Excerpts from the work

Uppermaking

Uppermaking for Bespoke & Orthopedic Shoemakers



The following texts are abridged excerpts from **Volume I**, from the pattern collection and from the planned **Volume II**. The books will be published in German and English.

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Proportional Dividers – Reduction Dividers

In addition to the classic bow divider, there are also so-called proportional dividers. This divider differ from other dividers by two characteristics:

1. The two legs are not connected to each other at the upper end, but via a sliding carriage
2. As a result, these dividers do not have only two, but four ends



Proportional dividers made of white bronze from the patternmaking department of the former Lingel shoe factory in Erfurt.

Proportional dividers are not only very precise, but also easy to use because they are can be used with just one hand. Versions for uppermaking have a leg length of 15,5 cm to 20,5 cm and fine, filigree steel tips.

With a proportional divider one can divide a distance in a certain desired ratio. The distance of the reference measure is taken with a pair of tips, the opposite two tips then show the distance in the desired division ratio.



These dividers were widespread in the shoemaking trade up to the middle of the 20th century. With their help, stock patterns could be "graded by hand". Grading is the conversion of an existing reference pattern to larger or smaller shoe sizes, purely geometrically, without a last. Grading was explained in many specialist books from the early 20th century and made it possible to produce upper patterns for ready-made lasts very efficiently.

From the second half of the 20th century, however, there was hardly any demand for ready-made, manual shoe production. Grading machines were already being used in shoe factories at the beginning of the 20th century, which could convert a reference pattern into any desired size in a very short time. Today, this is done digitally using appropriate software.

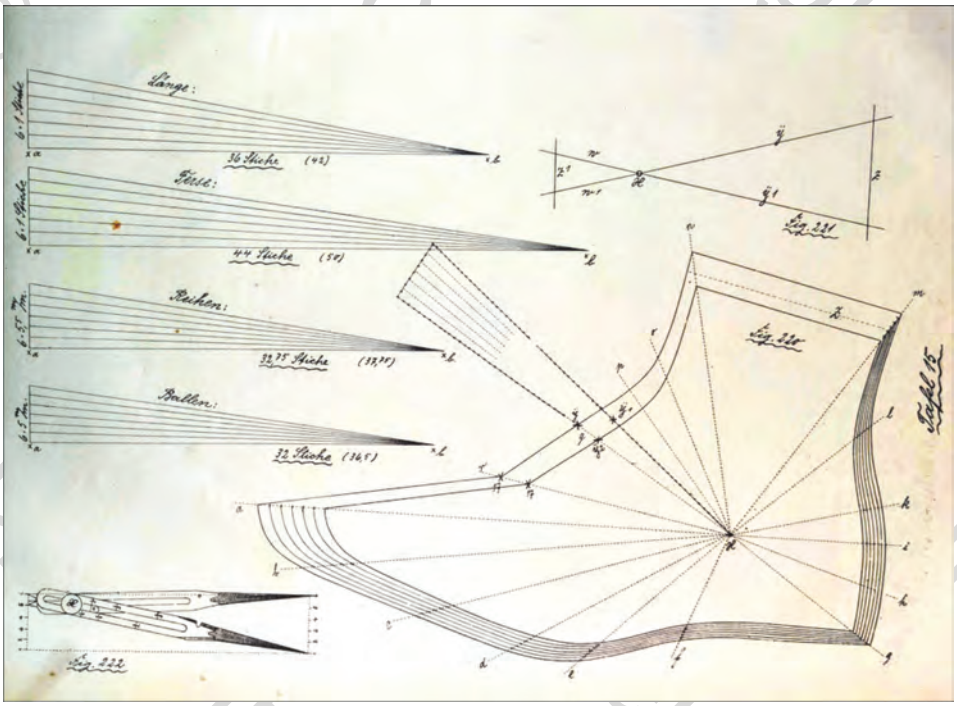
So these beautiful, filigree tools gradually fell into oblivion and are only used in a few workshops.

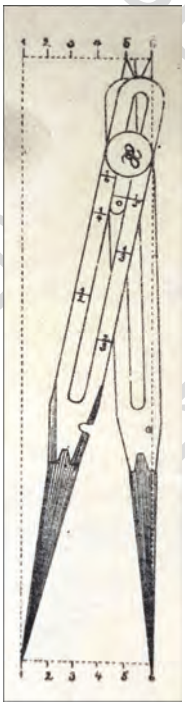
Proportional dividers/reduction dividers were used in ancient times. A bronze proportional divider was found during excavations in Pompeii, dividing a line in a ratio of 1:2. The divider found in Pompeii was a fixed proportional divider. One could only trace a line with these in a predetermined ratio.[1]

In the 16th century in Italy, these proportional dividers were further developed by several famous mathematicians and scientists. Works by Fabrizio Mordente, Federico Commandino and Galileo Galilei, among others, are documented. In the 17th century, the Swiss scientist and instrument inventor Jost Bürgi further improved the proportional divider.[2] Today's proportional dividers still largely correspond to his 17th-century design.

Now the legs were no longer fixed and of different lengths, but could be flexibly shifted against each other. Despite today's digital possibilities, these divideres are still used by patternmakers, designers, sculptors and instrument makers.

[1] SKD.
[2] ETHZ.





Drawings from the work "Triumph model cutting process for the shoe industry and uppermaking" portfolio by G.A. Köhler, director of the shoe factory in Wermelskirchen, around 1900, Wilhelm Bock Publishers/Gotha.

Gustav Anton Köhler explains the use of a proportional divider when grading upper patterns by hand. It is also possible to use a proportional divider to obtain proportions according to the golden section. However, this is more easily done by using a "Golden Mean Caliper".

The Golden Mean Caliper

Around 1893, the doctor and painter Adalbert Goeringer developed another type of divider, the so-called Golden Mean Caliper (Latin: proportio divina or sectio aurea). This is a fixed proportional divider, but it has a third leg.[3]

A Golden Mean Caliper is only needed if one would like to divide a line into the "Golden Ratio".
Such a division ratio occurs when a line has been divided in such a way that the ratio of the entire line to the larger of the two parts is the same as the larger part to the smaller part.

A Golden Mean Caliper has points only at the lower ends of the legs and divides one line in two parts.

This division is indicated by the third leg. The division ratio is always 1.618 - the division ratio of the "Golden Section".



Functional replica model set by "Astro Media"

It is possible to draw complete upper designs in the golden section, or use the golden ratio for just the hole patterns. The resulting proportions are usually considered aesthetically very appealing. (see page 80-86)

Golden ratio calipers are often used in facial cosmetics, but also in the field of design, in making musical instruments and drawing manga and comics.

[3] SKD.

The distribution of leg girths for tall boots

If one works over a high leg last, one will rarely have problems finding the correct leg position. However, care must be taken because the last formes for low lasts tend to transfer more lateral volume over the shin of the leg. The result is an upper that leans forward in position and is pushed backward by the calf of the leg when the boot is finished and worn. As a result, wrinkles inevitably appear in the area above the heel on the back strap. These wrinkles not only look unsightly, but may also cause the upper to sag in this area.

If a high boot pattern is to be fabricated over a cone last (low shoe last), the leg circumference measurements can be distributed as described in the geometric system under item 13 Topline on (page 121). However, the geometric system provides for a distribution of the leg measurements only up to the height of the ankle line. For higher tops all measurements, as described in the geometric system under step 13 leg midline, are no longer divided, but extended from a fixed front line to the rear.

If one makes patterns for a boot with a longer and higher midline, this only works without problems up to a height of about 16 cm. This is also taken into account with the geometric system. With higher boot tops, on the other hand, the calf muscles are no longer fully allowed for. As a result, the leg position is shifted too far forward.

Regardless of whether we work with the geometric system or with a last forme over a low last, the following procedure is recommended for uppers with a height of 16 cm or more:

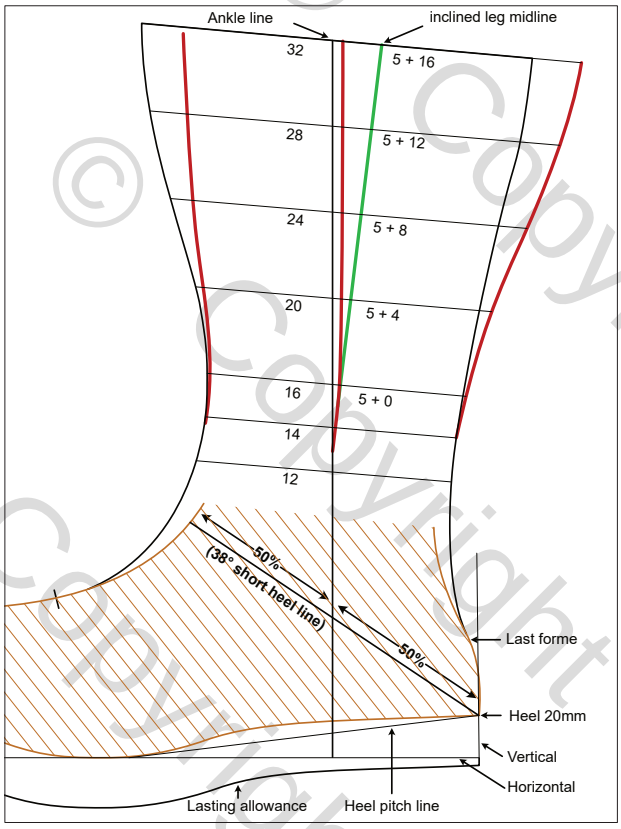
- We draw according to the geometric system up to step 18 - Heel line (page 118) and then follow the procedures explained below.

or:

- As explained on (pages 174-178), we transfer the outline of the last forme to the angle of the baseline and the vertical line, draw the heel line and then follow the procedures explained below.

Example of a 32 cm high women's boot

The figure on the right shows the difference between dividing the leg measurements along an extended vertical and uncorrected, leg midline without modification and dividing the measurements using the new "inclined leg/shaft midline" (**green line**) above 16 cm upper height.



We draw a leg midline (**black line**) at right angles to the baseline through the midpoint of the heel line.

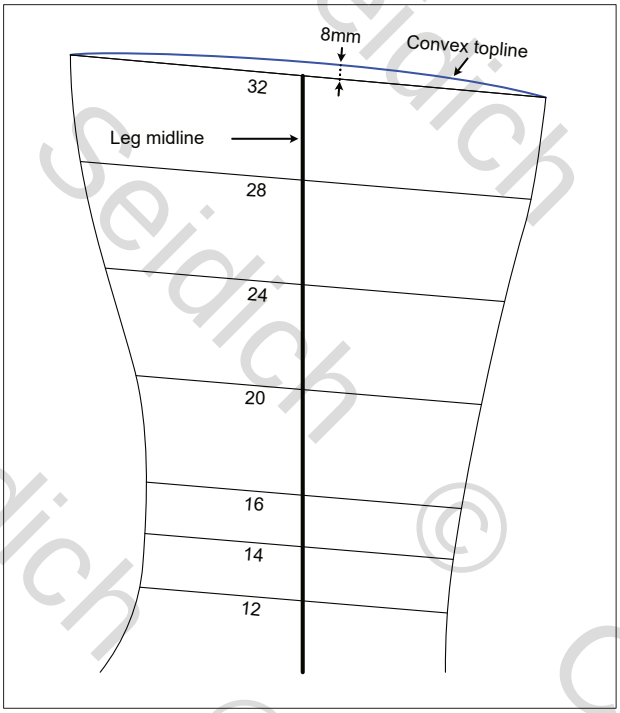
For uppers up to a height of 16 cm, we distribute the leg measurement equally on both sides of this line:
Example: Leg circumference 24 cm at height 14
= 6 cm on both sides of the midline
= 12 cm x 2 (from the inside & outside) = 24 cm

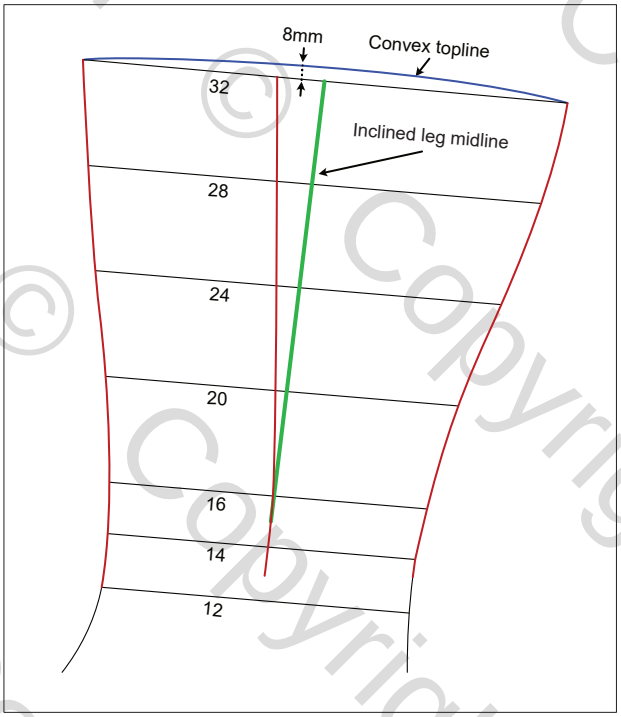
Above height 16 , however, we distribute the leg circumference measurements more towards the heel. We start with a 5 mm offset in the direction of the heel at height 16. For every cm more in leg height, we tilt the new (**green line**) 1 mm further in the direction of the heel.

Example:
At height 16, we tilt the leg midline by 5 mm towards the heel.
At height 20 cm, we move the leg midline 9 mm towards the heel.
Difference between height 20 and height 16 = 4 mm
(5 mm + 4 mm = 9 mm)

We continue like this. Marking in increments of 40 mm is sufficient. We thus move the leg midline further towards the heel every 4 cm and obtain new points for heights 24, 28 and 32, which result in a new inclined leg midline.

For an aesthetically pleasing transition, we draw a soft curve from the gray midline at height 13 to the new leg midline at height 16. From this new inclined leg midline, we mark off the respective leg circumference measurements in equal parts. The leg circumference measurements remain unchanged, but they are shifted increasingly further back, thus taking better into account the calf muscles according to their anatomical shape.





These two graphics show the results of the two different design methods. It is clearly visible that in the left graphic the calf measurement shifts more to the front, while in the right graphic it shifts more to the back, where the calf muscles are located, due to the inclined shaft/leg midline.

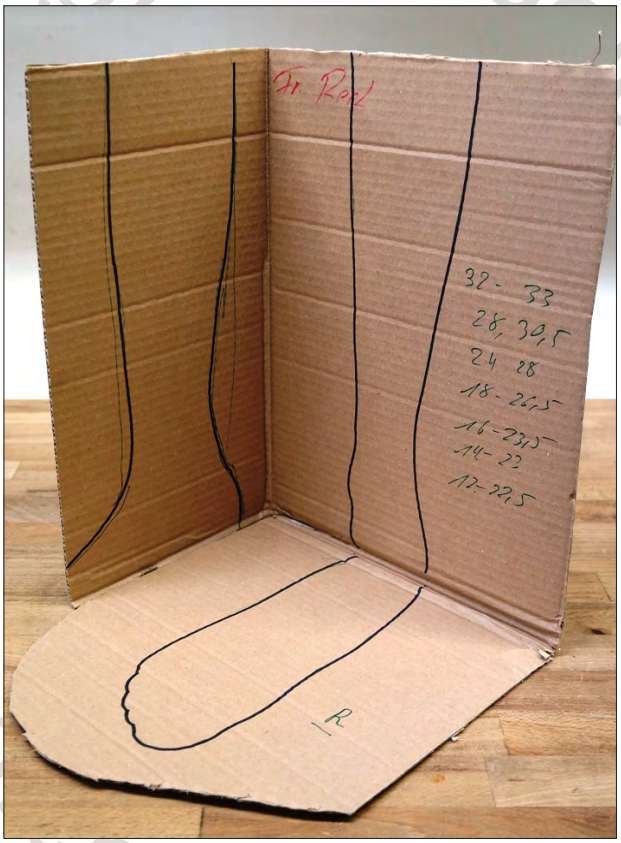
The Side Profile

If no leg last is available or if the procedure described above cannot be used due to a leg position that deviates strongly from the norm, the anatomical shape of the lower legs can be recorded by making a side profile. Even with this procedure, care should be taken to ensure that the leg position does not lean too far forward.

There are a number of ways to make a side profile. Here is a description of a method that is very quick and simple to implement. For this purpose, the client is asked to stand in a previously cut cardboard box when taking measurements. In this way, not only can the foot be redrawn, but the profile is also taken from the front and the side.

When patternmaking, one can then distribute the leg measurements according to these specifications.

The box can be folded flat and stored. If one has an A3 scanner, one can also scan the side profile and archive it digitally. Such a side profile is also a great help when building calf-high leg lasts.

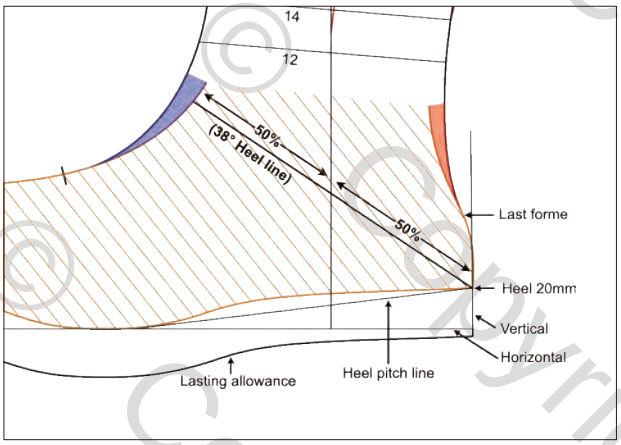


Many thanks for this tip to OSM Peter Noack.

Additional allowances for entry into ankle boots

For high pull-on boots, unlike patterns with lacing, we need additional space at the upper instep and heel (**blue areas in the drawing**). These are needed to ensure that the passline into the boots is as easy as possible.

However, it is not enough to only account for this additional volume during patternmaking. Appropriate "shovers" of leather or cork must be applied to the lasts. One can also purchase ready-made last attachments made of plastic to make pull-on boots over low cone lasts. Without such attachments or shovers on the last, the process of lasting the uppers to the lasts will cause the volume created in the patterns to be lost, making entry into the boots difficult, and the finished boots will look misshapen.





Allowances and Reductions

Before we draw the design onto the standard, the need for allowances or reductions must be checked. The design specifications are always based on lasts with normative proportions. If these deviate far from the norm, this must be compensated for by adding to or subtracting from the standard. Such additions and subtractions can also be due to the cut and material. For thin, soft leather that stretches easily, an addition would lead to overlapping eyelet facings at the lacing gap.

A firm and strong boxcalf has more volume and significantly less stretch. If uppers are made from these two materials using the same last, according to the same patterns, the fit will be very different. The vamps would be of different lengths, since the box-calf does not stretch as far forward when lasted, and the lacing gaps would be of different widths.



Picture: Oxford in English style with 0 mm gap.



Picture: Derby with a lacing gap of 18 mm.

Opening/lacing reserve

We can understand the lacing gap between the outer and inner quarter facings as open space. Whether to and to what extent we have to take the desired gap into account when patternmaking has already been determined during the making of the lasts. One can build lasts that are oversized and thus have already taken into account the desired gap. In this case, the quarter facings are basically touching each other when the uppers are lasted, but have the desired lacing gap when on the customer's foot. This requires a very precise lastmaking. It also precludes using these lasts to produce a cut in a different style that would require a different lacing gap. This is not uncommon in the field of made-to-measure shoes, especially since the shape of the last itself, especially the toe of the last, already sets a clear design direction. It is hardly possible to build a sneaker or work boot using an elegant last with an extended and narrow toe.

The size of the lacing gap is also determined by the design/cut. With a closed lacing (Oxford/Balmoral) the gap is 0 mm. With an open lacing (Derby / "lace-to-toe") the gap is between 0 mm and 20 mm, depending on the desired style. In the case of a sneaker with a wide and heavily padded tongue, the gap can be up to 100 mm.

The width of the lace opening is also referred to as the lacing reserve. If, for example, an orthopaedic patient tends to swell up or down significantly in leg size, it is advisable to choose a slightly larger gap so that the shoes are still usable after a large shrinkage in volume. In this case, however, the tongue must be designed wider to ensure its function. This plays less of a role in low shoes than in boots, since swelling or shrinkage, e.g. due to water retention in the tissues, usually only occurs from the ankle upwards.

Circumference Measurements for High Uppers

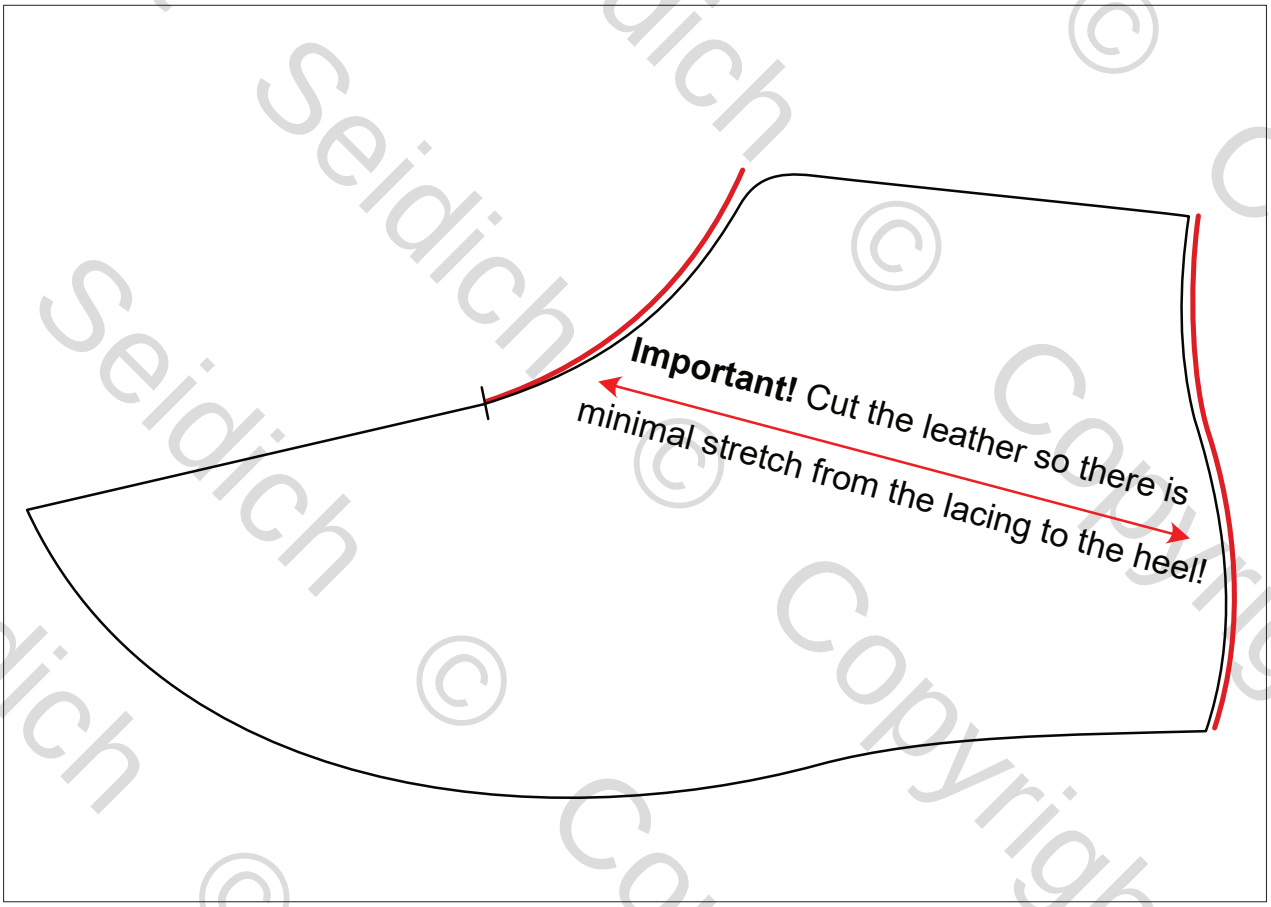
When we make boot uppers, this is done either by using a leg last of the appropriate height or by using a narrow comb/cone shoe last, taking into account the circumference measurements and the leg position, possibly based on a side profile tracing.

The leg measurement is the circumference, measured with the tape measure at a certain height on the customer's leg, but at the same time it also represents the inner diameter of the upper at the respective height.

Depending on how far the circumference of the leg deviates from the norm, we have to work with allowances on the pattern during patternmaking. The last forme made of paper, tape or a thin plastic foil has less volume and therefore adds less than the finished upper and lining material, plus the volume of a tongue.

Assuming careful work (precise patternmaking, accurate cutting and well-fitted assembly), no further addition is necessary for: shoe sizes up to 43, normal proportions, supple (but not soft) leather of normal thickness and an unpadded tongue added to that of the extra volume of material and tongue to the last forme is compensated for by the normal stretch of the leathers. The lacing gap would be about 15 mm.

Larger uppers and larger circumferences, on the other hand, require allowances. In most cases, it is sufficient to add a total of only about 2 - 3 mm to leather upper quarters, divided 50 % on each side of the area of the lacing and in the area of the heel seam/back strap (**red lines in the drawing**).



Important! The quarters should stretch as little as possible from the lacing to the heel (red arrow). Otherwise, the desired lacing gap is difficult to achieve. Daily lacing and the pressure on the lacing from the forward motion while walking also lead to stretching of the quarters.

Whether and to what extent allowances are necessary depends on several factors:

- the circumference of the legs
- the thickness of the upper and lining materials
- the stretchiness of the upper materials
- the width of the tongues
- whether additional padding is installed

These variables result in a wealth of possible combinations, which is why it is impossible to establish fixed rules.

In addition, the effects of the variables multiply with increasing leg circumference. This is where experience and a trained eye play a big role.

Here is an experiment that illustrates the effects of padding the top of an upper. We have three lasts with three very different circumferences. Exactly according to the circumference of the lasts, we cut strips of upper and lining leather of normal thickness. In the lacing area, we applied a placeholder for a tongue made of lining and upper leather.





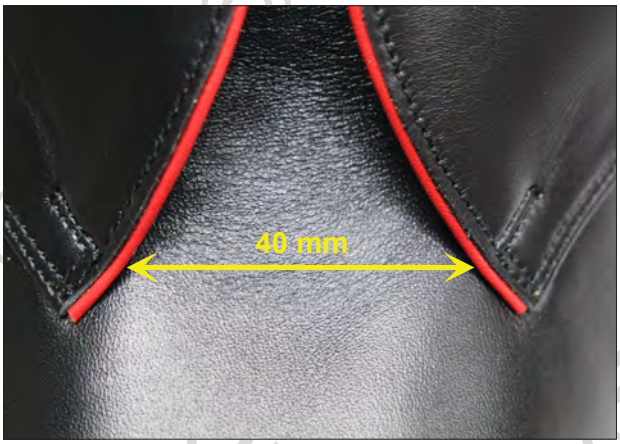
Left	**Middle**	**Right**
17,7 cm Circumference	32,1 cm Circumference	42,8 cm Circumference
0,9 cm lacing gap	1,6 cm lacing gap	2,2 cm lacing gap
3,0 cm with padding	3,8 cm with padding	4,7 cm with padding

The Derby stay stitch is of particular importance in uppermaking. It is the very last seam to be stitched and "locks" all four layers of a derby upper together - upper leather vamps, quarters, vamp lining and the quarter lining. The position of the stay stitch is of immense importance, as it also determines the amount of opening for the entry into the shoe. The aim is to ensure that even patients with stiff ankle joints can don their shoes without difficulty or outside help.



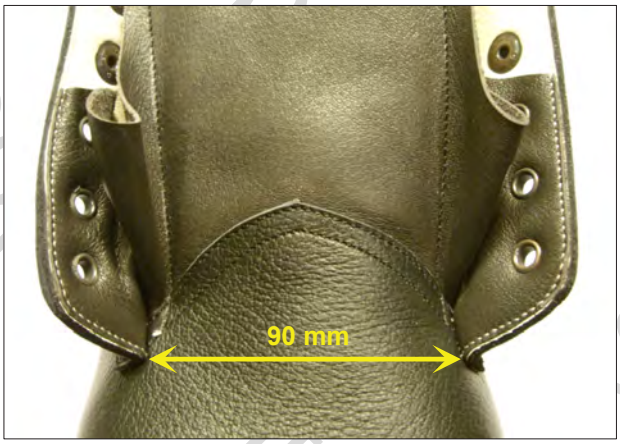
Elegant Derby with closely spaced Derby stay stitches and long front vamp.
Made by the bespoke shoe manufacturer Carsten Moch/Bielefeld. Design: nexus product design/Bielefeld.

If there are no restrictions in the mobility of the foot, the Derby facings can be placed considerably further back towards the heel and also closer together. This results in a very elegant design. However, getting into the shoe is just as difficult as with an Oxford design, which is why such designs are not an option for orthopaedic shoemaking.



The position of the Derby facings is already defined in the standard and is dependent on:

- The type of footwear.
- Whether it is a design for a woman or a man.
- Flexibility of the client's ankle joint



For heavy footwear, such as work boots or mountain boots, the Derby facings need to be further apart to make it easier to slip on with thick socks, or to compensate for the effects of a bellows tongue on the entry.

Clicking

The parts of the uppers cut out of leather are called pieces and the process of cutting is called clicking. A correctly crafted cut is important for the later fit of the uppers and errors in clicking can still be seen when wearing the finished shoes.The technique of manual clicking still largely corresponds to that of the 19th century. Even in shoe factories, clicking was done by hand until the invention of large swivel arm clicker presses.



Schoe factory H.Prenzler & Sohn 1927.

In the meantime, in the shoe industry as well as with larger upper suppliers, cutting is carried out with various automated clicking machines. Even very fine contours can be achieved with high pressure water jets without actually getting the leather wet.

In the upper area, single-layer cutters are often used, which cut using a small, exchangeable knife.

Modern insole cutters cut with such precision that they are (almost) in no way inferior to cutting by hand with a sharp knife. Precise positioning of the patterns on a hide is also possible before the final cutting, so that directions of pull as well as defects in the leather can be considered. In the end, the quality of the cuts primarily depends on the expertise of the operator. Above all, these systems make economic sense if they are combined with a digital creation of the patterns. Material-related additions, e.g., for thick lining leathers such as lambskin, must be considered in the patterns as well as those for folded edges.



Inlay cutter from Bullmer GmbH.
Photos: © Bullmer GmbH.

For most workshops, however, these techniques are unlikely to be an option due to their high costs and large space requirements. The price of the hardware, the cost of maintenance, repairs, software updates, and the amount of energy required are all issues that should be considered. Therefore, the following will pertain to handcrafted clicking.

The clicker bears a great deal of responsibility, because errors in the cut have significant financial consequences. If defects remain undetected, the finished uppers can, in the worst case, even be unusable.



Cutting head from Bullmer GmbH.
Photos: © Bullmer GmbH.

For a cutter to do this justice, he must have sufficient practical experience and should:

- know the differences between the individual types of leather and finishes
- know the natural properties, structure and lines of stretch in leather
- recognize the various errors/flaws

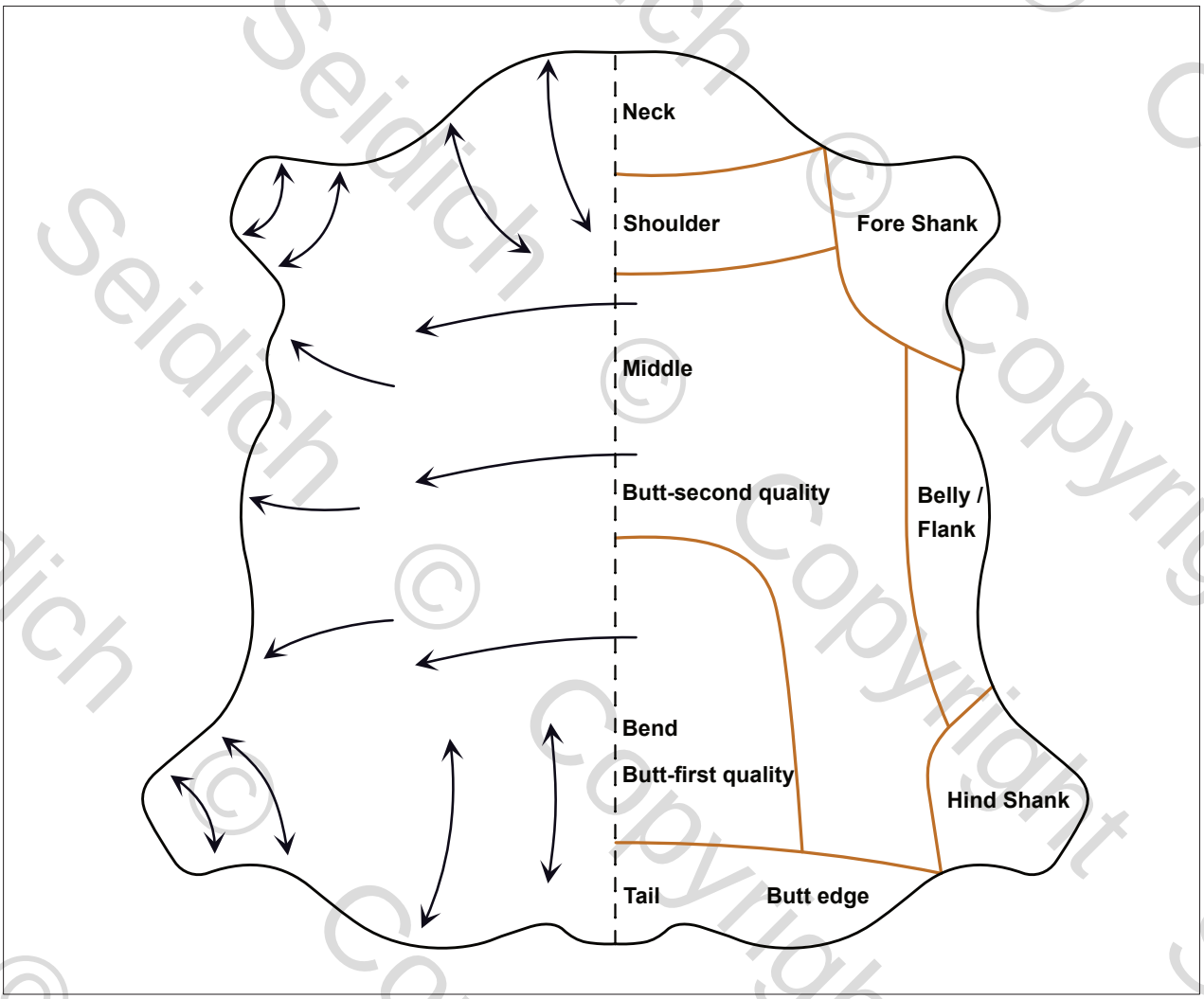
In addition to knowledge of the material, a clicker must be able to sharpen his knives to perfection, he must have a good sense of proportion, a steady hand for accurate knife guidance and spatial imagination.

There are always three important points to consider when cutting:
1. Quality **2. Stretch** **3. Pair Matching**

Quality:
The quality and properties of the leather change within the skin. We find the highest quality along the back line, where the spine originally ran. From the back line, the quality gradually decreases towards the sides. This is lowest in the area of the shanks (the base of the legs).

The different properties of the parts in a hide are by no means a disadvantage, because the components of an upper also have different demands on the properties of the leather and are stressed to different degrees.

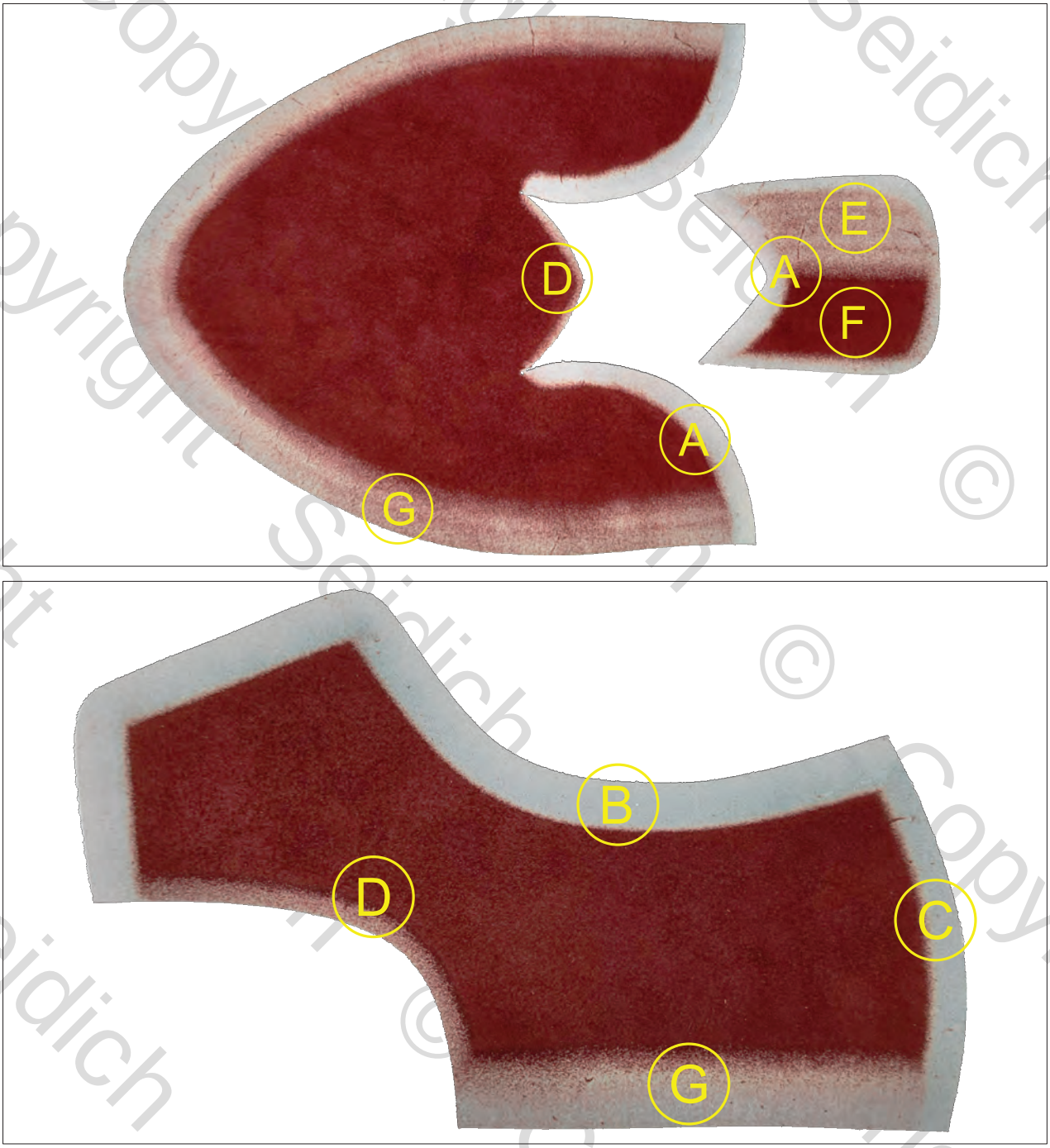
Cattle hide:



Left side = natural stretch directions Right side = parts of different quality

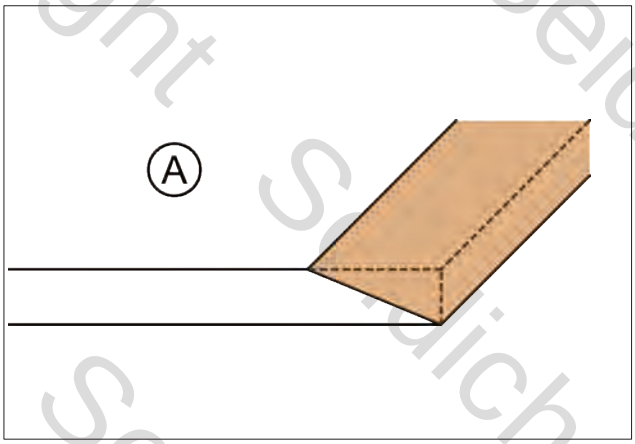
Skives

We differentiate between several skiving bevels in upper construction, which are individually tailored to the thickness of the leather and the selected design. For example, a different skive is required for a folded edge than for beading with a tuck or piping.



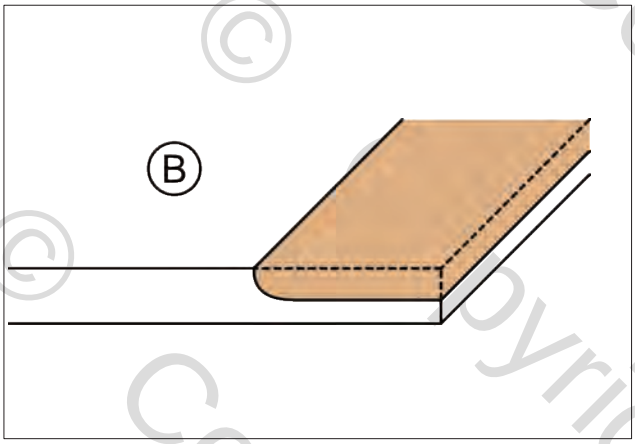
A Lapped skive (seam allowance)
B Folded edge
C Closed seam/back seam
D Chamfered edge
E Bevelled skive
F Full-surface splitting
G Lasting allowance skive

Lapped Skive
Width: 12 - 15 mm



The most common of all skives is used when joining overlapping layers of material. The lapped skive significantly weakens the leather, so it is important that the underlap is wide enough that the subsequent sewn seams are placed in the full material thickness. In the case of very strong leather, the underlap must be correspondingly wider so that it can be softly tapered to zero. With strong leather, however, it is sufficient if the leather only has 2/3 of the original thickness along the sewing line. The underlying edge must be skived to absolute zero so that it does not show through the top piece. This is possible with a perfectly adjusted skiving machine. For this, however, the pressure foot must be lowered very close to the feed roller at the back edge, which means that there is a risk that the feed roller grinds against the presser foot. Depending on the skiving machine and the type of feed roller, a setting that requires fine manual re-skiving may be a good option.

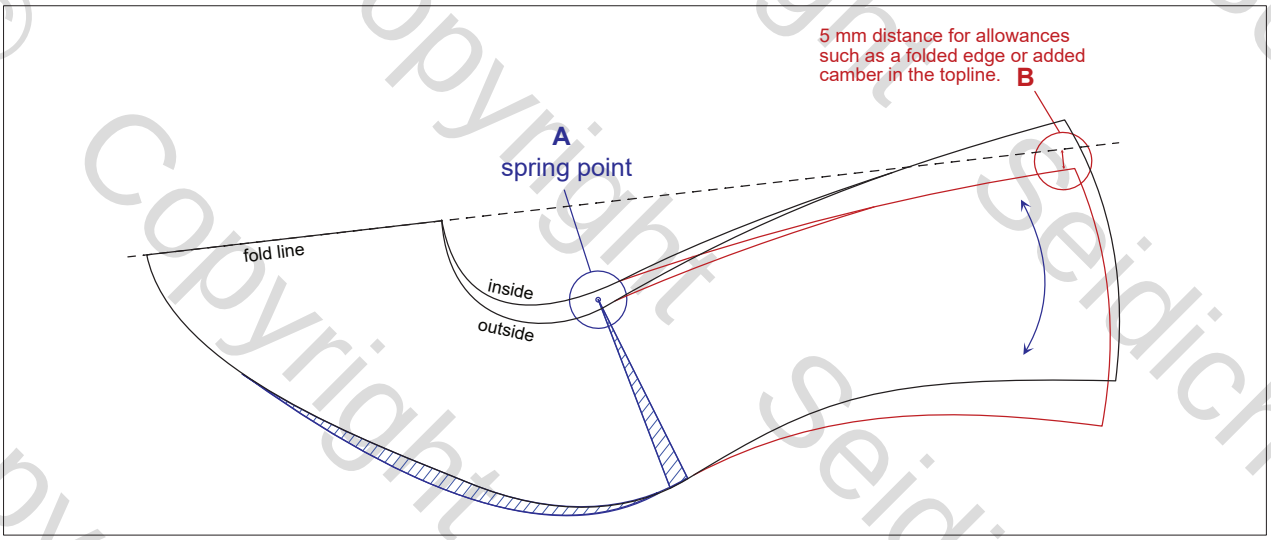
Folded Edge
Width: 10 - 12mm



Folding over is the most common treatment for upper edges. When clicking, the allowance for a fold is added to the net patterns. Therefore, when skiving, the skive is adjusted so that the width is twice the folding allowance. The depth of the skive must be selected in such a way that after folding, the finished upper piece has the previous thickness in this area since a folded area should not be thicker nor thinner than the rest of the material. If the folding skive is too deep or too long, there is a risk of the quarters tearing when lasted.



If the folding allowance skive is too deep or too wide, there is a risk that the quarters will tear while lasting.

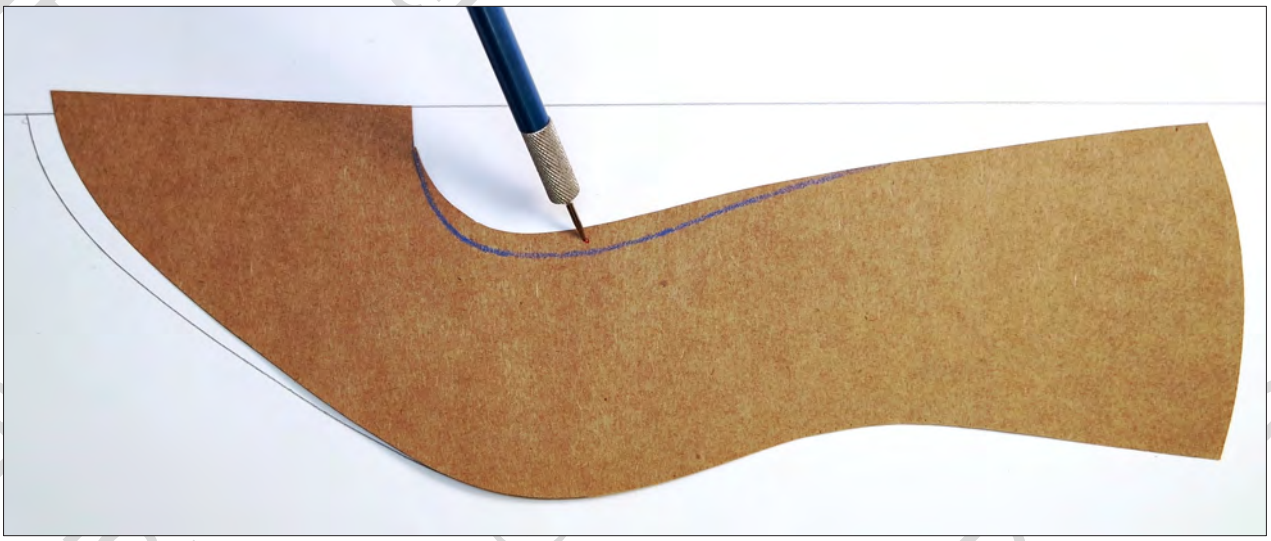


Up to a heel height of 60 mm, patterns can sually be designed without springing down the pattern.

Up to a heel height of 90 mm, it is often sufficient to place only one pivot point at the start of the curve of the topline at the forefoot, décolletage (**A**).

For very high heels, one or two further pivot points can be added towards the heel.

It is crucial that the fit is not lost by springing the pattern; that it still has the correct circumference and fits snugly around the foot.





Petite feet are also a common beauty ideal and another reason for high heels, because the higher the heel, the shorter the shoe, and thus the foot, appears.



Both shoes in the photo are the same size and width, but the heel of the upper shoe is 20 mm higher, which visibly reduces its length.

A little style advice

As a general rule, court shoes are for a stylish daytime look, while high heels are for a spectacular evening outfit. Court shoes with heels that are not too high go with almost any outfit, whether you are wearing jeans, a suit, a skirt or a trouser suit.

Block or wedge heels are particularly suitable for the office. They also make legs look longer and create a feminine gait. They are available in a range of styles, from simple black to colourful and elegant.

Body weight is an important factor in determining the minimal width of a pump's heel. The lighter the shoe wearer, the more delicate the heel can be, since less weight needs to be distributed over the tread. This can be a very sensitive point when discussing custom-made court shoes with a client.

Another principle, which seems to be unpopular with women, is that shorter women with smaller feet should not wear heels that are too high. This is because high heels quickly make shorter feet stand at a very steep angle, which can also cause the balls of the feet to stand too steeply or even vertically. In such cases, platform heels are a good compromise, as they give the wearer more height without the feet being at an extreme angle.

Court shoes don't necessarily require a narrow strap over the instep and/or just above the ankle. However, a strap like this can give the wearer additional support and can also look harmonious from a design perspective.

Working with Perforations

The punching of hole patterns should be done while standing, because the correct working height is just as important as a lip around the edge of the workbench, which prevents the punches from rolling off the edge and falling on the floor and being damaged. Punches should only be used on suitable surfaces. Under no circumstances should this be a hard material such as metal or marble. Often, punching pads made of polyethylene (PE-HMW / PE-HD) are used. It is important that the base has the right hardness. If this is too hard, punches wear out quickly. If this is too soft, the perforations will be less precise.

The tried-and-true blocks made of end-grain wood are ideal for fine perforations. The cutting edges of the punches hardly wear out on these, but they are still strong enough to achieve very clean perforations. If the surface has become too uneven after frequent use, it can be sanded flat again by a woodworker, whereas plastic pads must be disposed of as hazardous waste.



Punches (like all striking tools) are never used with a metal hammer or a shoemaker's hammer. The curved round mirror face (face = striking surface of a hammer) is used, among other things, to hammer down the leather caps and the curvature of the hammer fits into the concave curvature of the lasts. Punching into metal would damage the cutting edge so that you can no longer punch leather with it without damaging it.



To punch in decorative perforations, you either hit the punching tools with a wooden hammer (wooden mallet) or use a hammer with a plastic head. It is crucial that the hammer face be softer than the punch. On the one hand, this considerably reduces kickback, which makes work easier and prevents the formation of burrs on the impact surfaces of the punches. This mushroom-shaped, brittle burr made of sharp-edged metal (called a …beard in German because it grows over time). These individual fragments can flake off while working and cause injuries. Therefore, such a beard (burr) must be sanded down (dressed) regularly.



Perforations are therefore mainly used in summer shoes and are also punched with larger holes. In the case of large-area perforation patterns, there is often a combination of decorative perforations and through-hole perforations in for use with heel foxing and toe caps.



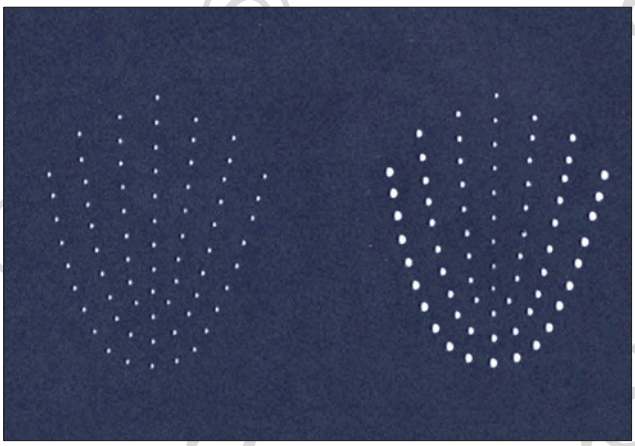
Example of an elaborate perforation in a summer boot. Here only the upper leather was perforated and backed in the areas of the heel counter and toe cap. The remaining area was perforated all the way through the lining.



The appearance of a perforation varies greatly due to the different diameter of the holes. Fine holes look elegant, large holes look casual.

Decorative perforations can be particularly appealing if several hole sizes are combined with one another. The photo on the right shows two holes using the same template.

Only a fine needle punch was used in the hole on the left, and four different sizes in the perforations on the right.



Perforation patterns with different hole sizes often look more interesting than those with only one hole size. This hole pattern in the wing cap of a Derby model consists exclusively of different hole sizes, which gives the shoe a special touch. Despite the seventeen different diameters, a harmonious overall effect is created.

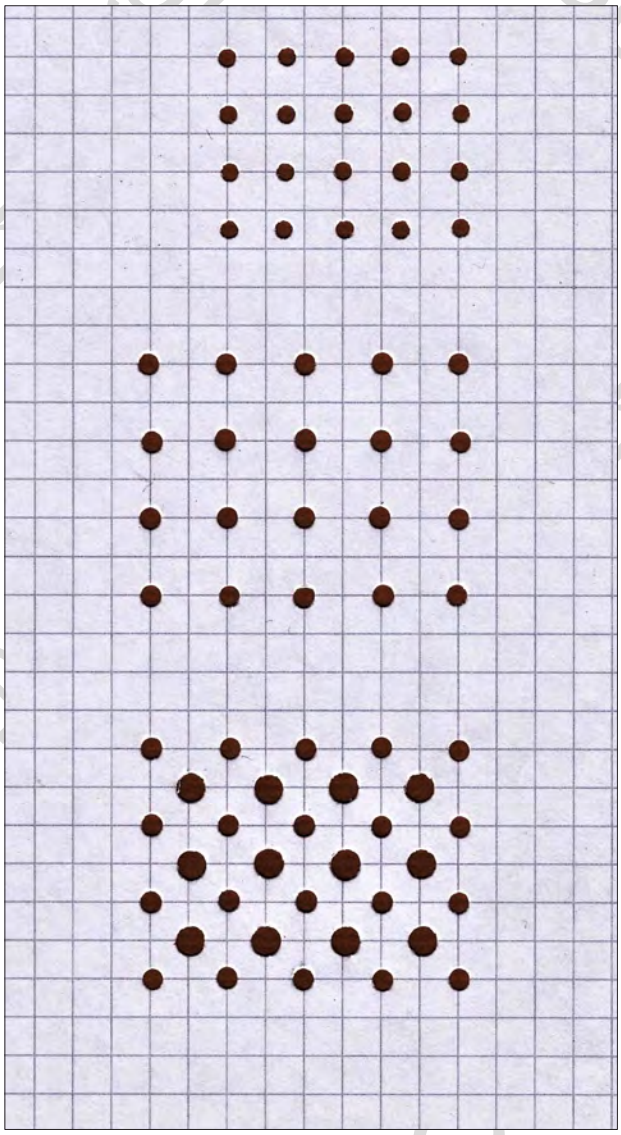


Perforation Templates

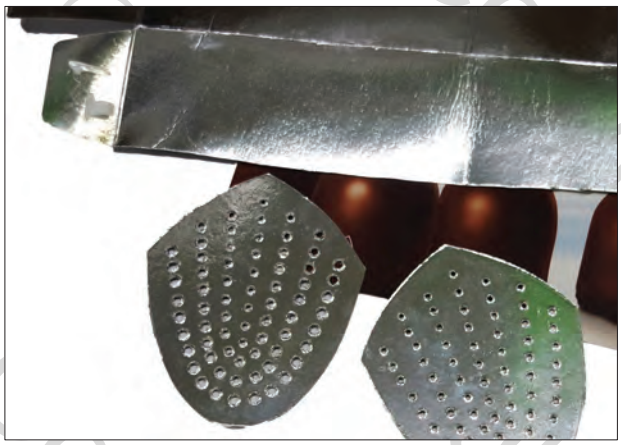
Perforation templates can be made in several ways. You can draw patterns free-hand or with French curves, etc. The holes are then placed along the lines. This is possible over a large area on vamps and quarters, but also in small areas ie Velcro or straps.

Perforation templates can be created very easily with the help of graph paper. Depending on the desired hole size, the distances can easily be determined using the existing grid. Pages with a checkered grid can be created with any edge length using software (MS Excel or similar).

It is best to first design perforation templates on paper. If you are satisfied with the result, you can transfer it to a sturdy board stock.



For perforation patterns that are used often, cardboard laminated with aluminum is ideal. We find this in some confectionery packaging. The aluminum lamination makes the stencil dimensionally stable and durable. Rubber cement can be removed from this again and again without damaging the template.



Once you are satisfied with the hole pattern, it is advisable to scan it and place it in a digital collection of such perforation templates. Printed out on paper, the hole pattern can then be attached to the respective upper models and reprinted if necessary. Another advantage of a digital image file is that it can be enlarged as well as reduced. For example, it is possible to use a perforation pattern that has been made for a shoe size 44 with correspondingly smaller holes for a shoe size 40.





Current technical literature for uppermaking has not been available for decades, and the content of older literature has limited validity today. This is especially true in relation to the incorporation of contemporary orthopedic shoe technology. Master students of orthopedic shoemaking have long complained about the lack of comprehensive technical literature, which was the trigger for starting this work.

However, uppermaking is a very complex craft. In addition to the various possibilities in patternmaking, for many different shoe and boot designs. In the case of uppers for orthopaedic footwear, functionality is also an essential requirement.

Knowledge of the different types of leather and synthetic materials is also important as well. Also about knives, tools, skiving, splitting, sewing machines and much more is essential. This did not make the selection of topics easy, which is why the authors coordinated the contents together with orthopedic shoemakers, bespoke shoemakers, master shoemakers and other specialist teachers.

Since there is also a lack of current specialist literature on uppermaking in other countries, the professional exchange extended to dedicated colleagues from seven countries. For individual chapters, further experts from other fields were consulted.

The work is intended to cover not only the content relevant to the German Master Orthopaedic Shoemaker Examination, but also the important considerations relevant to the manufacture of high-quality bespoke footwear.

Originally, there was to be only one book, but it proved impossible to accommodate the topics identified in the surveys in a single work.

We are therefore now planning two volumes with a total of around 600 pages, with hundreds of photos and graphics, which comprehensively depict the craft of uppermaking. Nevertheless, each volumes stands alone and completes its respective topics. We also offer a collection of patterns that make it much easier to learn how to create well fitting Pattern.

Our textbook Volume I is already appreciated by shoemakers, orthopaedic shoemakers and shoe designers in over thirty countries.

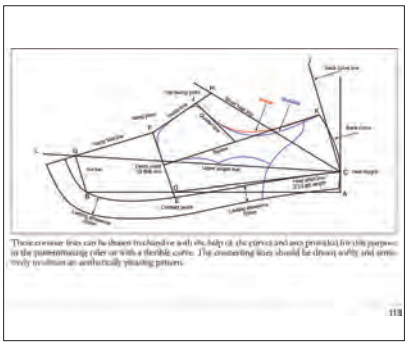
Whether as preparation for the Master Craftsman's Examination, for your own upper production or for a professional design discussion with your customers, you will find this work an important Tool!

Detailed information about the articles that are available, and authors can be found on our book website.

We hope our readers enjoy working with our pattern collection.

Hartmut & Dustin Seidich







Many thanks to our sponsors!

A craft lives through the transmission of specialised knowledge from one generation to the next. Textbooks are therefore indispensable, especially for a rare and complex craft such as uppermaking.

Writing and publishing 300-page textbooks with hundreds of photos and graphics was not only a challenge in terms of time, but also financially. In addition, the books should not only be of great help to readers in terms of content, now, but also for as long as possible.

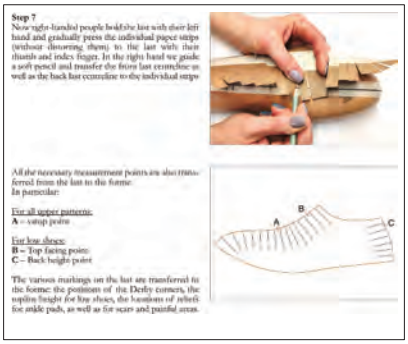
The books, therefore, had to be printed on good paper that would retain its colour brilliance for many years and be made with a high-quality binding. These books are to be used for many years and passed on to younger colleagues. We also wanted the book to be produced as locally and with as small an ecological footprint as possible.

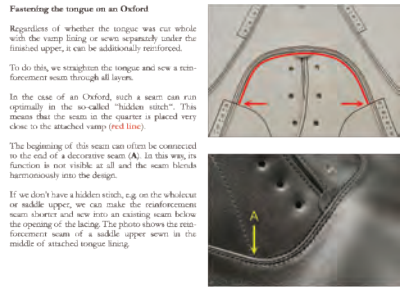
The fact that we are able to bring these books to life in this way is thanks to the kind support of our sponsors, who financially support the production of the books through advertisements.

Many thanks to all our sponsors and to our printer blömeke!

Hartmut & Dustin Seidich

We list all sponsors on our book website.







Volume I of our textbooks focuses on patternmaking. Comprehensive but easy to understand, we explain in detail the patternmaking and design of uppers comprising 300 pages in A4 format with 400 photos, 200 drawings and 44 illustrations from historical shoemaking technical manuals.

The book covers a wide range of topics, from setting up a workshop to making sectional patterns. We explain several methods to make well-fitting patterns, including with large orthopaedic inserts. We present the most important, classic shoe styles, go into the tools required for patternmaking and teach everything you need to know in order to create your own designs.



Volume I
Patternmaking

English edition now available in the shop.

- Setting up the workplace for uppermaking
- Dress code tips for shoemakers
- Design, Copyright and legal considerations
- Design using the golden ratio
- Tools and aids for patternmaking
- The Geometric Patternmaking system
- Different last copying methods (paper, wax, foil)
- Classic footwear Standard-Forms and your own designs
- Considerations when using orthopaedic: inserts, upper padding and counters
- Correctly determining the critical measuring points
- Considerations when designing the position of the Derby facings
- Distributing the leg circumference measurements for boots
- Test Uppers from synthetic materials and leather
- Detailed (sectional) patterns
- Special features: tongues, aprons and counters (heel caps)
- Classic shoe styles – Derby shoes and boots, Oxford, Balmoral, Single and Double Monk Strap, Loafers, Lace to Toe, Sneakers

and more

Published in 2024

uppermaking.com

- Free reading samples in English and German
- Tables of contents
- Further information about the books

The planned contents of **Volume II** have been updated and offer readers an even wider range of topics than originally planned. Volume II of our textbooks will be a cornucopia of knowledge about leather, textiles and other materials and how to use them.

We explain how to sharpen knives, how to cut out (clicking), how to use sharpening, splitting and sewing machines, how to block vamps for Chelsea boots, how to create templates for decorative punching patterns or hand sewn seams and how to fit zippers and much more.

The book is currently in progress. Once the publication date has been confirmed, we will announce it on our website and on Instagramm.



Volume II
Materials science & craftsmanship

Currently in progress, therefore not yet available.
Planned topics are:

- Tanning – by Marc Lahnstein, Master Leather Technologist (LGR)
- Leather types for uppers
- Salmon leather – an alternative to snakeskin
- Using Cordovan with tips for further processing
- Vegan and Synthetic materials
- Upcycling from bags, coats, car seats or furniture to uppers
- Padding materials
- Special features when designing uppers for diabetics
- Knife sharpening
- Clicking
- Splitting and skiving machines and skived edges
- Edge treatment (folding, beading, piping, binding)
- Sewing machines, needles and thread and hand sewn seams
- Step by step instructions for closing a Derby shoe upper
- Fasteners (eyelets, hooks, velcro, zippers, etc.)
- Decorative punching (Tools and template making)
- Blocking vamps for Chelsea Boots
- One piece, Haferlschuh & Whole Cut styles

And much more

Subject to change

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- Free reading samples in English and German
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The Pattern Collection - a supplement to our textbook:
"Uppermaking for Bespoke and Orthopaedic Shoemakers - Volume I"

The Pattern Collection contains complete pattern sets for nine popular shoe and boot designs. The patterns were designed on original Spenlé lasts and then slightly reduced to scale. The templates are intended to help you understand and implement the concepts of upper construction, and designing of footwear uppers found in our textbooks, more easily. The patterns also contain all the necessary considerations when designing their many variations, and other related patterns, yourself, and for converting them into well-fitting upper styles. Proper pattern placement for cutting is indicated by arrows on the sectional patterns, giving optimal layouts according to the inherent stretch characteristics of the leather. A booklet with tips for implementation is included for all styles. The templates can also be used to produce 3D models of the uppers.

Contents:
Nine complete pattern sets:

- Derby Plain Shoe
- Derby Boot Cap Toe
- Singlemonk
- Oxford Full Brogue
- Sneaker
- Lace to Toe
- Pump / High Heel
- Chelsea Boot
- Penny Loafer

Over 100 drawings in total. All lovingly provided to illustrate important technical details like the location of the seams and all auxiliary lines

Booklet with tips and advice on individual upper designs. Special chapter on making uppers for pumps and high heels

Templates for Velcro fastenings, sewing exercises and a stitch density template

On our book website, you will find photos of the contents of The Pattern Collection:

uppermaking.com

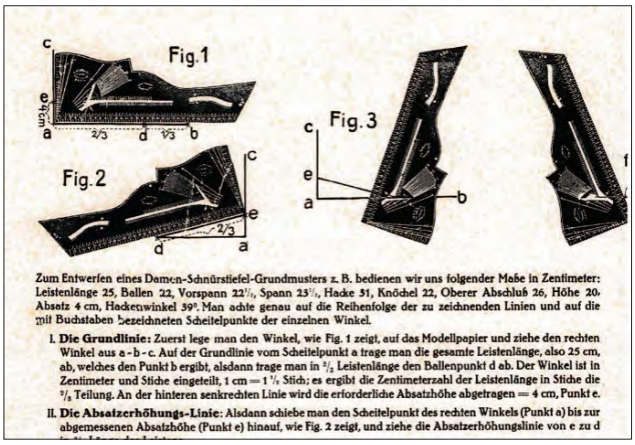
- Free reading samples in English and German
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Online-Archive

In conjunction with the three volumes, an online archive has been created on this website with further information on the production of handcrafted uppers and handmade shoes.

Our books do not contain a glossary, as this would have taken up too much space. We therefore decided to create an online archive, where we can offer more than just a glossary.

Access to the Archive will be an exclusive benefit for those who support this project by buying the book. Each book will come with a unique, single use, access code to register for the Archive.



Currently already up on the archive website:

A glossary with over 1,000 terms from the fields of shoemaking, uppermaking and tanning, which are explained in over 70,000 words. This lexicon describes many more technical terms than would have been possible with a glossary in the books themselves.



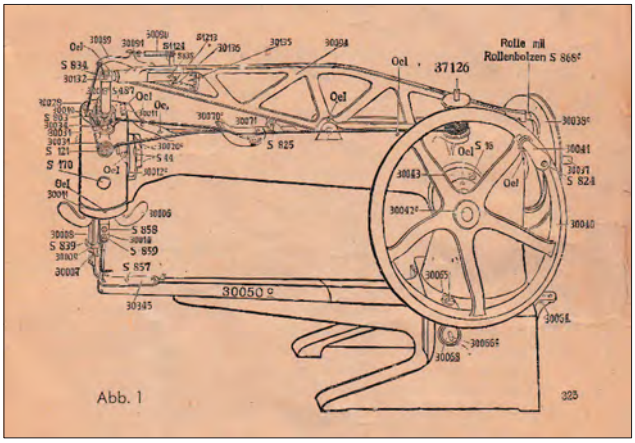
- Reading tips from other currently available specialist literature on the construction of shoes and uppers. Including ISBN numbers and information on suppliers.

- A comprehensive bibliography in which we list around 200 textbooks published for the shoemaking trade from the early 19th century onwards. We currently list mainly German textbooks, but we are happy to add books from other countries if we receive the relevant information. Please send e-mails to: lehrbuch@-schaftbau.com



- A library with more than 100 years of historical works on shoemaking that can be explored in an online reader. Tip! You can "turn" the pages with the right mouse button, just like in a real book. If you switch on your speakers, you can hear the "crackling" of the paper..

- Instruction Manuals for the Geometric Patternmaking Ruler as well as for some sewing and sharpening machines.



Further content will follow.

Unfortunately, we can only offer our online archive in German for the time being.