AITCHISON MNATZAGANIAN

CELLO MAKERS RESTORERS & DEALERS

NEWS FOR CELLISTS SPRING 2014

Take a Bow 2014

From 18 October to 30 November we will be exhibiting over 70 cello bows for sale from 35 international master bow makers. Every 3 years we invite prize-winning bow makers from across the world to send cello bows for our six-week selling exhibition. *Take a Bow* gives cellists a unique opportunity to experience the exceptional quality of international contemporary bow making and the event attracts players from Europe and beyond. In 2011 we were visited by cellists from Taiwan, Spain, Denmark, France and Norway as well as from across the UK.

The exhibition takes place at our studio in Ely and also goes on an educational tour of UK conservatoires. Players are invited to make 3-hour appointments to visit the exhibition in Ely, during which they are guaranteed sole access to the collection. Bookings for the exhibition open on 1 September. Full details will be published in a special edition of our autumn newsletter and the latest information can be found at: www.aitchisoncellos.com/exdetails.htm/

CelloSticker endpin holder

We have just received delivery of some useful end pin holders from Italy. 'CelloStickers' have a special gel base which clings strongly to any solid floor material such as wood, laminate and stone. They are also supplied with a magnetic rubber fitting which goes onto the end of your cello spike and makes strong magnetic contact with the metal cup built into the surface of the holder. This means that you can reposition your spike freely during a performance without losing contact between your spike and the holder. CelloStickers cost £30 from us.

Snail or email?

Some cellists on our mailing list prefer to receive *News for Cellists* via email. If you would like to join our emailing list please don't hesitate to let us know.

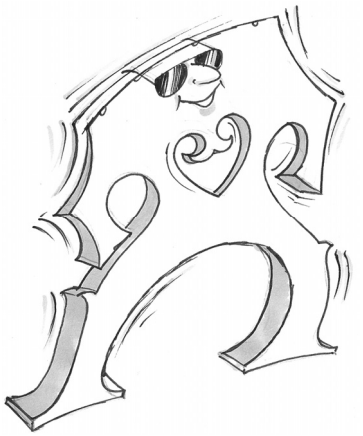
Eurostar Alert

Thank you to everyone who has sent feedback about travelling with a cello on Eurostar. From your feedback it is clear that cellists are increasingly being stopped and required to buy tickets for their instruments at Eurostar check-in. Eurostar has also told us that they are indeed rigorously enforcing their luggage size limit of 85cm.

Eurostar have also just changed their booking procedure so that people who want to travel with a cello (or any instrument from 85-136cm long) must now pay a flat, fixed fee of £69 (return fare) for a 'companion' seat for their instrument. Unfortunately you can't book companion seats online, so if you want to take a cello with you, you should call Eurostar Customer Service on 08432 186186 to book both your own and your cello's ticket. This system ensures that you can book adjoining seats for you and your cello (the cello must go into an aisle seat). **Please note that, as a result of the introduction of the new companion ticket, Eurostar will no longer accept a child's ticket for a cello as they have done in the past.** So cellists now have only one option – to buy a companion ticket – unless they are happy for their instrument to travel in the baggage car on the train where other 'outsize' items are stored. See www.eurostar.com or call 08432 186186.

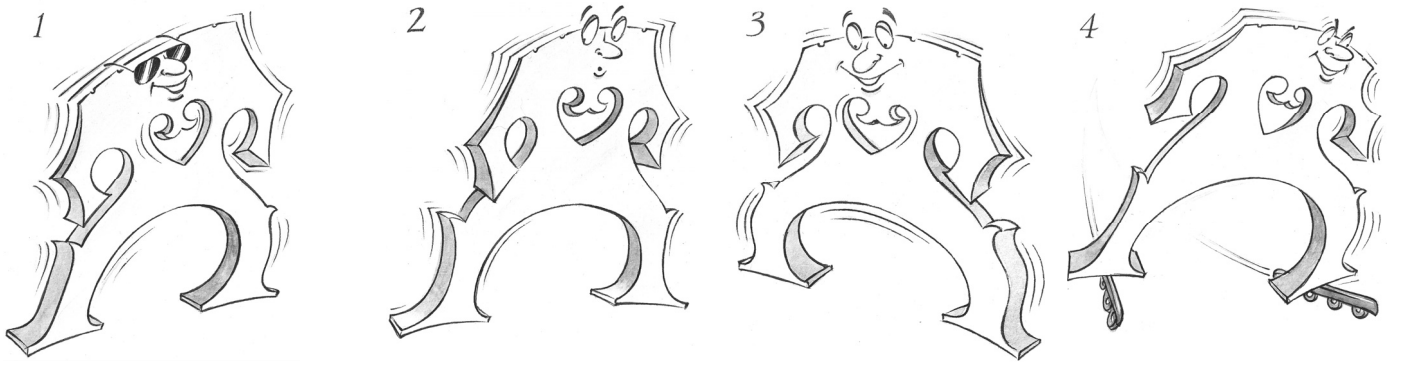
Cello Bridges

Our article on pages 2 and 3 focusses on the important field of cello bridge design. We explore the main characteristics of French and Belgian bridges and, with the help of cartoons by the ever-inventive Michael Edwards, we delve into the dynamic field of bridge vibration modes. We also address a number of common bridge related problems and suggest some practical solutions.



michaeledwardsillustration.webs.com/

CELLO BRIDGES



Cellos vary hugely in their tonal and responsive personalities, from the darkest sounding English cello to the brightest French instrument, and from a swift, responsive Guadagnini to a slower, more demanding Montagnana. An intelligently cut bridge (along with a well fitted and adjusted sound post) can transform a cello with potentially unbalanced qualities into a useful and rewarding instrument which is well adapted to the work being asked of it, whether orchestral, chamber or solo performance.

The two most familiar bridge designs are French and Belgian (see below right). Despite the common misconception that the Belgian bridge is a modern innovation, it has been in use for many years and is a direct descendent of the bridge model commonly used in England in the heyday of English cello making circa 1800. There are many examples of this c.1800 bridge model (see below right) which is now usually called a 'Forster' bridge but was also used in other fine workshops such as Betts, Hart, Fendt and Panormo. It is therefore likely that most English cellos made from 1800 to 1840 would have started life with the equivalent of a Belgian bridge which could have given a brighter and more open sound to English cellos than the French bridge design which became fashionable during the 20th century.

Another frequent misapprehension is that Belgian bridges put more tension on an instrument than French bridges. Belgian bridges can appear taller than their French counterparts, due to their different proportions and longer legs but in fact, the choice of a Belgian as opposed to French bridge will have no effect on the string clearances, string spacing, bowing curve or the string tension on the cello.

The design of a bridge should be a natural compliment to the cello. A French bridge is often a good choice for bright cellos where extra depth and interest is desired in the sound. By contrast, cellos with an inherently dark sound often benefit from the fitting of a Belgian bridge which emphasises the upper register of the cello and which can also be used to make gut G and C strings sound crisper and cleaner. Depending on how they are designed and cut, it is quite possible for there to be a tonal overlap between Belgian and French bridges and in fact many cellos could have very satisfactory set ups with either bridge model. The Belgian bridge that we use is a particularly moderate design and is made from a custom bridge blank designed by Robin and not available as a standard product from bridge manufacturers.

The choice of bridge design also affects the feeling of an instrument under the bow. A French bridge will offer a player more bowing resistance and the Belgian bridge less. Changing from one bridge design to another does require some adjustment on the part of the player, particularly for cellists who have spent many years playing on one bridge model. However, an appropriate change of bridge design can be a very fulfilling and/or liberating experience for the player.

FRENCH	BELGIAN
Physically heavier design	Lighter-weight design
Inherently darker sound	Inherently brighter sound
Quieter under ear	Louder under ear; may also project more powerfully
More bowing resistance (harder work)	Less bowing resistance (less effort)
Slower, less immediate response	Quicker, more immediate response
More flexible in shaping and colouration of sound	Less flexible in shaping and colouration of sound

Scientific research. Bridges have been the subject of surprisingly little scientific study but in the late 1980's O.E. Rodgers and T.R. Masino carried out some useful research at the University of Delaware. They created finite element analysis models of violin and cello bridges, using engineering software to predict how the bridges would vibrate as structures. To achieve this involved the laborious process of compartmentalising each bridge into a 3-D jigsaw of tiny segments, thus reducing a large complex structure into a series of small, simple structures. A computer was then used to analyse the behaviour of each tiny segment and to compile all the results to predict how the whole bridge will bend and stretch when forced into vibration by the strings.

Rodgers and Masino discovered that there are a series of basic modes of vibration for a bridge. The most important mode is an 'in-plane' vibration, a simple side-to-side 'rocking' movement, shown in cartoon *1* (above). Another important mode is an 'out of plane' movement like an alternate shoulder thrust *(2)*. Other modes of less importance are the high-frequency 'bounce' mode *(3)* and the low-frequency 'skating' mode *(4)*. This analysis of bridges has proved to be remarkably accurate, as Robin discovered during a series of experiments at Oberlin College, Ohio which were based on the results of this finite element analysis. Knowledge of these modes allows the luthier to visualise how the bridge moves as it is played and provides a theoretical framework on which to base his/her practical experience when cutting a bridge.

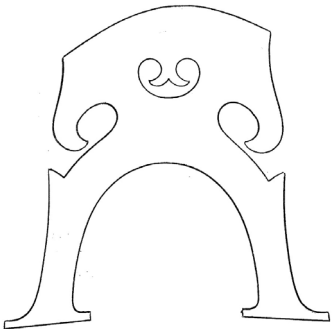
Splayed bridge legs For a good tonal response, string pressure needs to be directed to the centre or, even better, towards the outer edges of the bridge feet. It is fairly common for bridge legs to become splayed or over-widened on a cello with very rounded/pointed arching, and this leads to a deterioration in the cello's tone. Bridge legs also tend to become splayed if a cello lying on its side is accidentally rolled over onto its bridge. Usually no structural damage occurs, particularly if the floor is carpeted, but the cello will sound dreadful because the bridge legs have spread sideways, putting pressure on the inside edge of the bridge feet and causing a temporary but major acoustical problem. If you can see air under the outsides of the bridge feet, they are definitely splayed and you'll need some help to get the legs aligned again. In this case the luthier will squeeze the legs back towards each other until the bridge feet are in correct contact with the cello, which should ensure that the cello once more sounds like a desirable instrument, rather than the worst student cello you have ever heard.

Lost bridges. We are sometimes consulted by cellists whose instruments used to sound wonderful but have somehow lost their original quality. Even after visiting several different luthiers and having a series of changes made to their instrument, they are still unhappy. When we talk back through the history of such cellos, we frequently discover that the cello first stopped sounding good when the owner had to change the bridge because it was too low, was warped or broken. In some fortunate cases the owner has kept the old bridge, and it has been simple for us to copy the bridge and restore the original sound. Sadly though, it is common for owners to leave their old bridge with the luthier who has cut the replacement, which means that we have to start from first principles when determining what bridge design would best suit their cello. Always hang onto your old bridge as a reference, particularly if you were happy with the cello's sound when it was on the instrument.

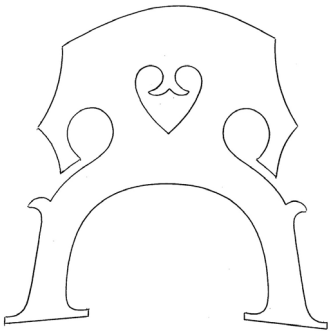
Bridge straightening In the days when all cellists used gut strings, players would routinely straighten their bridges almost every time a cello was tuned, due to the stretchiness of gut and its responsiveness to changes in temperature and humidity. Players knew their cello wouldn't sound good unless the bridge was standing upright. However, our stable modern steel strings tend to stay in tune from one day to the next, so it is not necessary to straighten the bridge every time we tune a cello and many of us are no longer in the habit of straightening our bridges. However, the top of the bridge is affected by the movement of the strings over the string grooves, particularly if the pegs slip or if new strings are fitted to the cello. Failing to straighten the bridge can lead to the bridge becoming warped and it also causes deterioration in the tonal response of the cello due to the change in the bridge angle.

If a bridge is leaning back very slightly onto its 'heels', or leaning forward onto its 'toes', this is equivalent to a sound post adjustment and can change the sound of the cello significantly. The posture of the bridge should always remain upright so that the downward pressure is equal on both edges of the bridge feet – neither on 'toes' or 'heels', just comfortable. If you can see air/light at the back or front of the bridge feet, then your bridge definitely isn't straight.

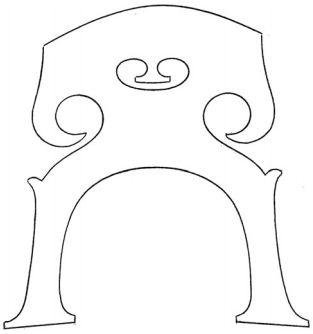
If you put new strings on a cello you will need to straighten the bridge as you tune the strings (first tune the string, straighten the bridge and then re-tune the string.) If it is difficult to straighten your bridge under full string tension, this indicates that you need to lubricate the string grooves on your bridge using either dried-out soap or graphite. It's also advisable to lubricate string grooves when you change a string.



Belgian (Aitchison model)



French (Aubert model)



Forster (historic model)

SELECTED CELLOS AND BOWS

GAETANO GADDA CELLO 1936

L.O.B: 30" (758mm) String length: 27¼" (689mm)
Price: £78,000

A beautiful example of the work of Gaetano Gadda in excellent condition. The tone is powerful, rich, and colourful and the fine varnish is a transparent orange-brown. Eric Blot certificate.

JOSEPH HILL CELLO 1770

L.O.B: 29⅛" (740mm) String Length 26¾" (677mm)
Price: £55,000

An exquisite cello in exceptionally good condition with a one-piece maple back and beautiful varnish. The tone is colourful and expressive. Hill certificate.

SIMON ANDREW FORSTER CELLO 1836

L.O.B: 29" (735mm) String length: 26⅞" (682mm)
Price: £50,000

This magnificent cello was made for the Bishop of Oxford in 1836. It is in very good condition, with a rich, colourful and powerful tone. Hill certificate.

GEORGES ADOLPHE CHANOT 1895

L.O.B: 29¾" (755mm) String length: 27½" (698mm)
Price: £35,000

A handsome, powerful and expressive instrument in excellent condition with fine golden brown varnish. Labelled internally and inscribed at the endpin. Recently restored in our workshop.

HENRY JAY CELLO c.1760

L.O.B: 29½" (751mm) String length: 27" (685mm)
Price: £30,000

An attractive cello by Henry Jay in very good condition with a rich, refined sound and beautiful transparent golden brown varnish.

THOMAS SMITH CELLO 1762

L.O.B: 29" (740mm) String length: 26½" (674mm)
Price: £26,000

A handsome instrument in very good condition with a powerful, colourful tone and a quick response. Letter of authenticity from Charles Beare.

ROBIN AITCHISON GUADAGNINI COPY

L.O.B: 28¾" (733mm) String length: 27" (685mm)
Price: £23,000

A 2% enlargement of a Milan period cello by GB Guadagnini circa 1755 with a swift, willing response and a clear, colourful tone.

ROBIN AITCHISON MONTAGNANA COPY

L.O.B: 29⅛" (740mm) String length: 27¼" (690mm)
Price: £23,000

A close copy of the Montagnana cello played by the late Boris Pergamenschikow. This cello has a rich, complex tone and powerful projection.

MICHAEL KEARNS CELLO 1998

L.O.B: 29½" (750mm) String length: 27½" (698mm)
Price: £16,000

This elegant cello is in excellent condition and has a balanced response and satisfying tone.

MIRECOURT CELLO c.1910

L.O.B: 30¼" (770mm) String length: 27" (685mm)
Price: £9,000

RIVIÈRE & HAWKES CELLO c.1890

L.O.B: 30" (758mm) String length:tbc
Price: £8,500

NEUNER & HORNSTEINER CELLO c.1880

L.O.B: 29½" (748mm) String length: 27¼" (694mm)
Price: £7,500

Selected Cello Bows

John Dodd	81.3	S	**£8,000**
William Salchow	81.9	S	**£4,770**
John Clutterbuck	81.9	G/T	**£4,750**
Jean-Pascal Nehr	82.0	G	**£4,740**
Charles Ervin	80.0	G	**£4,650**
John Stagg	82.8	G	**£4,500**
W E Hill & Sons	75.0	S	**£4,500**
Eugene Sartory	82.0	S	**sold**
Klaus Grünke	81.9	G	**£4,250**
Garner Wilson	81.2	G/T	**£4,200**
Bernd Etzler	81.6	S	**£4,200**
W E Hill & Sons	tbc	S	**£3,750**
F N Voirin	75.4	S	**£3,500**
Bernd Etzler	81.7	S	**£3,200**
Roger Zabinski	81.2	S	**£2,980**
Martin Beilke	81.9	S	**£2,750**
Eric Gagné	81.7	S	**£2,590**
Heinz Dölling	91.0	S	**£2,500**
Stephen Bristow	83.3	G/T	**£2,400**
Robert Pierce	81.9	S	**£2,230**
Richard Grünke	82.1	S	**£2,150**
Richard Wilson	82.2	S	**£2,000**
Richard Weichold	tbc	S	**£1,600**
J S Rameau	76.7	S	**£1,500**
Raymundo Almeida	83.2	S	**£860**

Weight = in grammes; S = Silver; G = Gold
N = Nickel G/T = Gold and Tortoiseshell

For more information see www.aitchisoncellos.com