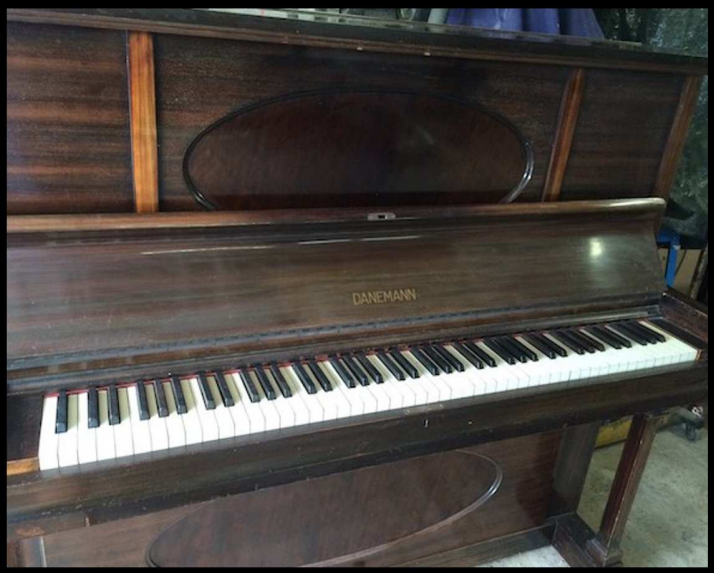
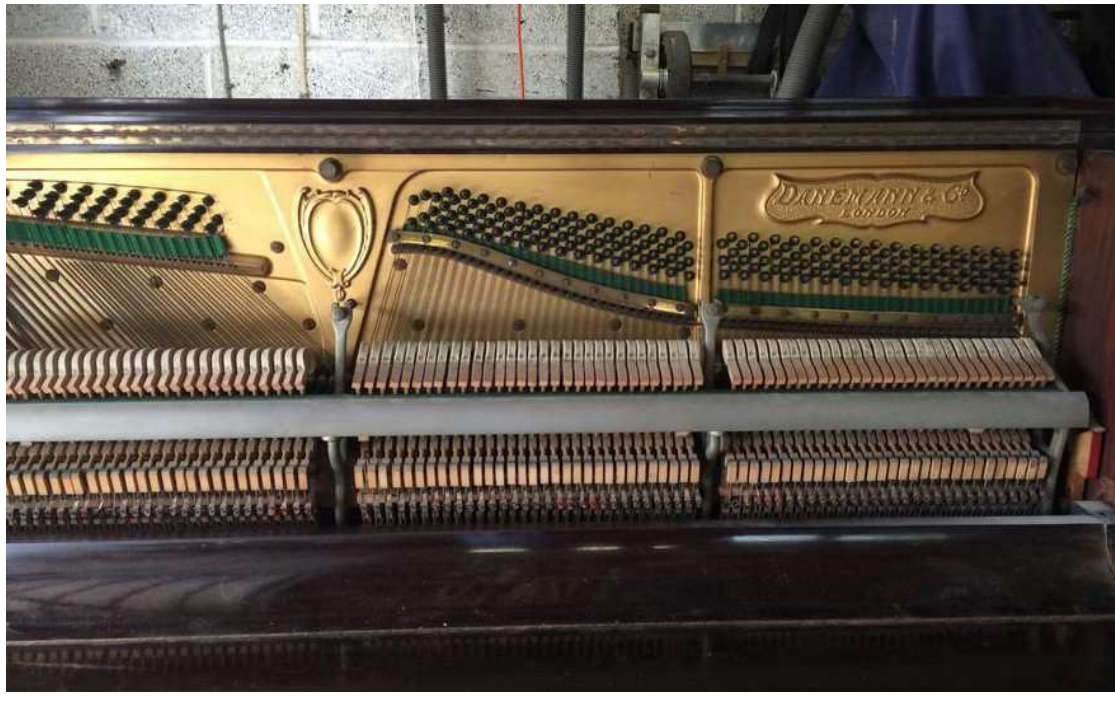
DANEMMAN
PIANO RESTORATION



RESTORED BY YOUNGS PIANOS

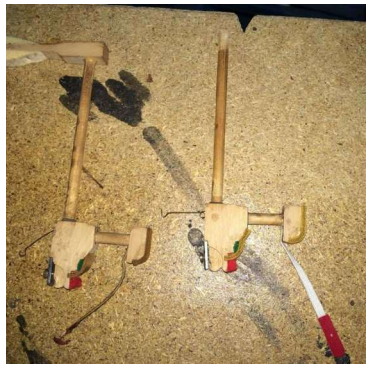
Danemann Restoration

The rebuilding of Danemann piano in words and pictures
This piano was made in 1905

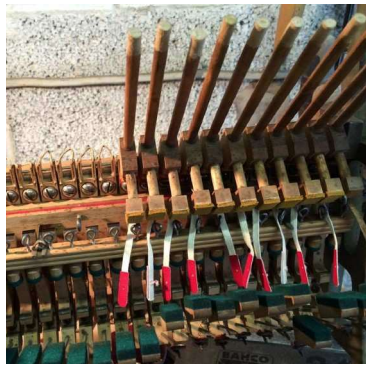


The internal view of the piano in original condition

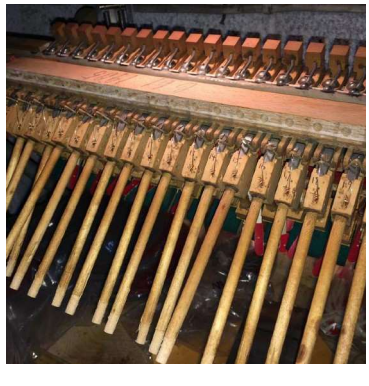
The components of the action removed and ready for re assembly



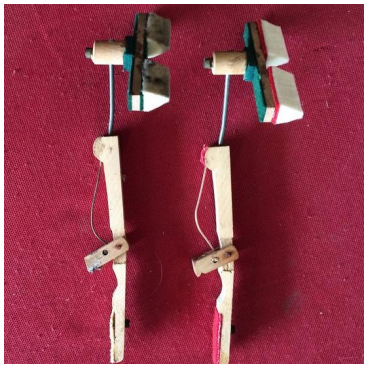
Just one part of the process showing a hammer component in unrestored condition on the left and the restored one on the right with the old hammer removed ready for fitting of new ones at a later stage



After each hammer assembly is refurbished with new buckskin,felts,butt springs and bridle tapes,the unit is remounted on to the main action rail.

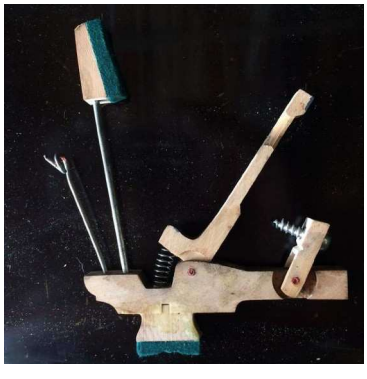


A close up view of the new butt springs.These springs help the hammer to repeat quickly when playing fast passages.Most of the original springs had broken due to fatigue and corrosion. All were replaced with new.



This picture shows the damper assembly.The original one on the left and the restored one on the right with the new felt and springs assembled.The dampers stop the vibration of the string when the key is released.They rest on the string with the long brass spring shown.These springs often suffer from fatigue and corrosion which leads to weak pressure on the string leading to the string ringing on after a key is released.

The restored damper levers are then re installed on to the action rail

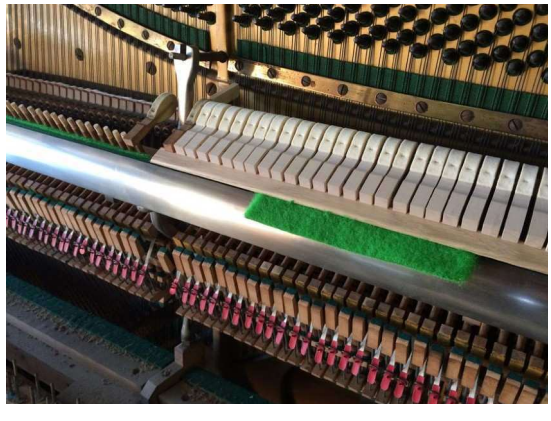


Next operation was to restore each wippen assembly (88 of them) which included re pinning the centres as necessary,replacing the coil springs and graphiting the jacks.This assembly is pushed up by the key and the jack (the long l shaped piece) pushes on the hammer assembly and produces the note.

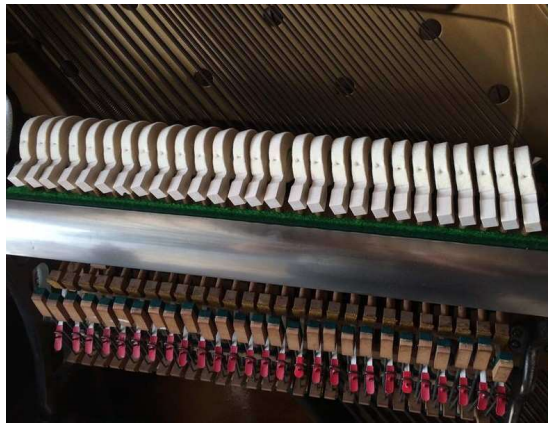
This picture shows the action nearly ready for the installation of the new hammers.

After removing all old glue from the hammer stems,The new hammers were glued on to the stems using special jig to ensure alignment.Once this is completed,the action rebuild is complete except for final set up and adjustment.It is put aside and work begins on removing the old strings and preparing the soundboard and frame for re finishing.

New set of best grade German hammers



Treble section completed



Bass hammers installed and aligned

Completed action with new hammers installed

Removal of strings and tuning pins

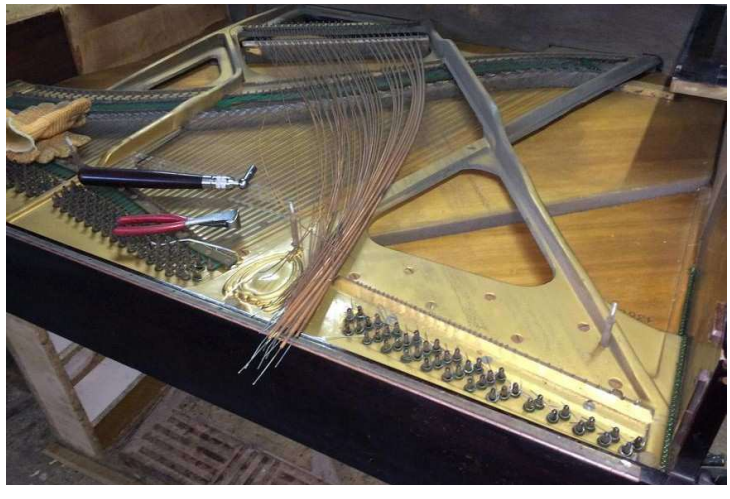
Work starts on the frame and soundboard.It usually includes complete removal of the frame from the instrument.This particular model of Danemann warrants it virtually impossible to extract the frame without physically cutting out most of the bottom area of the casework to access certain bolts that hold the frame in the case.

The only real advantage of removing the frame is that it much easier to to refinish it on workhorses without the constrictions of the casework that surrounds it.Also by removing it, the soundboard is more accessable to work on.So the work will be done with it in situ.This will take more time but the end result will be the same.

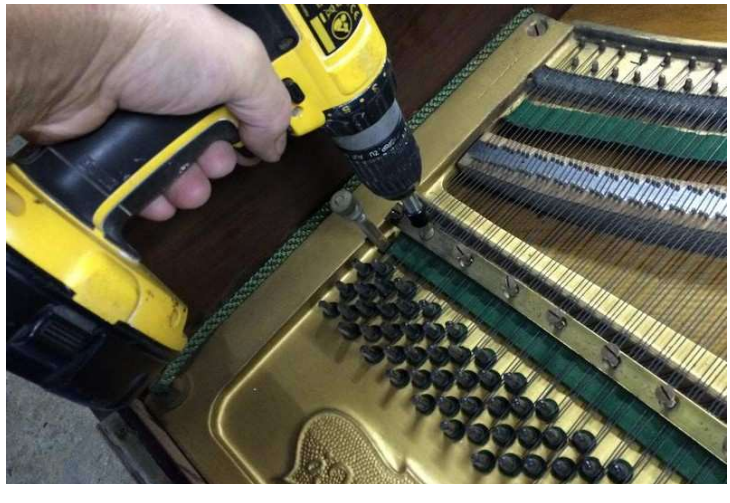
The keybed is now removed from the piano for easier access and the main frame and case is put horizontally on sawhorses.

A rubbing is now made of the bass strings which will be sent to a string maker to have exact replacement set made.Then the tension is removed from all of the strings and removed from the piano.Next the soundboard is checked for cracks of which there are none and the whole sanded down to remove old varnish.It is then given 2 coats of clear varnish.

The keybed is removed.This will be fully rebuilt at a later stage

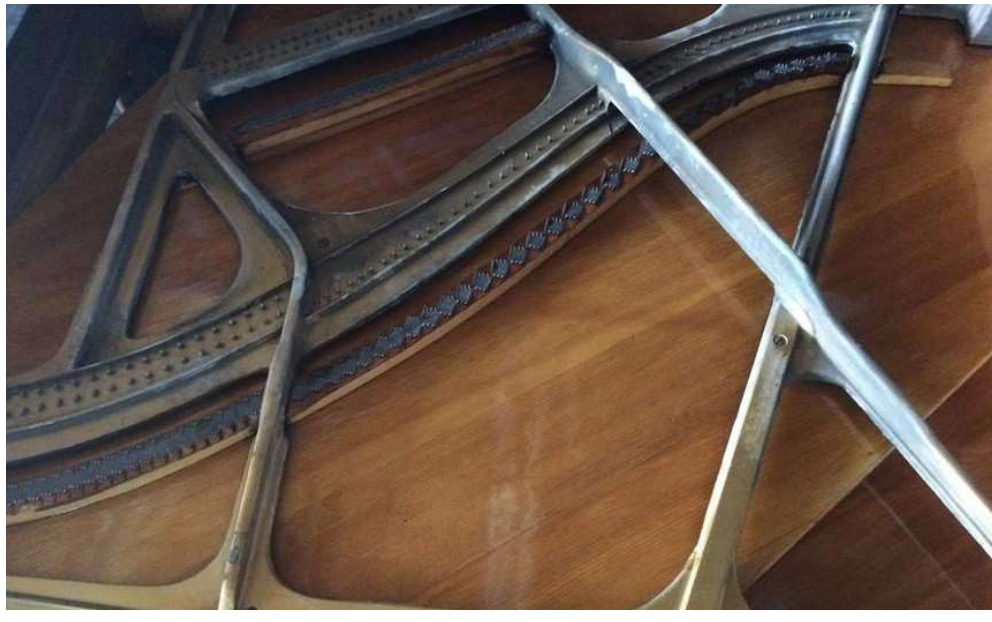


The main case and frame positioned horizontally on saw horses showing removal of the bass strings



The pressure bar is unscrewed and removed,the string tension is let down and the strings cut and removed from the cast frame.

The soundboard: Checked for cracks and small crack near bass bridge repaired by routing a 'V' along the crack and glueing in a wood fillet to make good.The soundboard and bridges were then sanded back and 2 coats of varnish applied (pic).
The Frame: All screws were removed from the frame and the whole was sanded to provide a key for new finish.Next was to mask up and 2 coats of grey primer was applied followed by spraying 2 coats gold laquer.



Soundboard repaired and refinished with 2 coats varnish

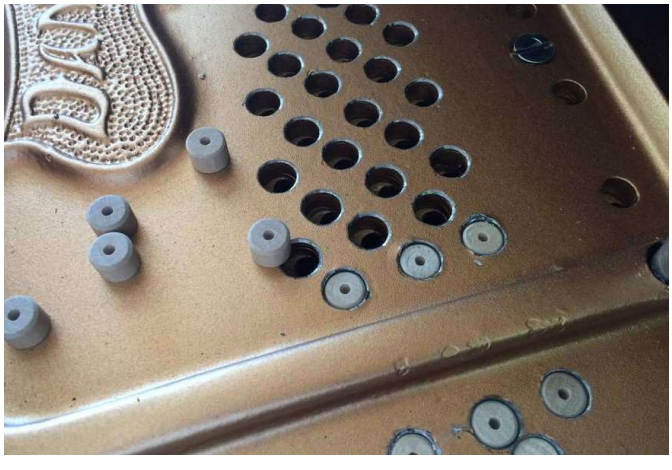
Masking up in preparation for frame refinishing

2 coats primer sprayed to frame

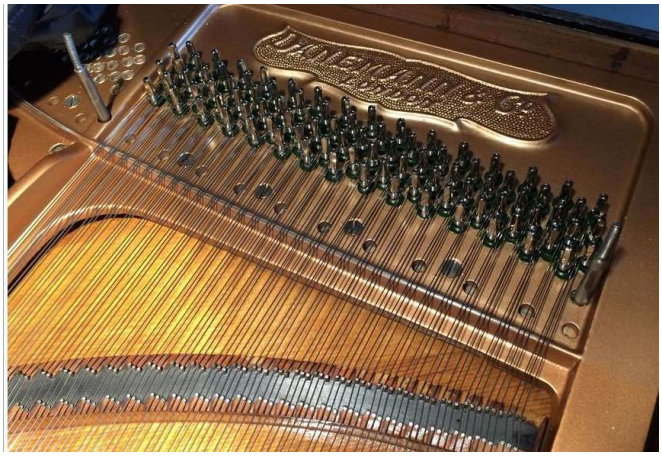
2 coats gold laquer applied to frame

Restringing:
The frame required new set of tuning pin wood bushings before re stringing could start.It was found that the size of the holes in the frame were slightly too large diameter for current available size bushings.The only way forward was to specially order bespoke made bushings to correct size for this piano from Germany.The tuning pin holes in the frame had then to be drilled larger to accomodate the new bushings.

This picture shows the frame being drilled to correct diameter for the new tuning pin bushings.

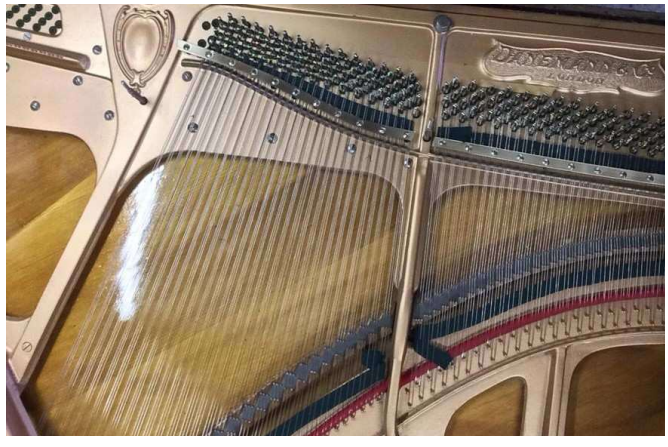


The wood bushings are driven in to the frame.These support the tuning pin for better tuning stability

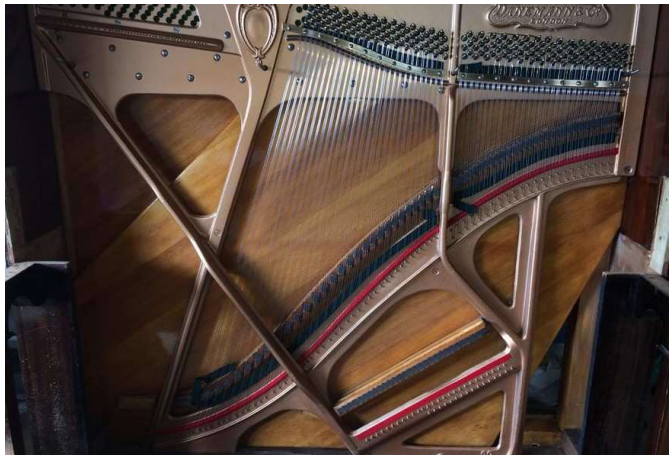


Just completed, stringing of the treble section

The re stringing of the piano was completed except for the wound bass strings.These are being specially made to our patterns . The keybed has now been refitted to the main case and work now starts on casework restoration.



The restringing now completed including re fitting the pressure bars and weaving the green stringing braid through the strings. (The braid serves as a dampener of unwanted harmonics with the string.)



Completed strung back except for the bass strings which will be fitted later when the new set arrives from the string maker.

Fitting of new castors before the case is positioned on the floor in its normal position on the castors.

OVERVIEW

The casework is mainly traditional mahogany veneer except for some parts of which I will explain.....

In some pianos including this one, to cut costs, some parts of the casework were made of a different woods and made to look like mahogany by expertly shading the finish. to look like a mahogany grain.This was a very specialized job and the results were usually very good and it was hard to tell it was not real mahogany.The problem arises with the passage of time.The finish slowly breaks down and the illusion is somewhat compromised was a change over period from traditional walnut pianos of the victorian period to mahogany due to changes in tastes.Pianos made during that time sometimes had walnut case parts mixed in, probably to clear stocks.It might well be the case with our piano as it was made during that changeover period.

The areas of the casework on our piano that had this substitute wood and 'finish' include the cheeks,the legs,the bottom pedal rail and the key rail. Now it has be noted that once the finish is taken off the piano the substitute wood parts will be immediately noticeable and not match the main parts of the casework that is the mahogany veneer.

To restore the casework to its best potential it is proposed that the compromised parts are veneered in actual mahogany .This takes away the uncertainty of trying to produce a perfectly matched shading process that the skilled craftsmen of yesteryear achieved when the piano was made over a 100 years ago.This process will be a much better result as all of the piano that one can see will be of the same wood.

Its not hard to see the areas that have had the grain brushed on.This was to disguise different wood (possibly walnut) to make it pass for mahogany and it was done very successfully on many pianos through the years.Now after so many years the finish breaks down and sunlight has had the affect of highlighting the brush marks and spoiling the effect.

A closer view of the left cheek.
These areas will be veneered in real mahogany thus eliminating the problem altogether.

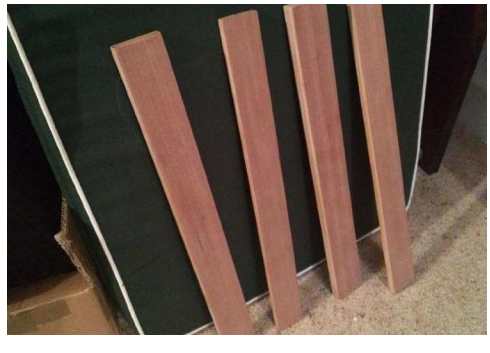
Veneering;

Remove all finish from areas that require veneer.
Apply new mahogany veneer to both left and right outer cheeks.
Apply veneer to top of cheeks.
Apply veneer to left and right cheek supports.
Apply veneer to 3 sides of support legs.
Apply veneer to the 4 pallisters on the front panel.

The right cheek showing the new veneer ready to be applied

The finished newly veneered cheek

Left leg with completed veneer work



The newly veneered upright strips for the front panel

Removal of original finish

Apply chemical stripper to casework and remove the original finish.Fill damaged areas and rub down the whole ready for staining.

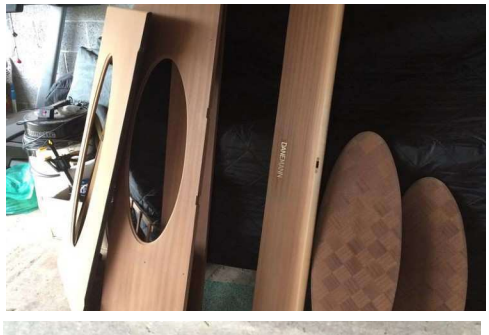
Taking off the old finish

Casework stripped ready for next steps

After the main case was stripped and sanded,we then did the same process to the remainder of the piano parts.
At this point the whole piano is stripped and sanded ready for stain.
Mahogany stain was then applied to the casework and parts.
The piano and parts received 4 coats of laquer finish and the process of fitting all the components back to the piano case.
Next, the keys will be cleaned and fitted with new felt washers, the new bass strings will be fitted
and then the final process of pitching up the piano and adjusting/regulating the action can commence.

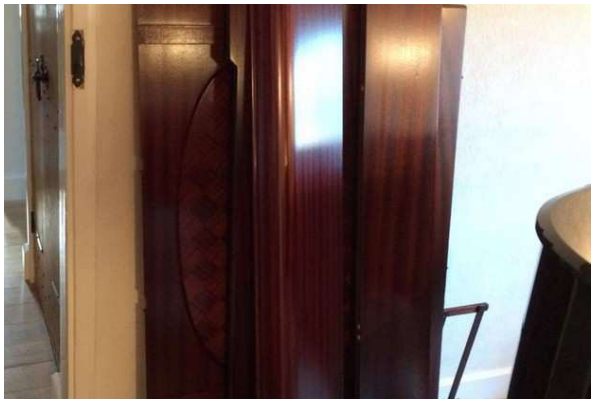
Main case with new mahogany stain ready for finish.

All the parts were sanded. Here the oval panel is being flatted ready for stain

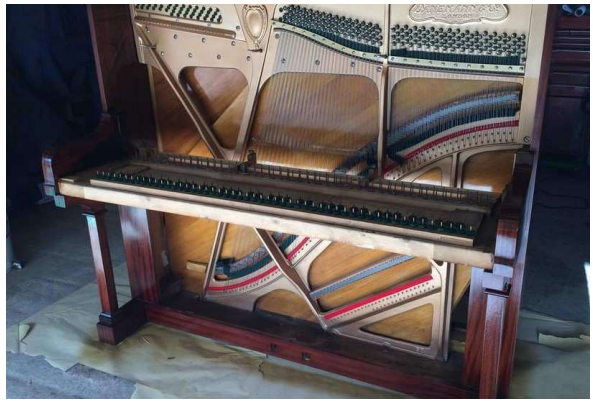


This pic shows some of the case parts sanded and ready for application of stain

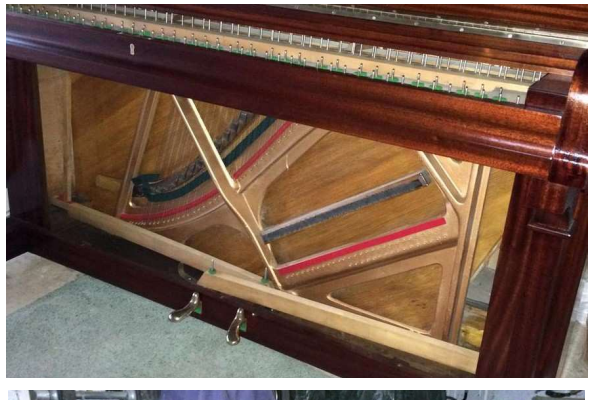
Here one of the two oval panels is having the stain applied



This pic shows the finished piano parts



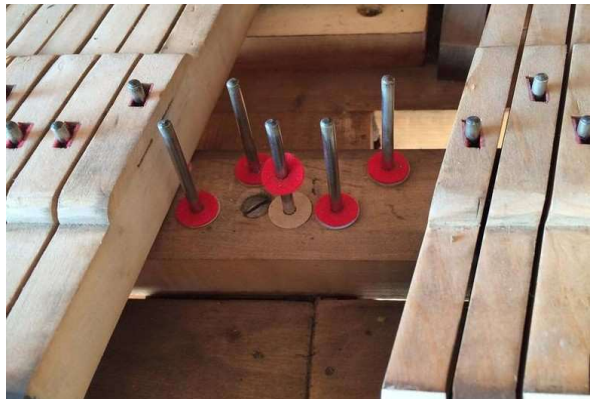
The main case with new finish completed



Pedal assembly overhauled cleaned,polished and re fitted to the piano

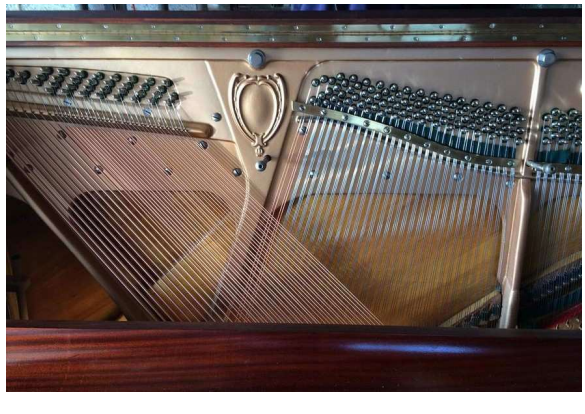
Work started on fitting all the parts to the casework.

New front rail washers



New centre rail washers

Fitting new bass strings



Stringing completed

COMPLETION PICTURES

Collection of pictures of the final result
Work took a little over 9 weeks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