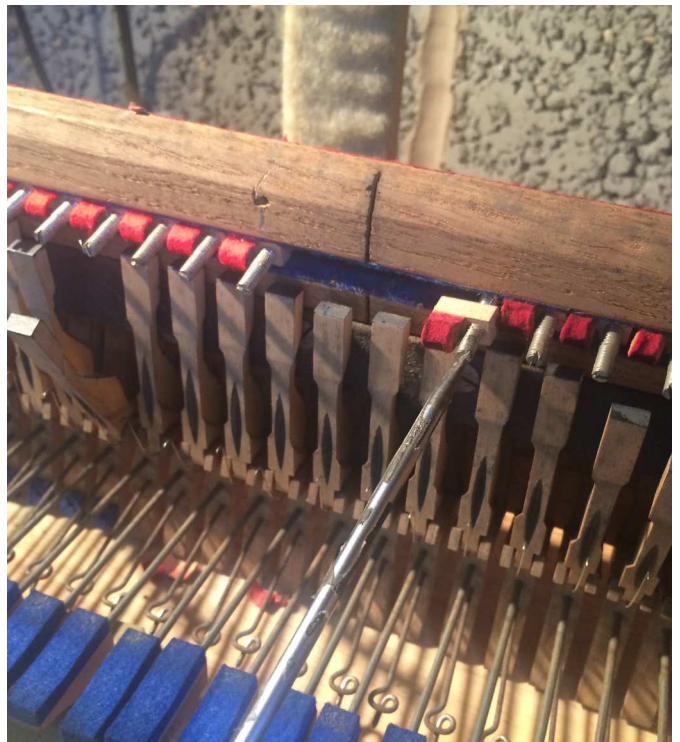


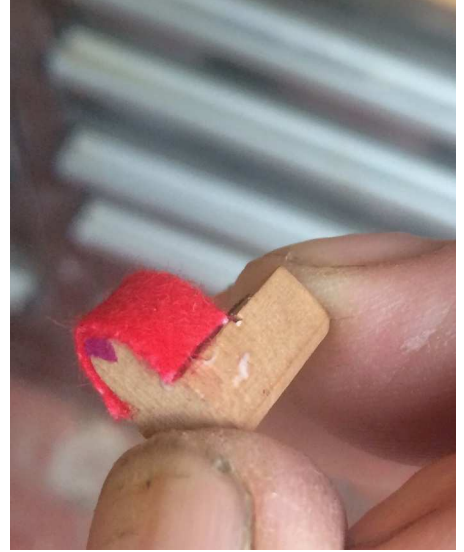
27/7/19

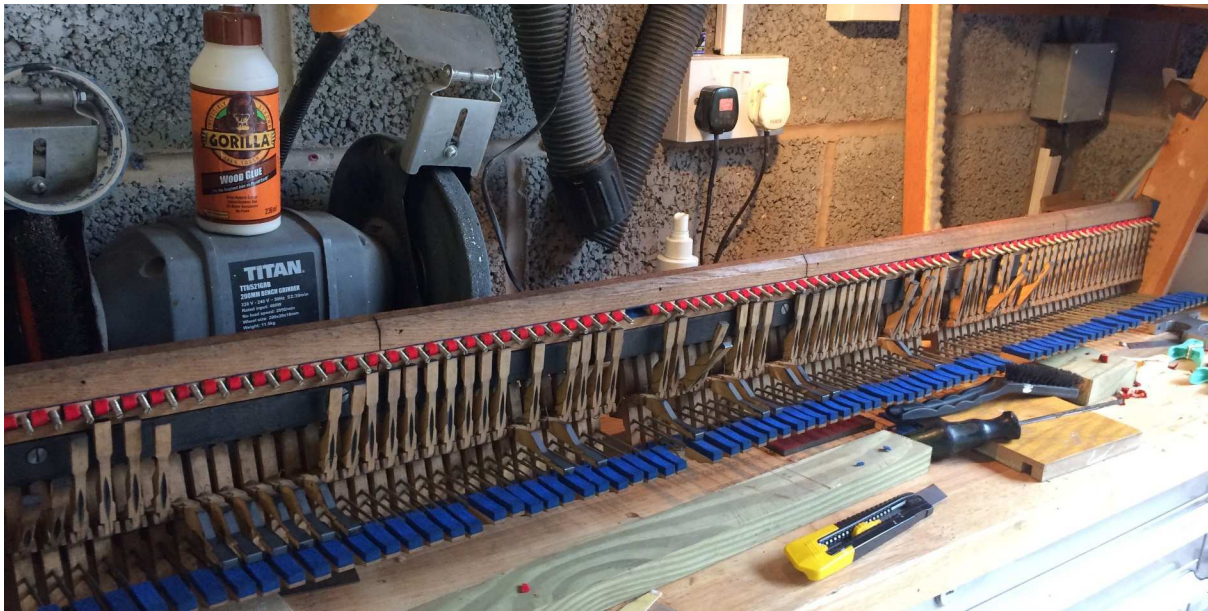
All the keys installed on the keybed, now attention is drawn to the rebuild of the action. Firstly disassembly and assessing work to be done. This involved replacement of the letoff pads that were worn badly in places, re pinning the wippen assemblies with new correct size pins, cleaning the return springs which were in perfect condition, re graphite the jacks that connect with the pads above for smooth working.

The new recovered hammers arrived back yesterday and work commenced on re pinning the flanges, replacing the buckskin on the butts and catchers, replacing the bridle tapes and finally fitting the hammer assemblies to the hammer rail of the action.

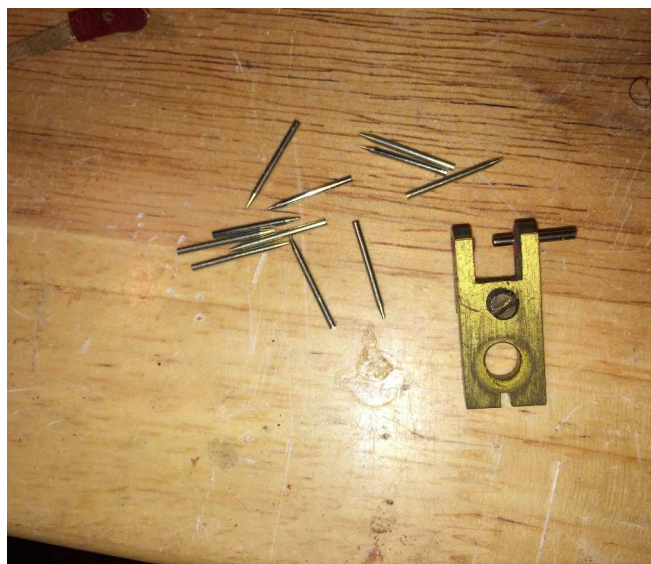
See pics...

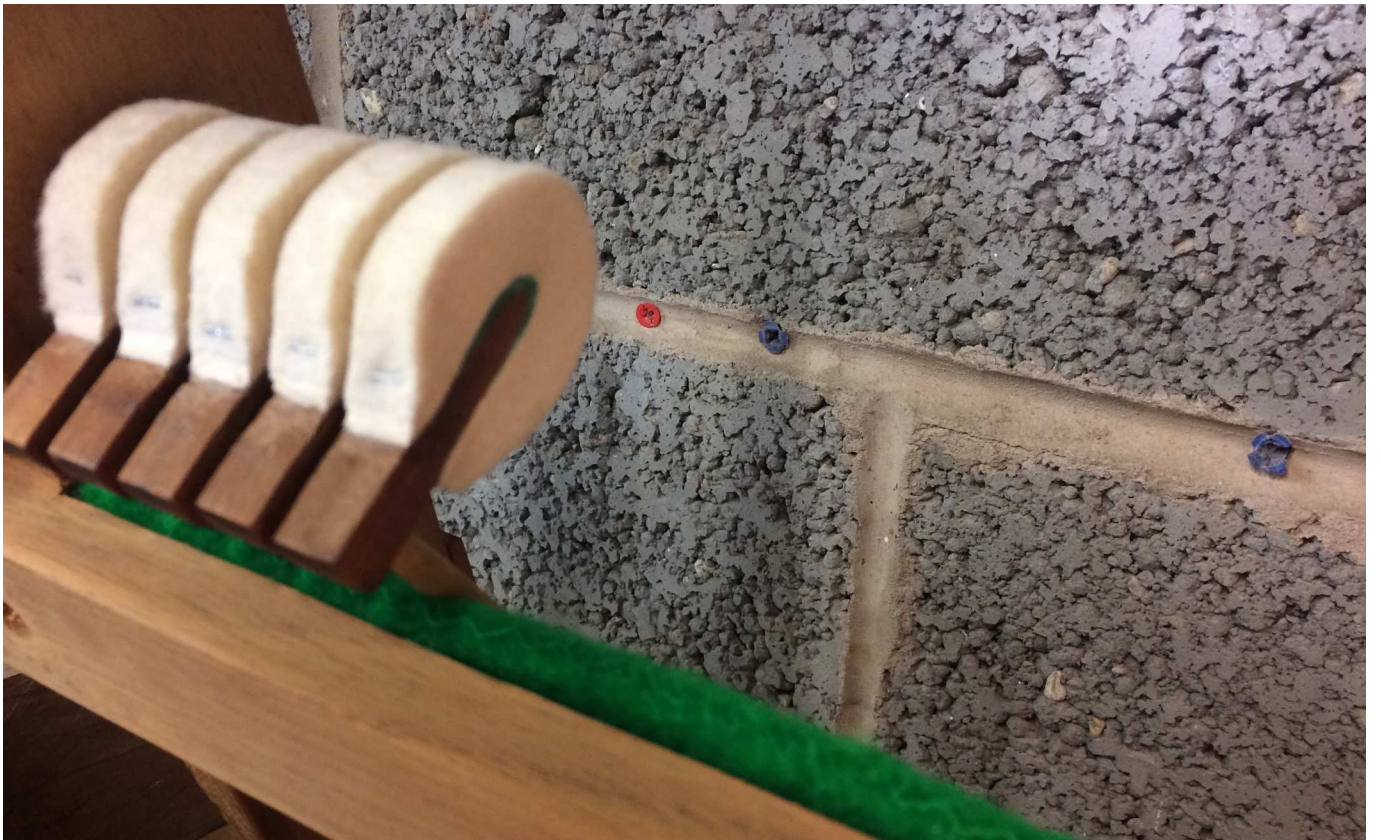












week ending 2/8/19 This week was the turn of the damper system. It is an overdampers design which by experience is not the best as all pianos these days are of underdamper design. Early pianos tended to use overdampers but they do not fully damp off the notes, especially in the higher register. Steinway and Bechstein never incorporated this design and always used underdampers and it odd that a high quality piano like a Bluthner used this system.

Of course we have to use what is there and make it as efficient as possible. For this reason we have decided to completely replace the damper heads as there is a company in Germany that manufactures them for overdampers pianos. Normally it is usual to remove the old felts and re glue new ones on to the heads and this is a much cheaper way of getting a result but we had great difficulty in finding correct felt so we searched for alternatives and found a company that actually made the complete head with the felt. The difference in price is vast. New felts are around £50 compared to a complete damper set at £400.

Work is complete now and the damper assemblies are ready to install on the action.

This week, we received the new set of bass strings from the manufacturer and will be fitting them today.

Next week will be overhauling of the pedal system .

Interesting info.... The left pedal known as the soft pedal is very unusual in its operation on this piano. In fact in all the years I have been involved in restoration and pianos generally, I have never seen this type of design before.

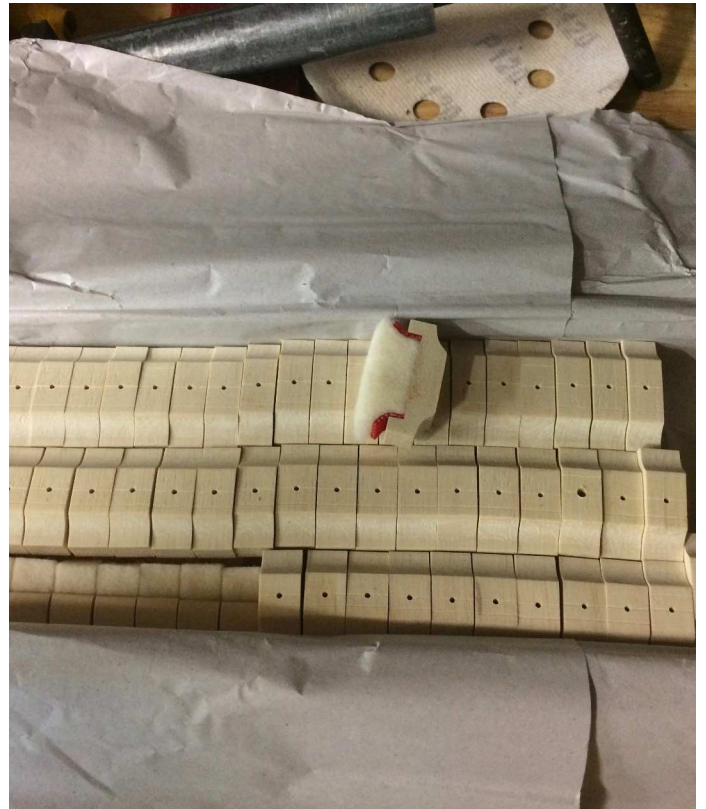
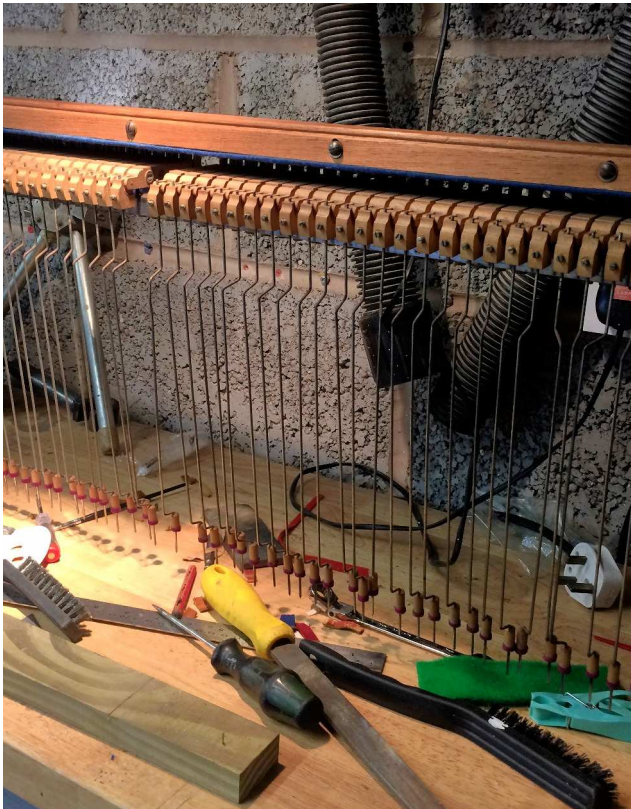
On a grand piano the reduction of volume (using the left pedal) is obtained by shifting the whole action to the right by a small amount thus resulting in the hammers only hitting 2 of the 3 strings or 1 of the 2 towards the bass. There are 3 strings to a note in tenor and treble section and 2 strings down to 1 in the bass. This is uniform over all pianos, the reason being that it evens out the volume generally over the whole keyboard. The left pedal when pressed moves the keyboard around 1/8 inch to the right to achieve the reduced volume.... 2 strings will not be as loud as 3.

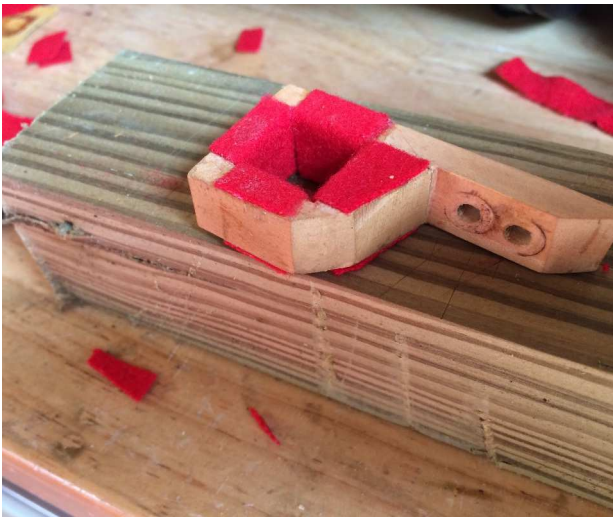
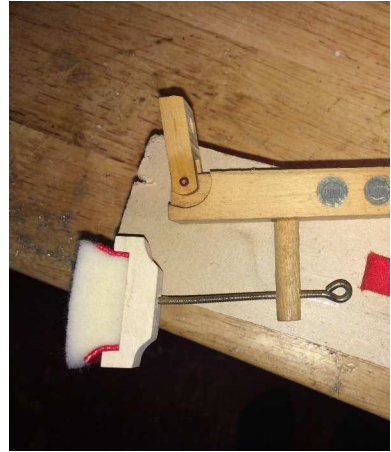
In all uprights (apart from this Bluthner), the reduced volume is achieved by the left pedal pushing a rod that pushes the hammer rail with its hammers towards the strings (about 1/2 inch on average) thus reducing the blow energy and resulting in reduced volume.

Now our piano interestingly has a design not unlike a grand whereby the left pedal rod actually moves the whole action to the right similar to a grand.

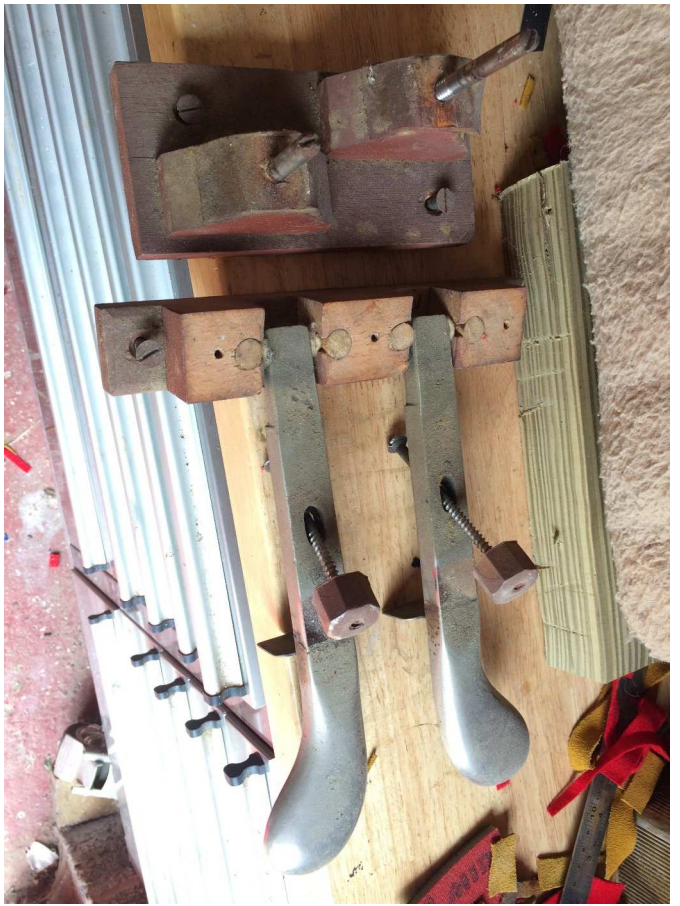
7/8/19 The pedals and linkages were taken apart and all worn felts replaced and yesterday they were installed into the case. Also the bass strings have been fitted. The action is then fitted to the piano without the damper system for now as the fine adjustments are easier to locate with the damper rail removed. Firstly the shift adjustment had to be set up so that when the left pedal is depressed the hammers are adjusted so that they only hit 2 of the 3 strings in the tenor and treble and only one in the bass. This took over a day to get right and still there is some fine adjustment to be done later.

So, now it is time to put the keys on and get the strings to a high tension, firstly to take out the stretch and secondly to be able to set up the action. This operation is ongoing with many adjustments required to get the action operating correctly. This process will take up much of this next week and then finally, the damper system will be installed along with more hours of adjustment.









Week commencing 12/8/19.

This week will start the process installing and adjusting the dampers and also the first of many tunings.

At this stage of the restoration, I compile a 'to do list'. to finally get to the completion of the project.

So the list ,which might be added to, is thus.....

- *Key dip is not correct so will need to adjust.*
- *The damper lift to be adjusted.*
- *The damper rail travel is not correct so needs attention.*
- *Keyslip felt to be replaced.*
- *Install felt pads to the pedals and adjust (done yesterday)*
- *Casework.....one caster is jammed and needs attention.*
- *Back panel needs to be screwed to case.*
- *Think about designing handles at back of piano to aid lifting. The existing ones are too small for a solid grip and this particular piano is extremely heavy!.*
- *Touch up casework to front left corner under keyboard.*
- *Re attach wood moulding to front panel.*

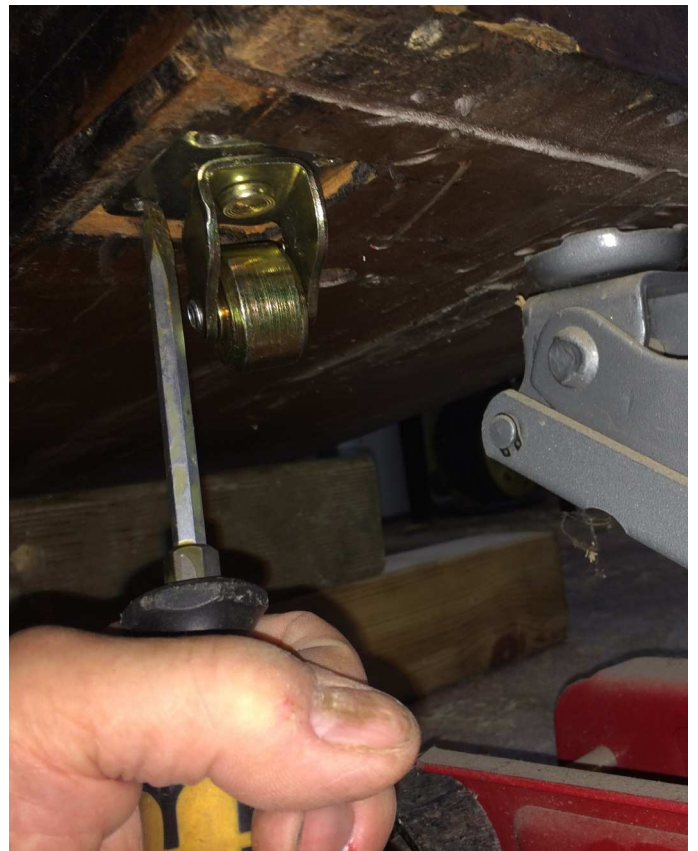
This list will grow as possible issues arise

15/8/19

Working through the list, so far the keydip has been adjusted and the damper system also. I spent some hours bringing the piano up to concert pitch and for the first time I experienced the sound which was beautifully mellow and typical of an early Bluthner. Owing to the detailed depth of this restoration, the tone and the feel to the fingers would closely resemble the way it played and sounding on leaving the factory in 1885. The piano will not be tuning stable until after being played in and further tunings will be necessary over the next few days. Also further adjustments to the action will be carried out as the new felts and hammers bed in. Pianos in general, need a few months before they reach full tuning stability after restringing.

Replacing the castors.

All 4 were replaced as one of them has failed (see pic) and the others were seized.



23rd August 2019...COMPLETION





Richard Young M.I.M.I.T.
2019

