

Lumi

Industrial Design
Bachelor degree project
2021
David Wenner



Lumi

David Wenner

Degree Project for Bachelor of Fine Arts in Design
Main field of study Industrial Design
From Lund University School of Industrial Design,
Department of Design Sciences

Supervisors:

Senior Lecturer Charlotte Sjödell

Lecturer Anna Persson

Senior Lecturer Jasjit Singh

Professor Claus-Christian Eckhardt

Examiner:

Professor Claus-Christian Eckhardt

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Abstract

This project aims to develop a kitchen bench, a classic Swedish furniture. The benches' purpose has been to function as a way to enable rooms to have multiple roles. This project aims to revive the bench, because of a personal connection to the bench as well as a need due to the covid-19 pandemic. We spend more time at home, and a multi-purpose storage solution is vital to give our homes more flexibility. By looking at our history for inspiration, analyzing proportions, investigating usage, and evaluating different concepts, one design proposal was completed. A piece of flat-pack design furniture in solid wood with multiple functions is the outcome. It enables people to spend more time in the kitchen and gives space to rest, read, work, eat, store and sit.

Time		Phase	What	Where
v4 - 40h		Brief / Motivation / Idea		
v5 - 20h		Research	History, market research, Human factors, inspiration	Books? Internet?
v6 - 24h				
v7 - 20h				
v8 - 20h		Synthesis	Ideas, sketching, mockups, evaluation	
v9 - 28h				
v10 - 16h				
v11 - 20h				
v12 - 16h		Realisation	3D model? Model in the workshop?	Workshop at home
v13 - 24h				
v14 - 24h				
v15 - 44h		Hand-in		
v16 - 44h		Peer review		
v16 - 44h		Presentation		
v22 - Exhibition				
15 weeks		384h		

Motivation

The motivation for this project started as a personal connection to the traditional kitchen bench. Thanks to the furniture, the kitchen became a free zone in our home during my childhood. The kitchen was a place to sit and eat, but the bench opened it up to be a place to read or rest, enabling the kitchen to function in multiple roles.

This classic furniture has always looked in a specific way. The intention was to investigate why and if there was a way to do a remake that would suit modern families better.

The covid-19 situation has forced us to be more at home, and maybe we need to enable more rooms as living spaces, or give the rooms we already have other purposes. The bench will function as multi-purpose furniture to sit, eat, socialize, rest, and store items.

Brief

To create a modern kitchen bench resembling traditional craftsmanship but made as a flat-pack. The focus keypoints are sustainability and quality.

The Home Reboot

The covid pandemic has forced us to spend more time at home. It led us to set new values of what we think our homes should provide for us. Each year, Ikea makes a report where they conduct interviews with people around the world. This report aims to get a clear view of what people worldwide require their home to be. The report highlights a few keywords to understand what modern people think are essential for their homes. People felt that me-time was necessary, to have time to be alone and read, and playing games. Size and space at home were also vital points. To feel that one has enough space, having more space would give a person more flexibility. They could see that people who live in smaller homes had it more difficult to thrive in their homes. We want our homes to support more activities, like reading and doing hobbies, and make smart use of space which leads us into a multi-purpose home. People felt that it is essential to have multi-purpose furnitures. The homes should be flexible, where creative ways and smart innovations would maximize the use of space. They believe that the future will see fewer dedicated rooms, but they will serve more activities in smaller spaces. (Ikea Life At Home, 2021).

Focus Keywords

ACTIVITIES

People thought it was essential to do activities, such a reading and playing games.

A kitchen bench would support activities like reading or sitting in the kitchen and playing games. It would also afford to store hobby items.

SPACE

To feel that one has enough space, having more space would give a person more flexibility in their home environment.

The bench would smartly make use of space. The multi-purpose function would fulfill the need for storing and the need for sitting or laying down.

NATURE

People wished for more access to nature. That would be achieved through gardening, living closer to nature, or be in green spaces.

One way of bringing nature into people's home environment is by using natural elements and colors.

FLEXIBILITY

People felt that it is essential to have multi-purpose furniture, to facilitate space and activities. The homes should be flexible, where creative ways and smart innovations would maximize the use of space.

The needs are met by using multi-purpose furniture.

The kitchen bench could work well as multi-purpose furniture. To provide a space for people to sit, read, socialize, and be playing games. The kitchen bench should allow people to lay down, place items such as coffee mugs or laptop computers. The bench could also function to store items inside to maximize the use of space.

The Swedish Kitchen

The research started by looking into the history of the Swedish kitchen. To get an understanding of how we lived through history, but also get inspiration for the kitchen bench. This work will focus on how storage solutions have changed through time due to new technologies and needs. The time frame is narrowed down to 120 years back and starting from the early 1900s. The chosen timeframe is because Sweden had significant urbanization in the late 1800s and early 1900s (Statistikskolan: Urbanisering – från land till stad, 2021).

The 1900s is famous for the Jugend style. People did not have access to freezers or refrigerators in the 1900-1920s. Stores offered canned food, and people made their conservation at home. This led to that smart storage was significant. Self-ventilating large pantries were normal to build into kitchens. The kitchens were built on-site, and they used shelves to store kitchen utensils. (Björk, Reppen and Bergström, Tidstypiska Kök)



Kitchen from early 1900's. There's many storage solutions which has been built on site. (Images: Ravjargarn)

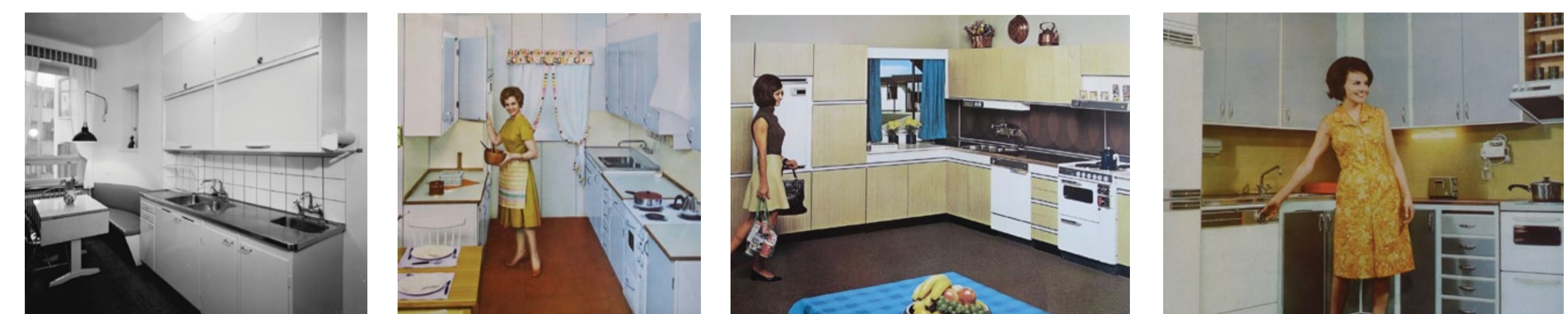
During the '30s and '40s, functionalism was trending in architecture. New technologies such as kitchen appliances had their entrance into the modern home. Semi-prepared food started to occur to replace cooking and save time. Hygiene was essential, and they designed kitchens to

be easy to clean and maintain. The pantries were still typical, but the refrigerator had started to have its spot in the kitchen. The kitchen functioned as a place for families to gather and also for children to play. During the evening, they used the kitchen as a bedroom. More people moved into the cities during the '40s, and families were living tight together in the apartments. The rooms needed to fill multiple purposes, and the kitchen functioned as a bedroom and a dining place. (Björk, Reppen and Bergström, Tidstypiska Kök)



Functionalistic kitchen from 1930-40, very well made with the focus on the users. Surfaces to be easy to clean made hygiene easier (Images: Ravjargarn)

During the '50s and 60, the construction changed from small-scale to large-scale industrialization. The kitchen was lavish due to the economic growth in Sweden, they built plenty of storage in the modern kitchen. It was prevalent to use everyday electronic kitchen utensils, which led to a higher standard and ease in the kitchen. The refrigerator becomes ubiquitous in apartments which replaced the pantries. (Björk, Reppen and Bergström, Tidstypiska Kök)



Higher standard for the house wife which was normal during that time (Images: Ravjargarn)

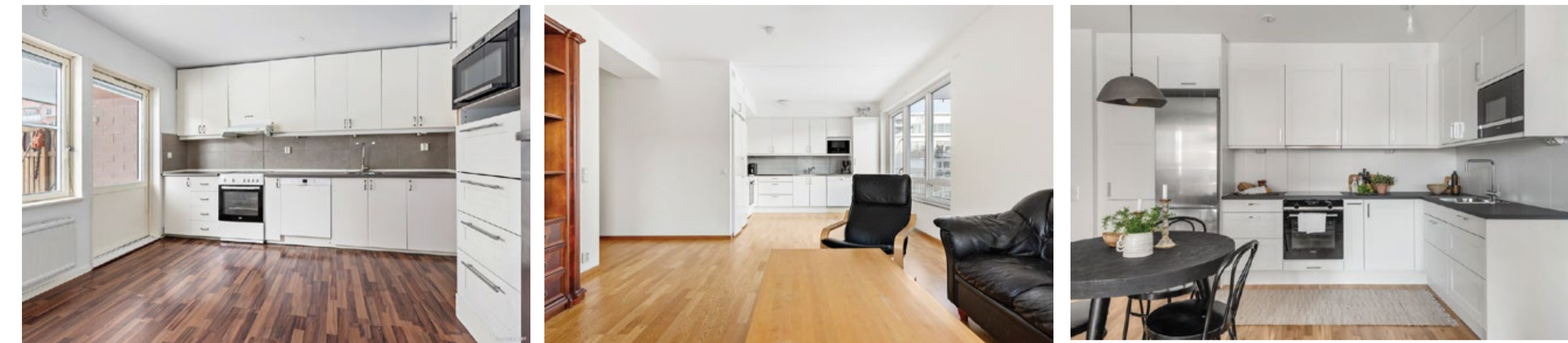
Older buildings are demolished, and large-scale production is dominating during the 70s. The collective idea was strong during this era and to be closer to nature as a backlash to the environmental crisis. Kitchens were given darker colors with natural elements. Freezer and refrigerator have entirely replaced the pantries, and some houses get a dishwasher.

During the 80's the collective thought switches to more individualistic. The kitchen gets a simpler and brighter appearance. The dishwasher has become standard. The microwave starts to take its place, giving more opportunities in the kitchen. (Björk, Reppen and Bergström, Tidstypiska Kök).



Kitchen from early 1970-1980, to the left a nature inspired kitchen from the '70s. The other two brighter ones are from the '80s.

Most technical innovations have come to the market. The kitchen is starting to merge with the living room, and a phenomenon such as the kitchen island start to take its place. The kitchen is often bright with shiny surfaces and stainless steel. (Björk, Reppen and Bergström, Tidstypiska Kök). From an interview with an architect, it is common not to build an attic or basement storage anymore to save money and use the space as a living area. There are also services to rent storage.



Bright kitchen, open planning. (hemnet, 2021)

Conclusion

Due to people living in crowded spaces, the kitchen bench has had an essential purpose as multipurpose furniture. The kitchen bench had two main functions. To function as a bench daytime for families to gather, or bed nighttime to save space. Today, the bench function has translated from storing bed linen to store various items and acts as a pantry.

The traditional kitchen bench has not changed in appearance or function, and this is something to investigate during the design process. To create a piece of furniture for modern families to facilitate storage, usage, and new needs.

When looking at the research in modern apartments, the kitchen seems to be merging with the living room. Maybe furniture such as kitchen tables, chairs, and benches are losing their meaning. Storage solutions are not being built as much as earlier. In new production, attic and basement storage are disappearing. Maybe people need to enable the kitchen to function more as a place to be during the pandemic? Then, the multifunctional furniture is needed to enable this, to get some variation during the workday and bring back the kitchen as a room to spend time in. The modern kitchen bench should not function as a bed as it has been historically, but rather a place to work, store, rest, hang out and socialize.

The kitchen Bench

To find information about the kitchen bench was hard. Although it is an essential piece of furniture for Swedish history, there are not many articles or books.

The kitchen bench is a piece of furniture that has evolved through innovation in function, purpose, and appearance. All depending on what the current life situation has been for the people using it. During the 1600s, people had something called “skåpsängar“. This piece of furniture was a multipurpose cabinet built to sleep inside. The reason was to keep the person in a small space as possible, be energy efficient, keep warm, and function as storage. They were later replaced by “dragsoffor “and “dragsängar, “which looked more like a foldable bed. It was essential to be space-efficient, which was the reason for multi-purpose furniture. “Kistebänkar “and “Fällbänkar “were used as benches or tables or during the day and beds during the night. They later evolved to “utdragssoffan, “directly translated to the pull-out sofa, which is more like the modern kitchen bench used today with armrests and backrests. The bench’s purpose was to store bed linen during daytime, and being used as a bench to sit, eat and play. During the night, it was used as a bed for two. (Fredlund, 2003)



Conclusion

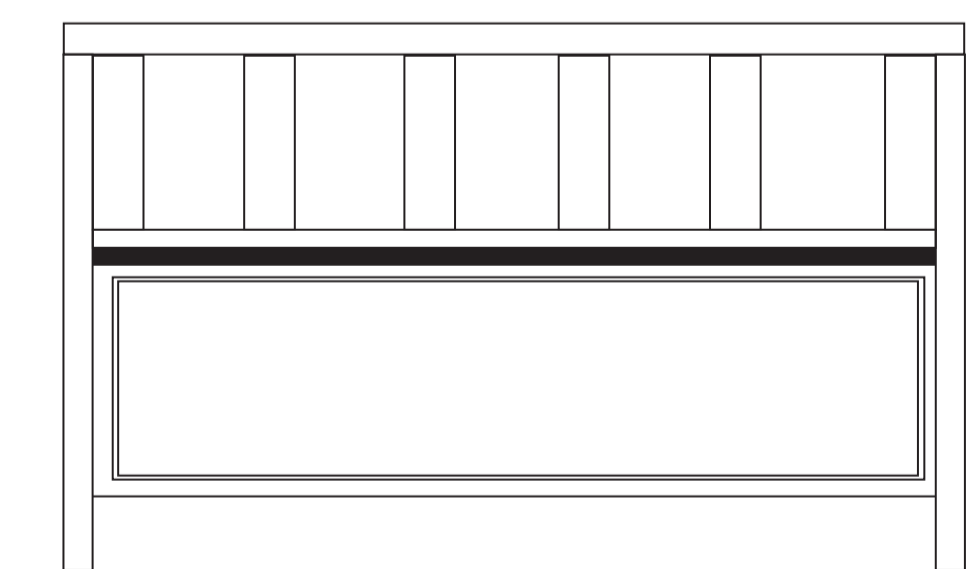
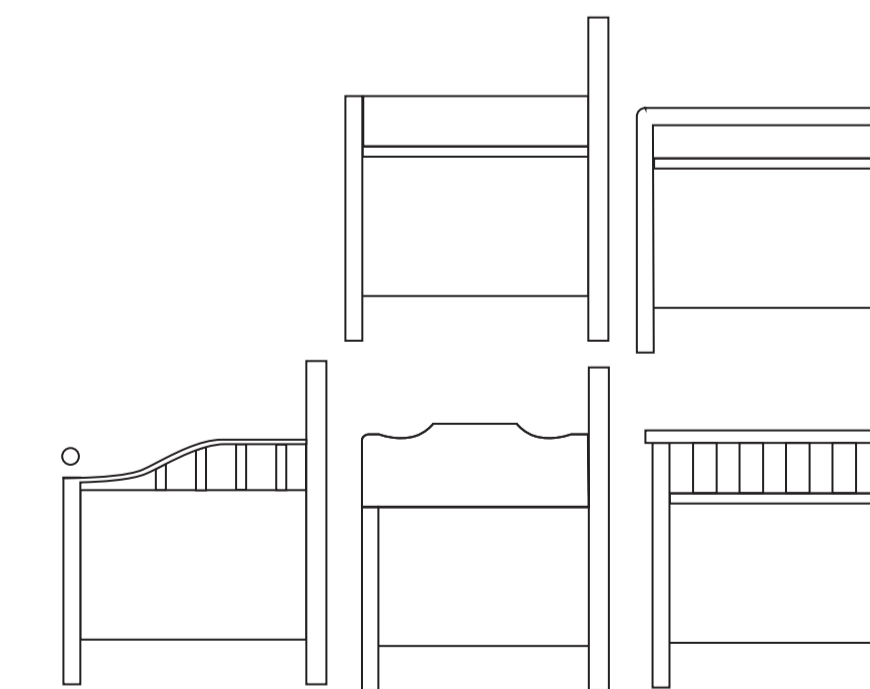
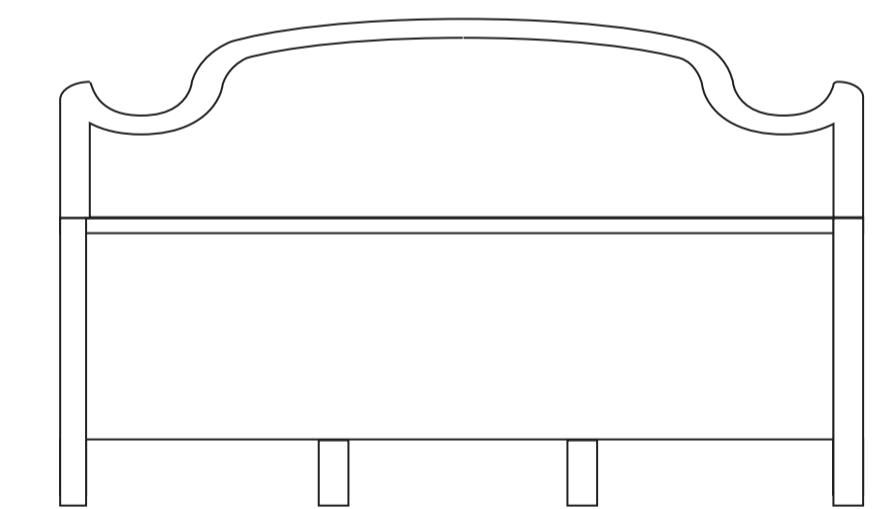
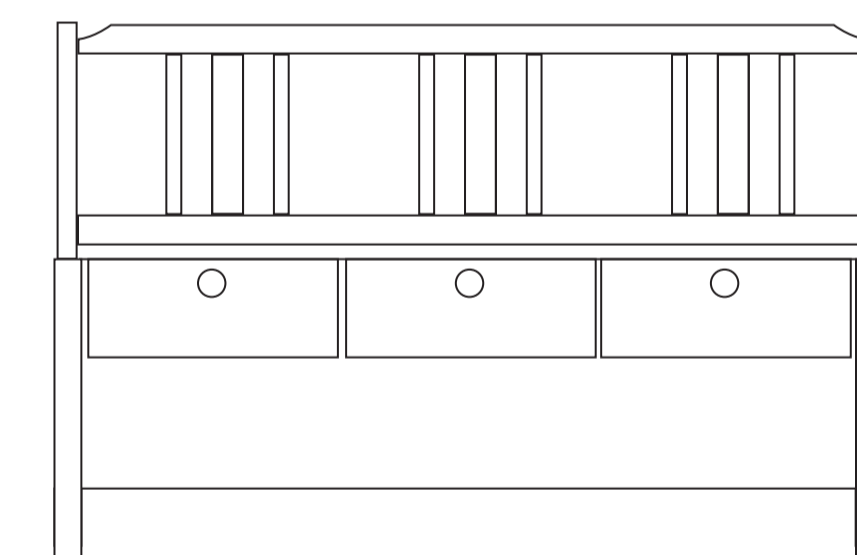
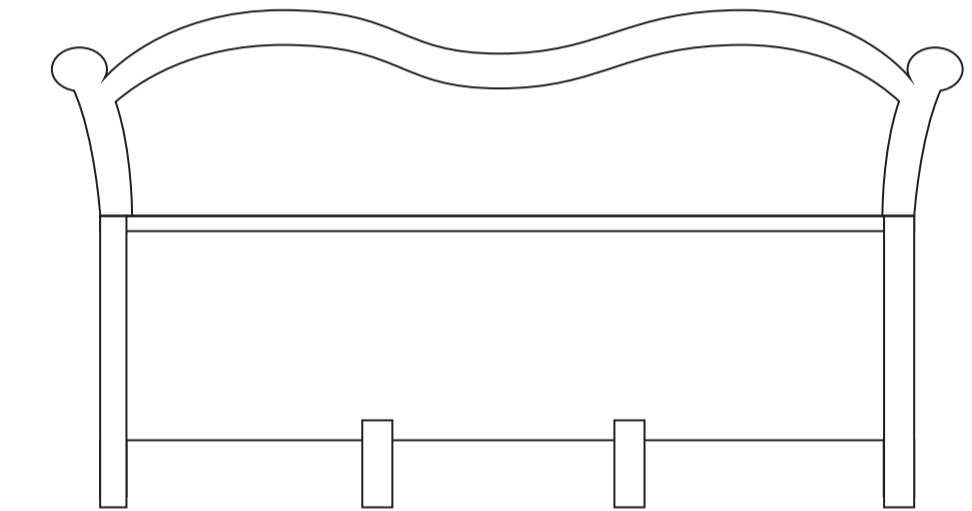
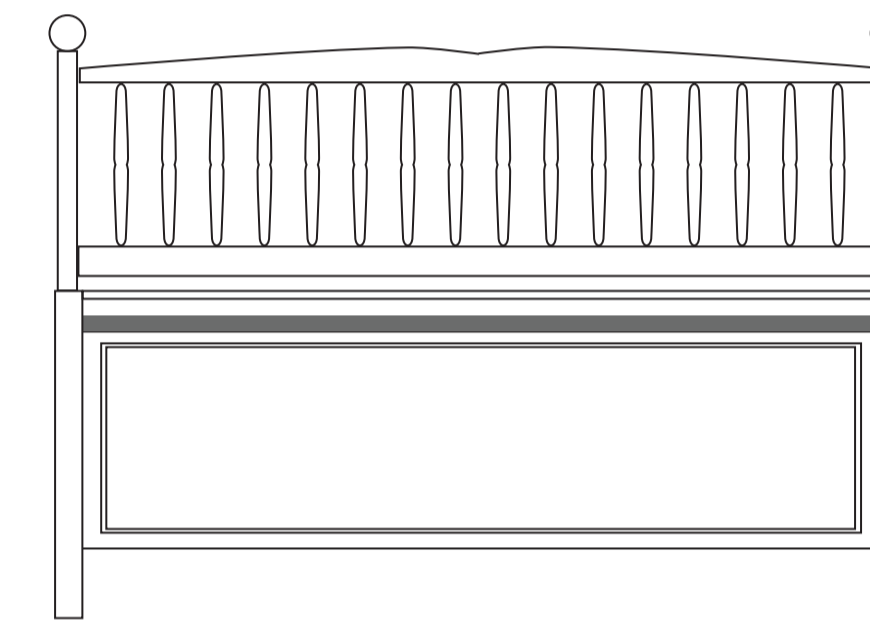
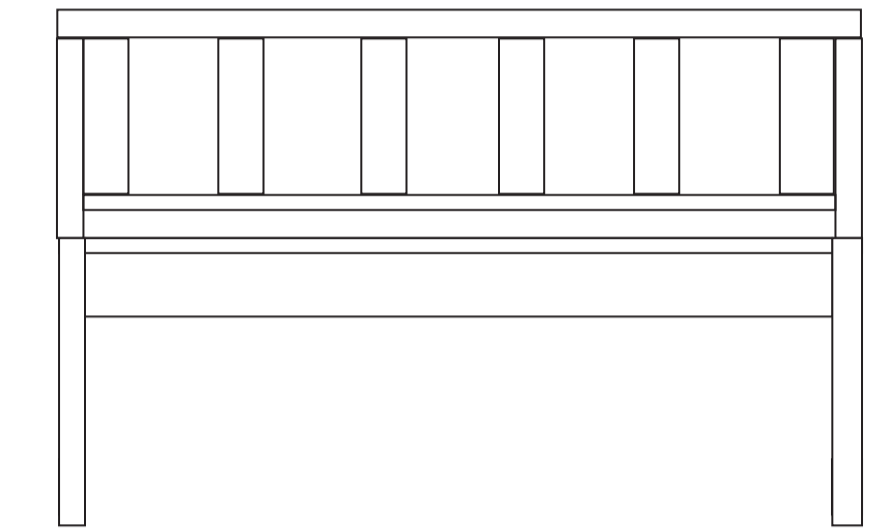
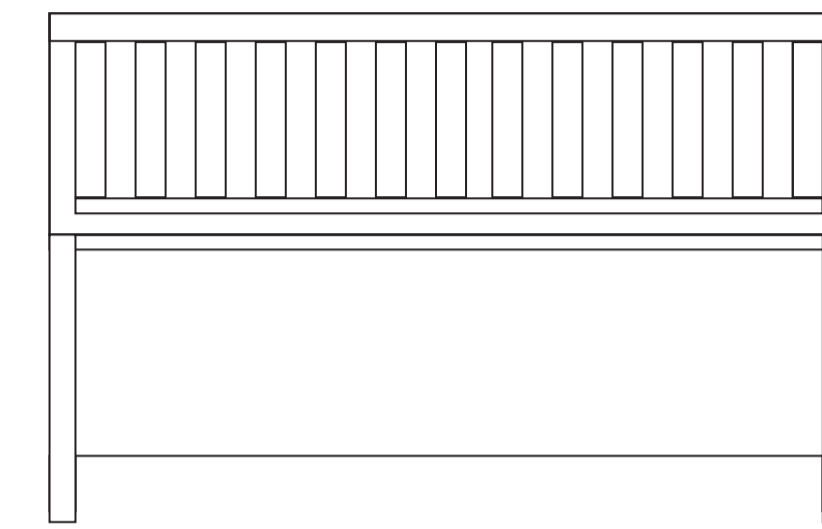
The need

- Life at home
 - Do Activities
 - Size and Space
 - Flexibility
 - Multi-purpose
 - Bring back nature (colors, material)
- History of the kitchen
 - Attic and basement storage more unusual in new production
 - Pantry is also getting unusual
 - Services for renting storage is getting usual
 - Living room merges with kitchen

What to store?

- Seasonal items
- Waste (electronics etc)
- Use it as a pantry
- Kitchen utensils

Allow	Storage	Bf	Store items
Allow	Seating	N	
Allow	Resting	D	A place to rest
Be	Comfortable	N	
Be	Cleanable	N	Kitchen environment
Express	Quality	D	
Be	Portable	D	
Be	Durable	D	
Easy	Use	D	
Simplify	Usage	N	
Support	Head	D	
Easy	Mount	N	Comes in parts



A compilation of the benches through history

Flatpack, sustainability and material

Flat-pack

Production will be on a large scale but still keep the appearance of hand-crafted furniture. To produce the bench on a large scale points us to the manufacturing method, to produce the furniture as a flat pack. The reason for choosing flat-pack is because of its positive environmental effects. When people are mounting their furniture, they are experiencing an increased value of the furniture (Huffpost, 2021). Small packages are also saving space in transport and storage, leading to less pollution during transportation. There is also an increased awareness from the customer's side when mounting the product. It makes it easier for the user to repair or recycle (Papanek, 1995). The result would be that they keep the item for a longer time.



The parts will come as a flat-pack for the customer to mount.

Material

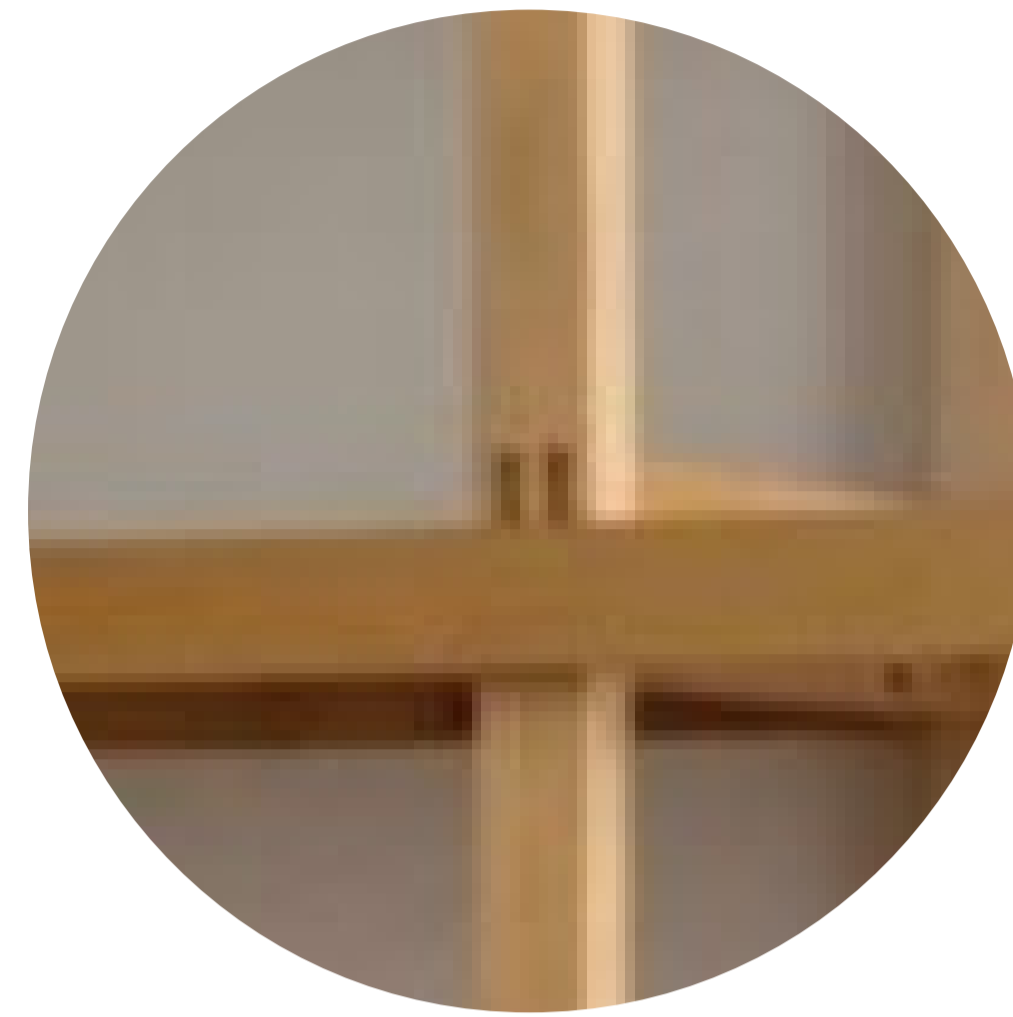
It is important that the furniture expresses quality to give the item a longer life time. When choosing material, it is essential that it has not been shipped from the other side of the earth and produced unnecessary pollution. The place of production for the bench is not decided. In this project, there will not be a prototype because of the Covid-19 situation. If the prototype was made, it would be a material that is common in Sweden. A often used material in furniture design that gives a good, even, hard surface is oak (Herdins Färgverk AB, 2021).



Older oak furniture. Keeps a simple and bright surface



Oak



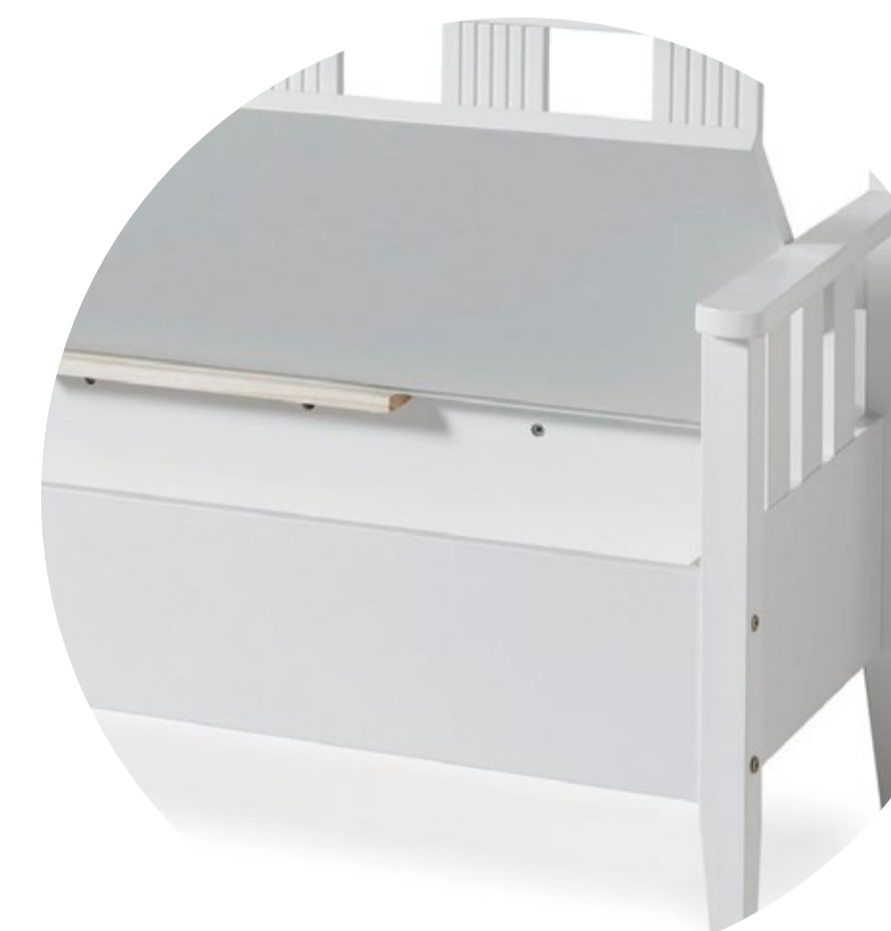
Visible joinery



Modularity



Solid wood



Storage

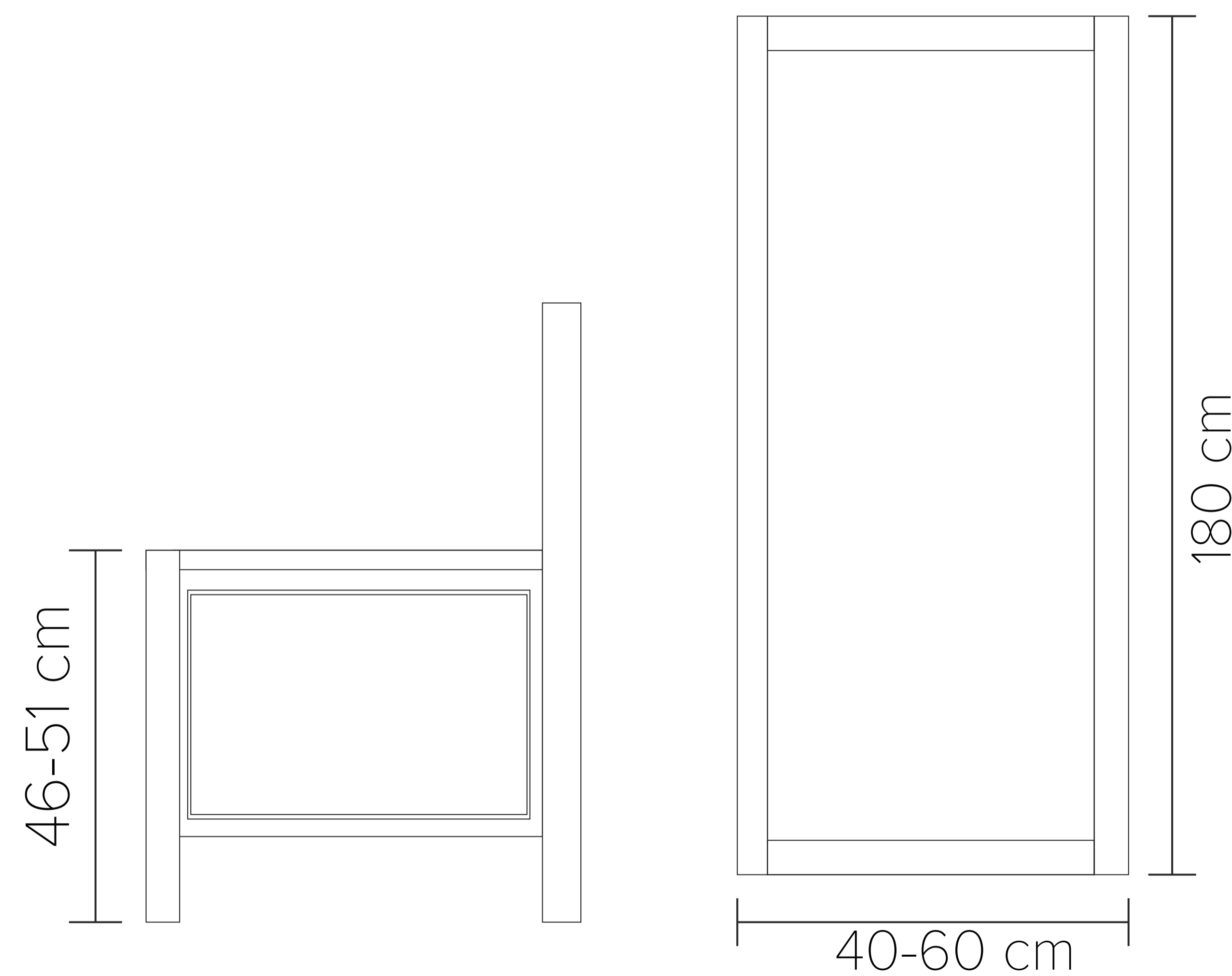


Pins

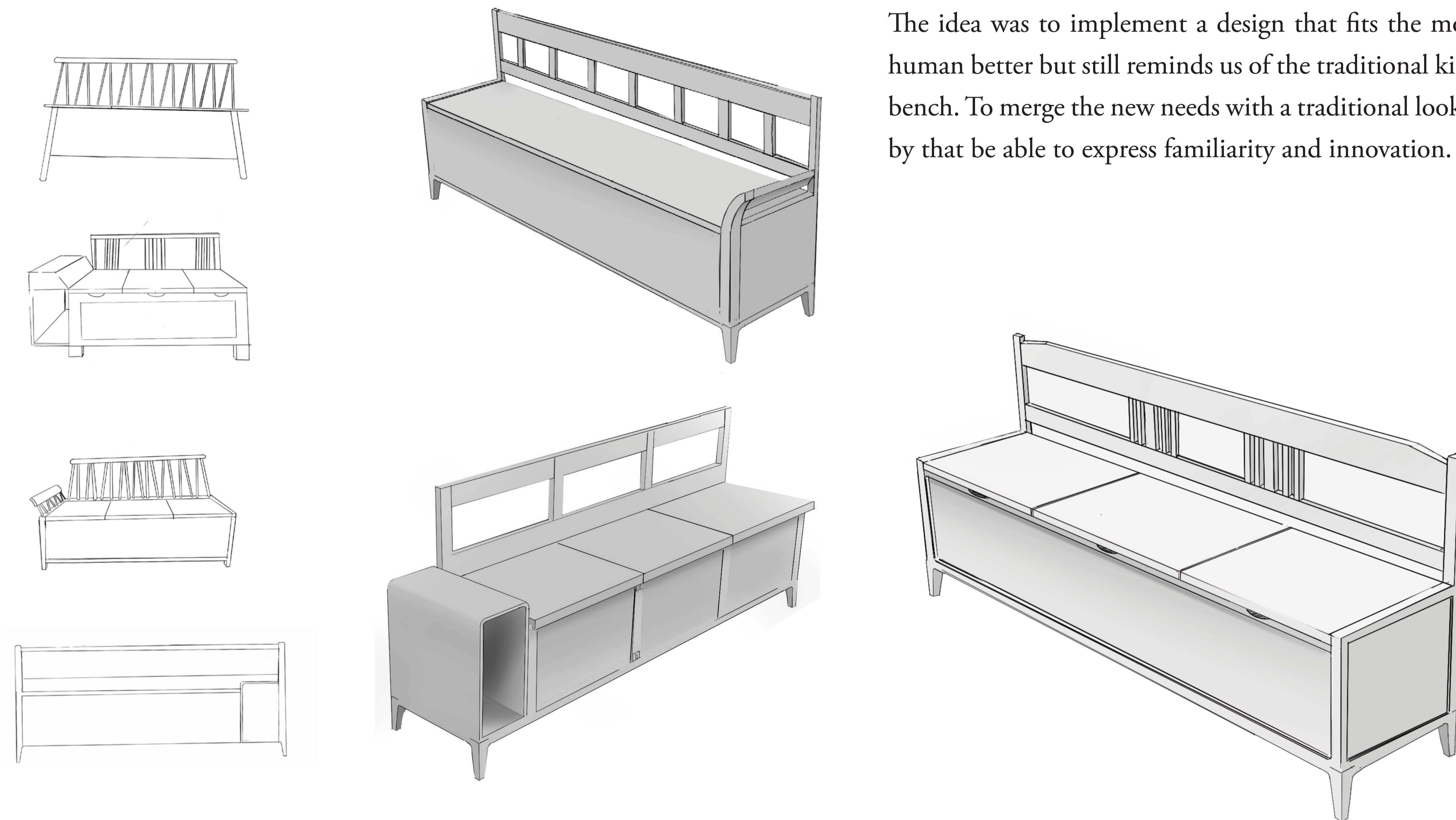
The mood board focuses on expressing quality. As mentioned before, the material is one way to do that, and that is why the selection of solid oak. The solid wood can be repaired and will last for a long time, but will start to show tiny imperfections over time. When joinery is visible, it gives the product a feeling of being handmade where they do not try to cover up and instead honestly show signs of the handcraft. Modularity gives a feeling of being well thought through with smart innovative solutions. The traditional storage solution is kept but combined with a more minimalistic stick variant.

Dimensions

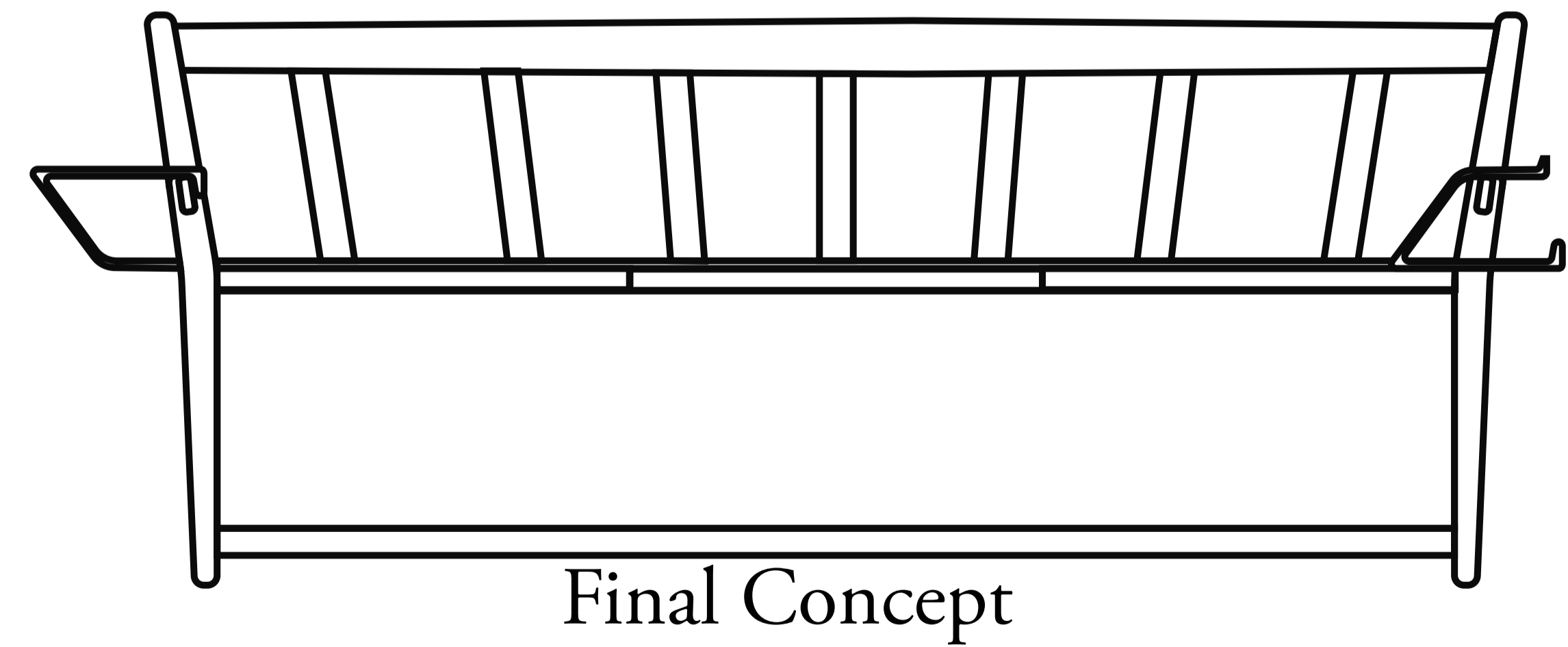
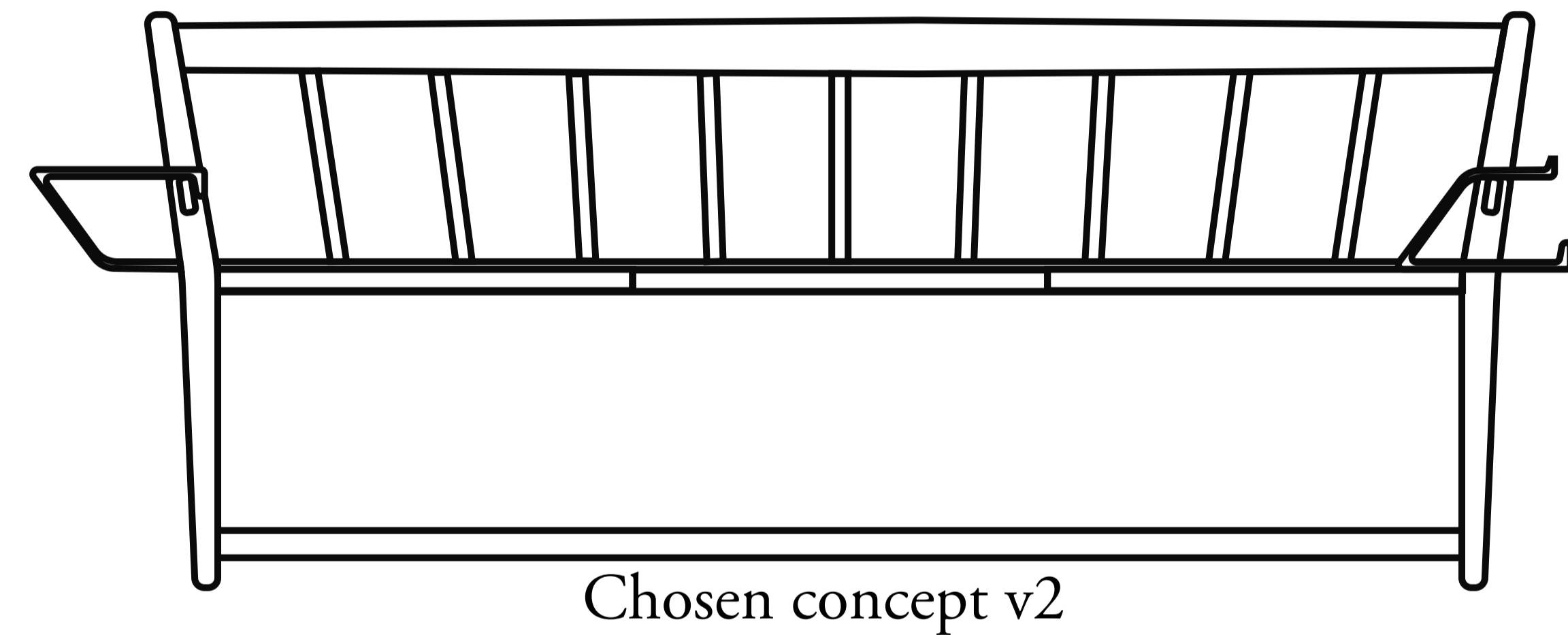
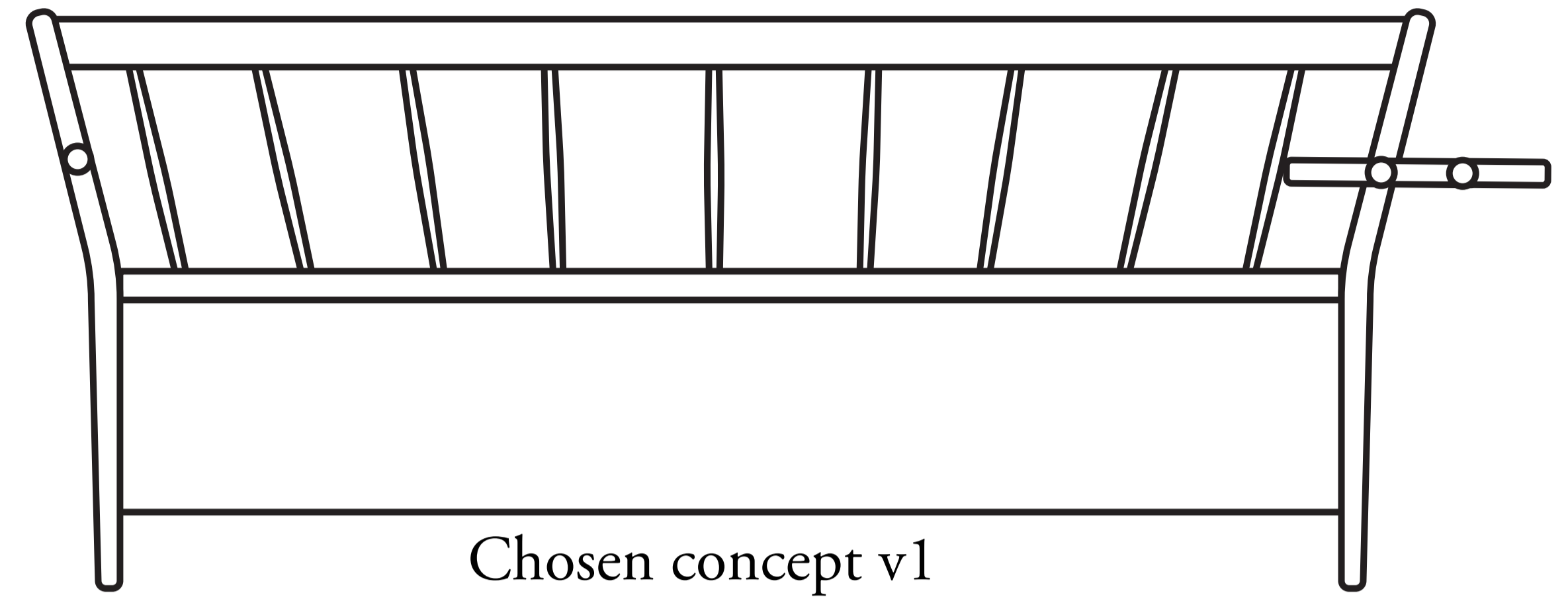
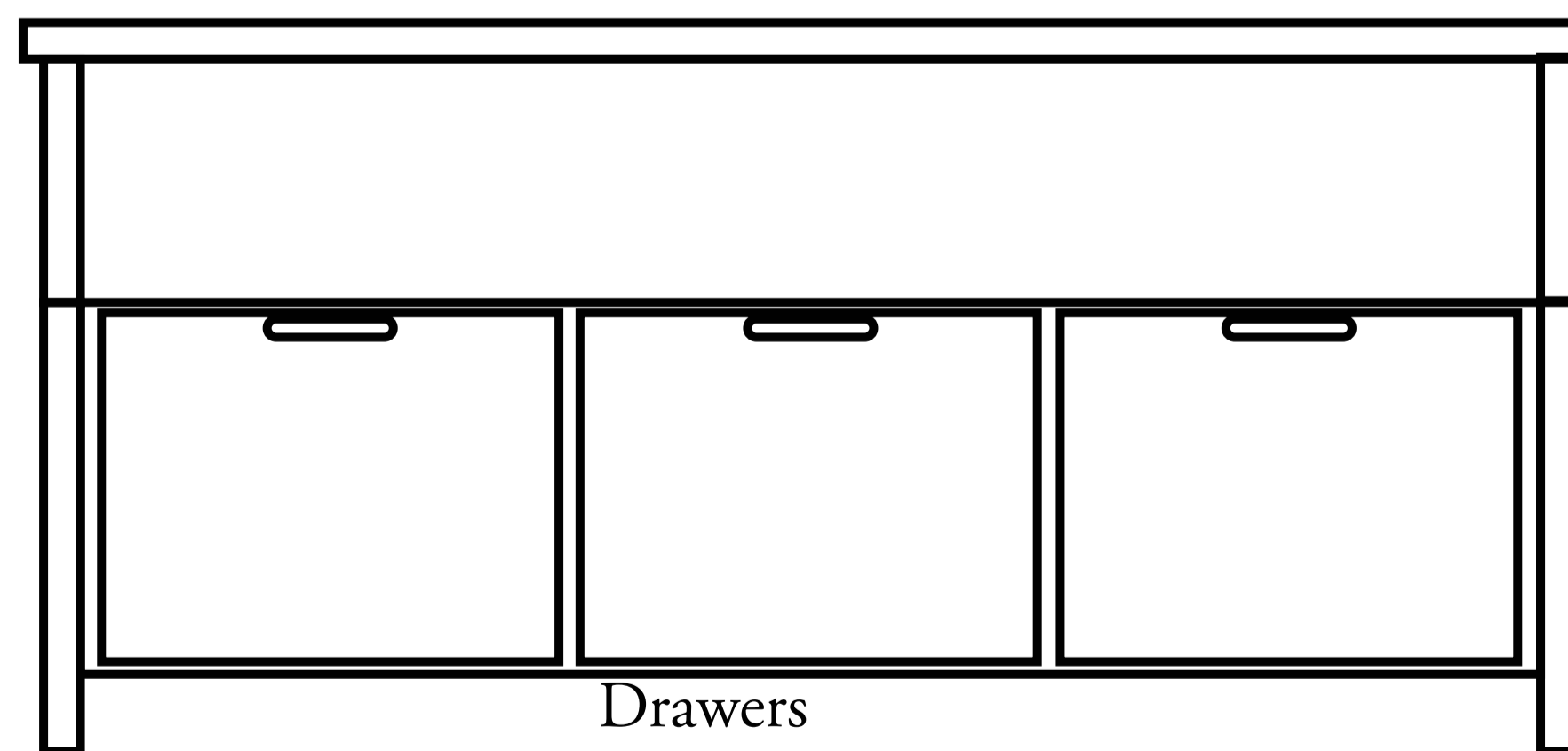
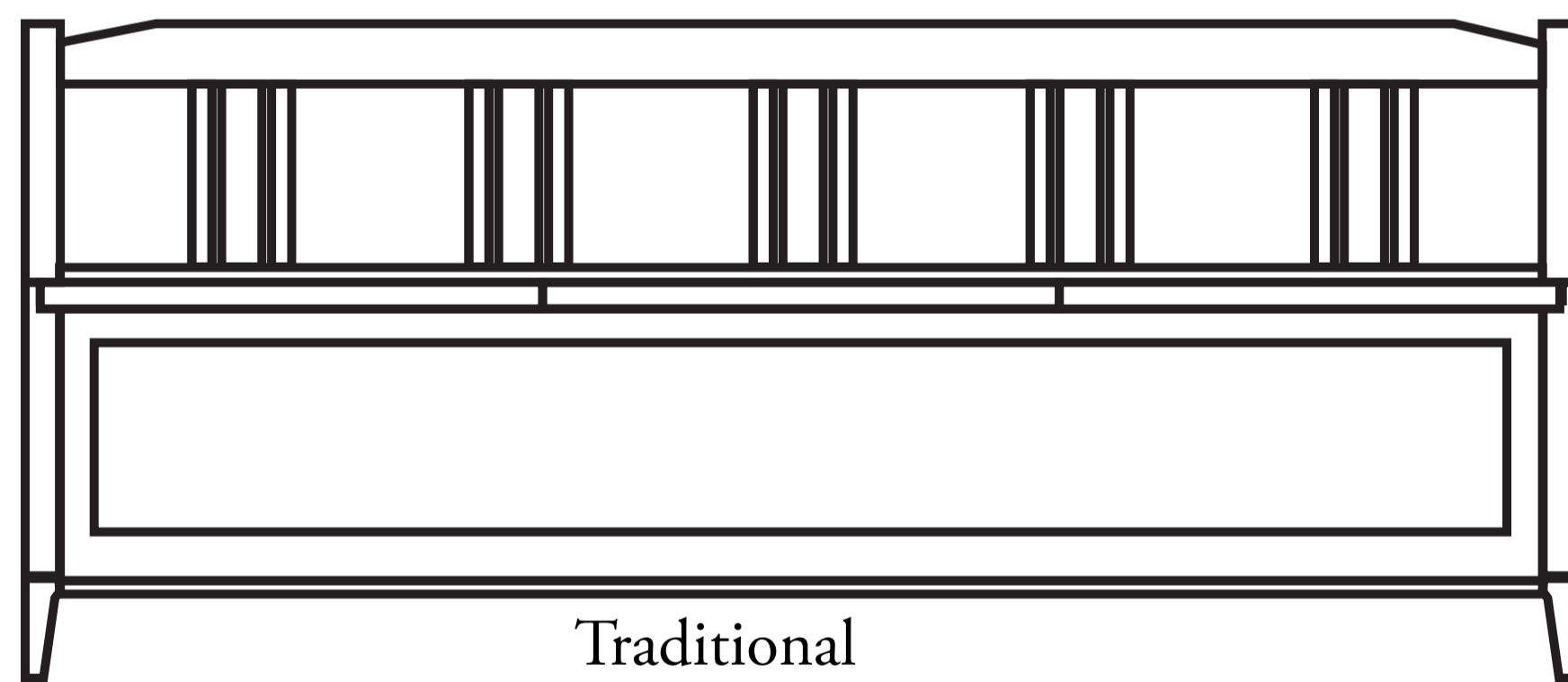
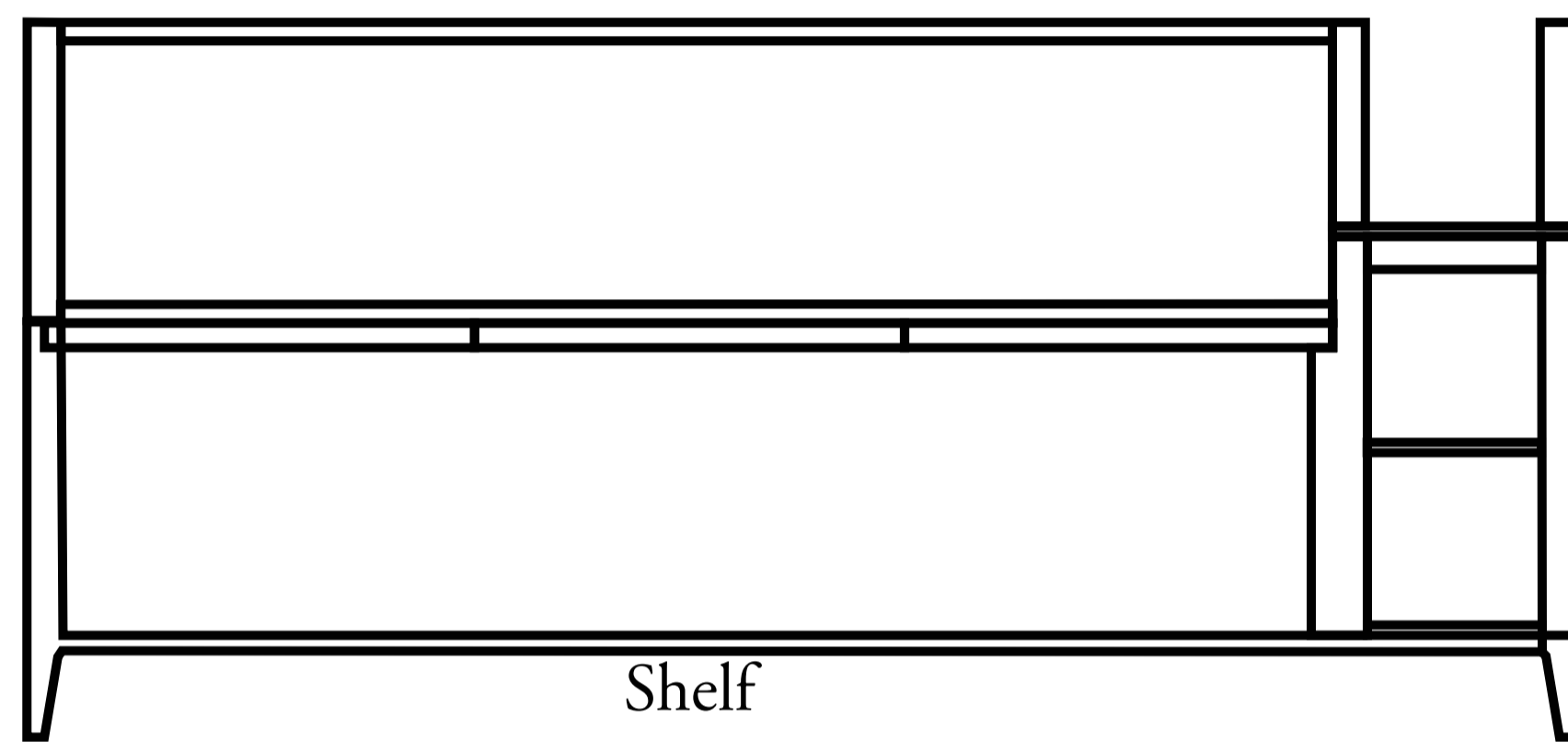
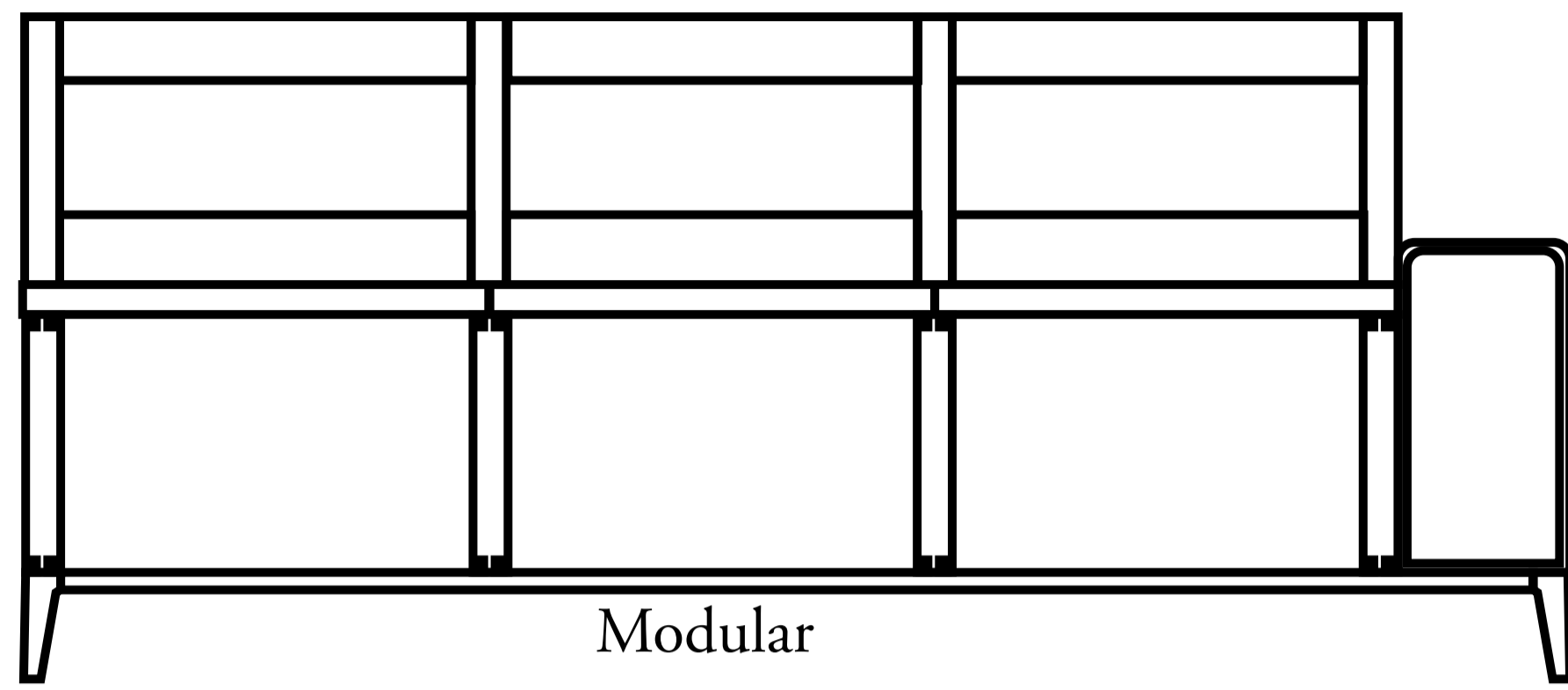
The standard dimensions of benches for height, length, and width were attained. The dimensions were verified by sitting on a stool. The bench needs to be a bit wider than the standard, measured to about 50cm. The standard height is about 46-51 cm. (Benches Dimensions & Drawings | Dimensions.com, 2021). Length should be around 180cm to fit for a person to lay down, where the average length for men is about 180cm (Roser, Appel and Ritchie, 2021).



Initial sketches



The idea was to implement a design that fits the modern human better but still reminds us of the traditional kitchen bench. To merge the new needs with a traditional look, and by that be able to express familiarity and innovation.



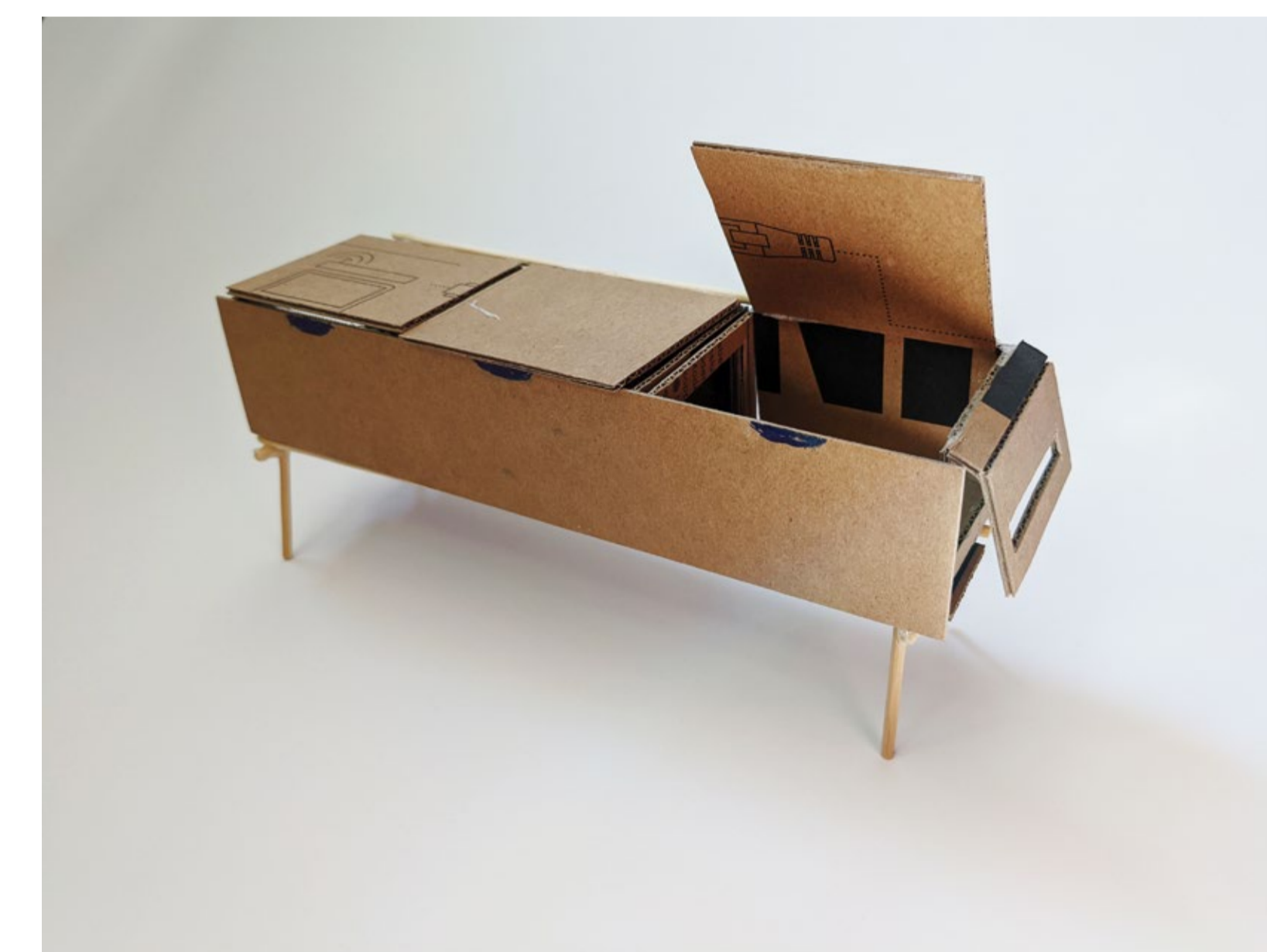


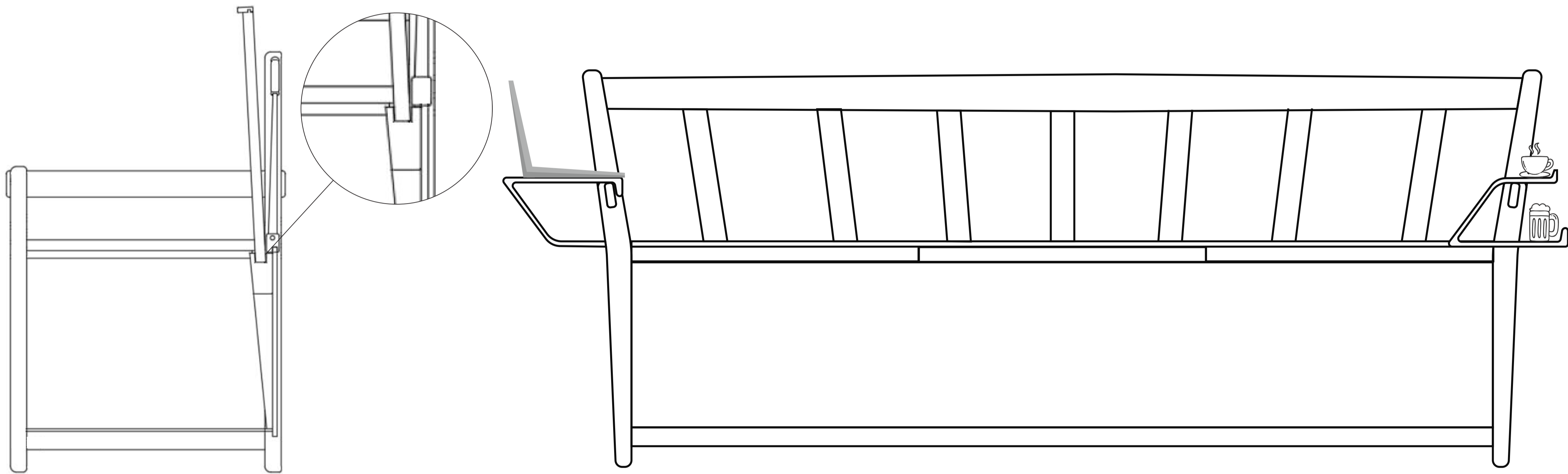
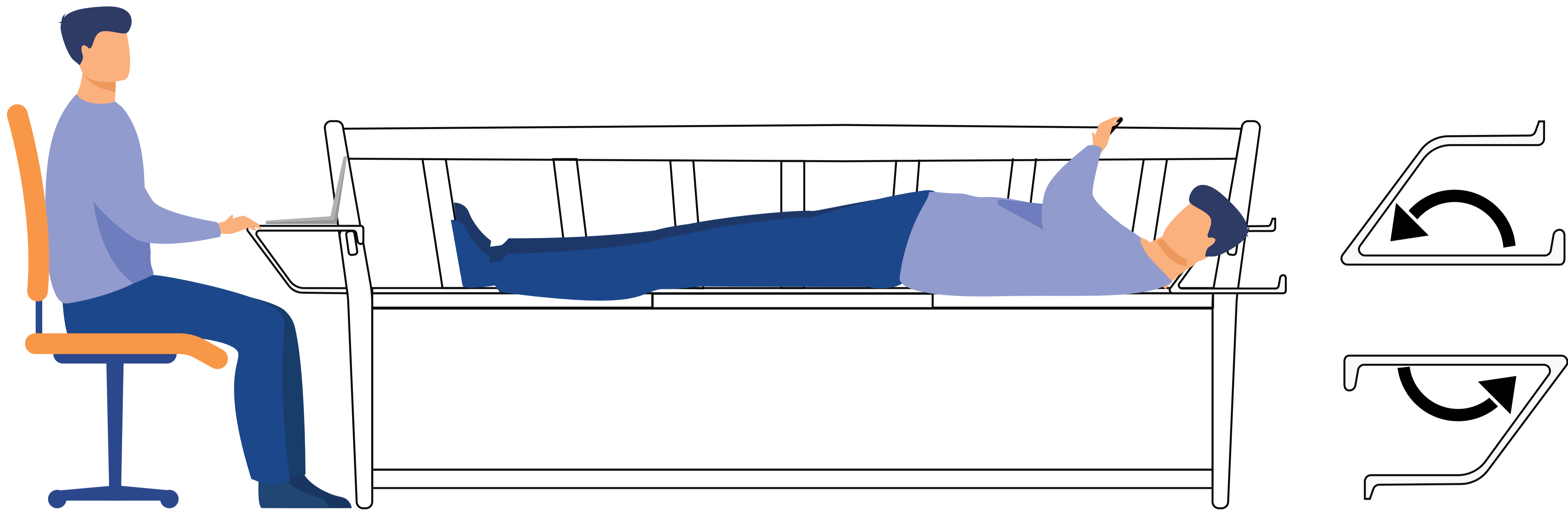
Model

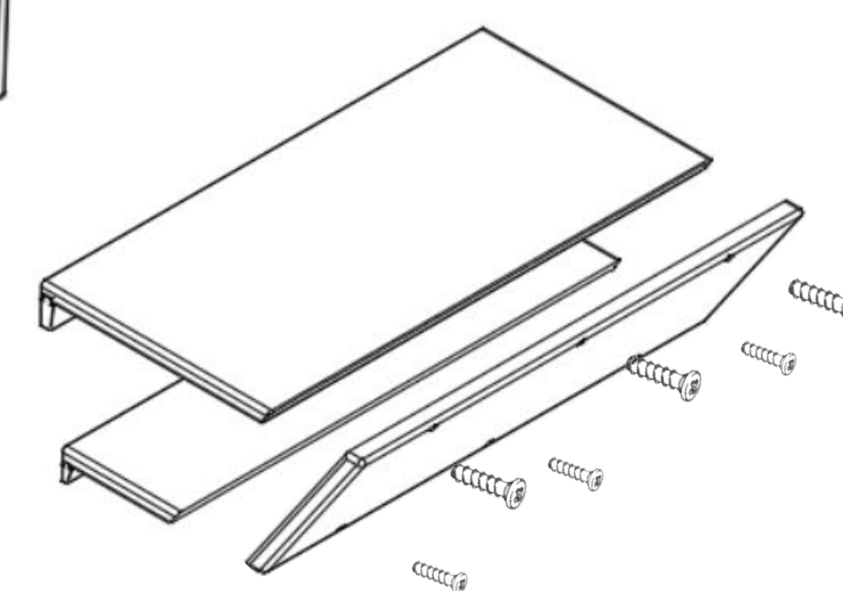
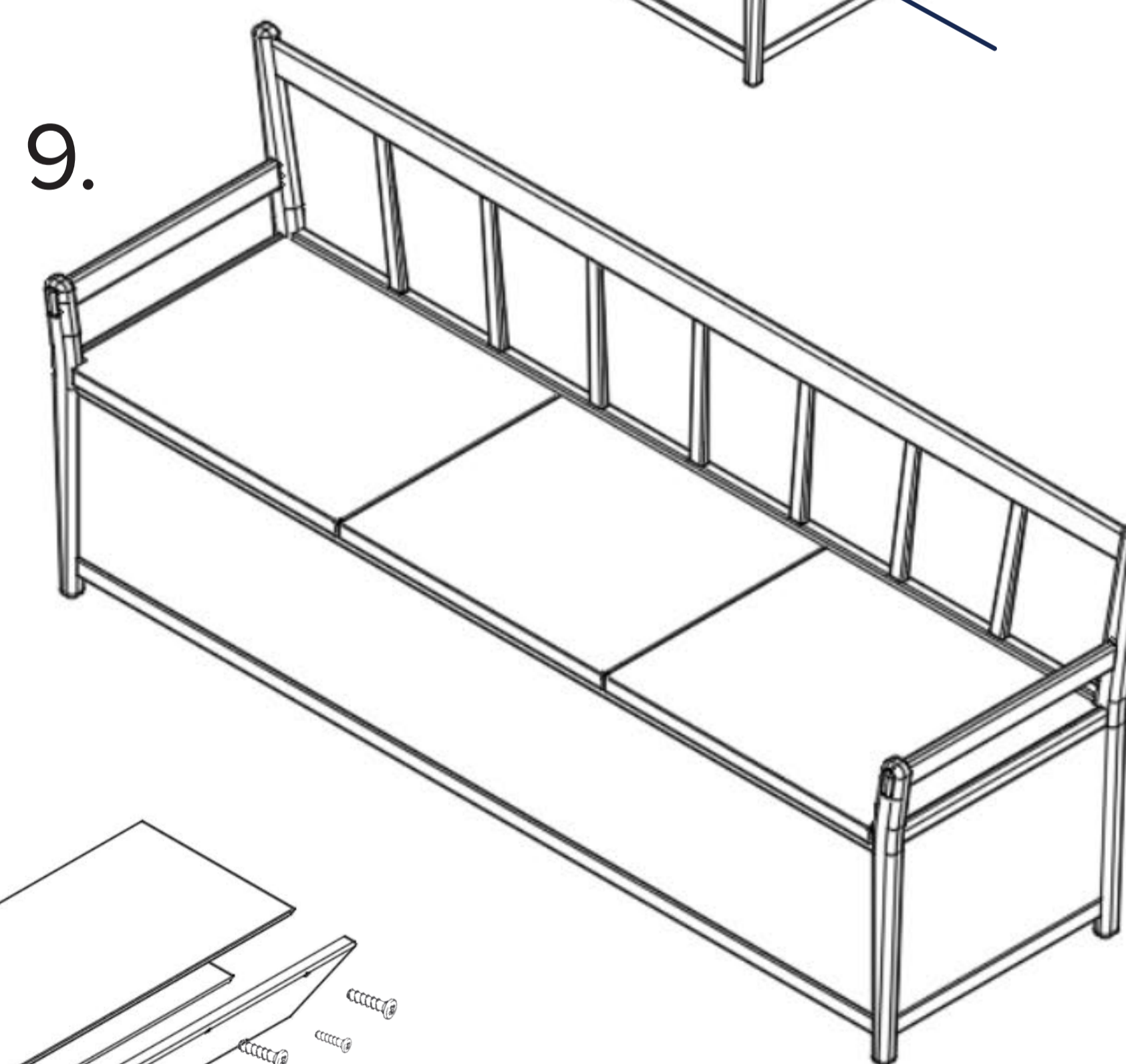
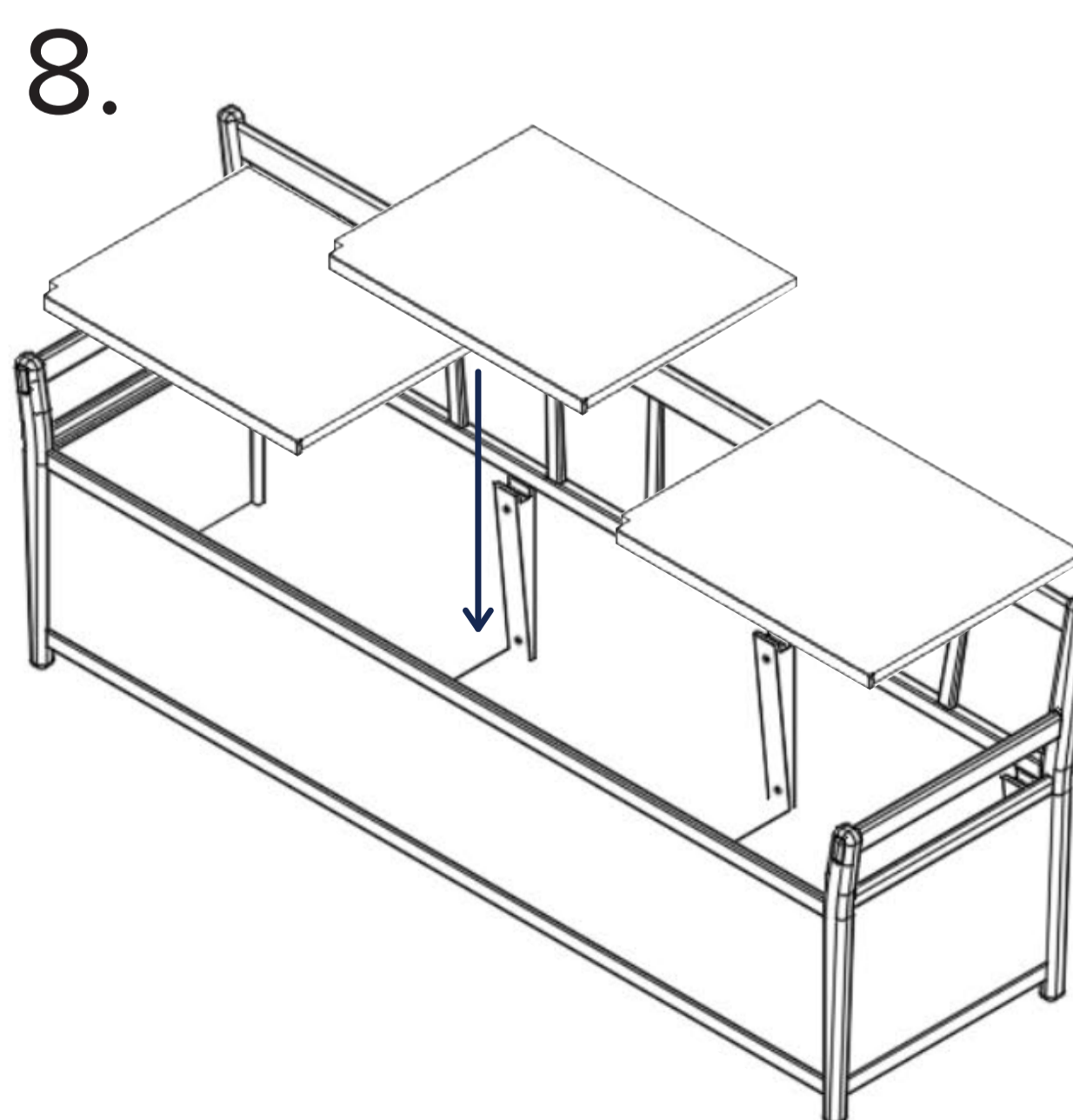
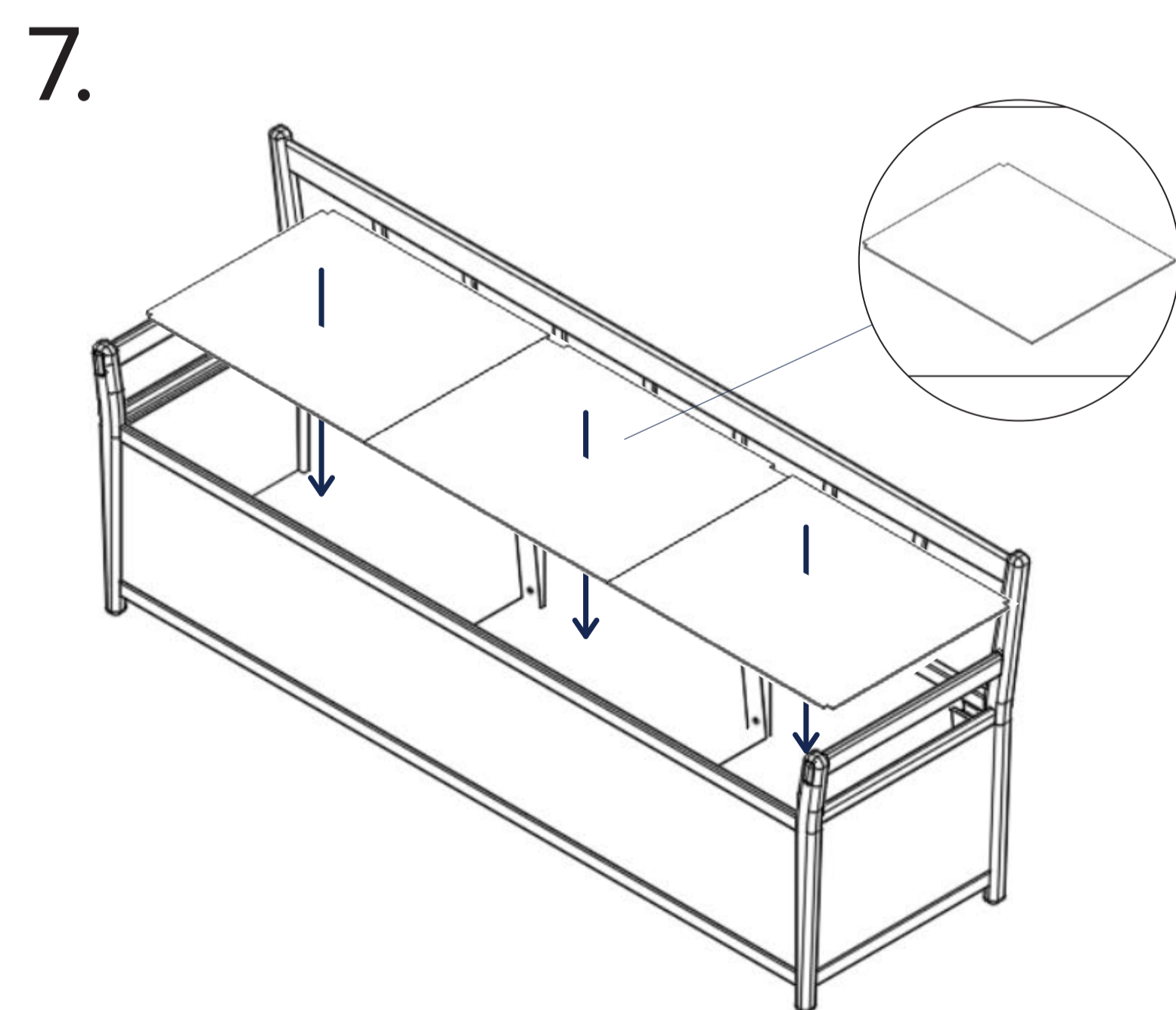
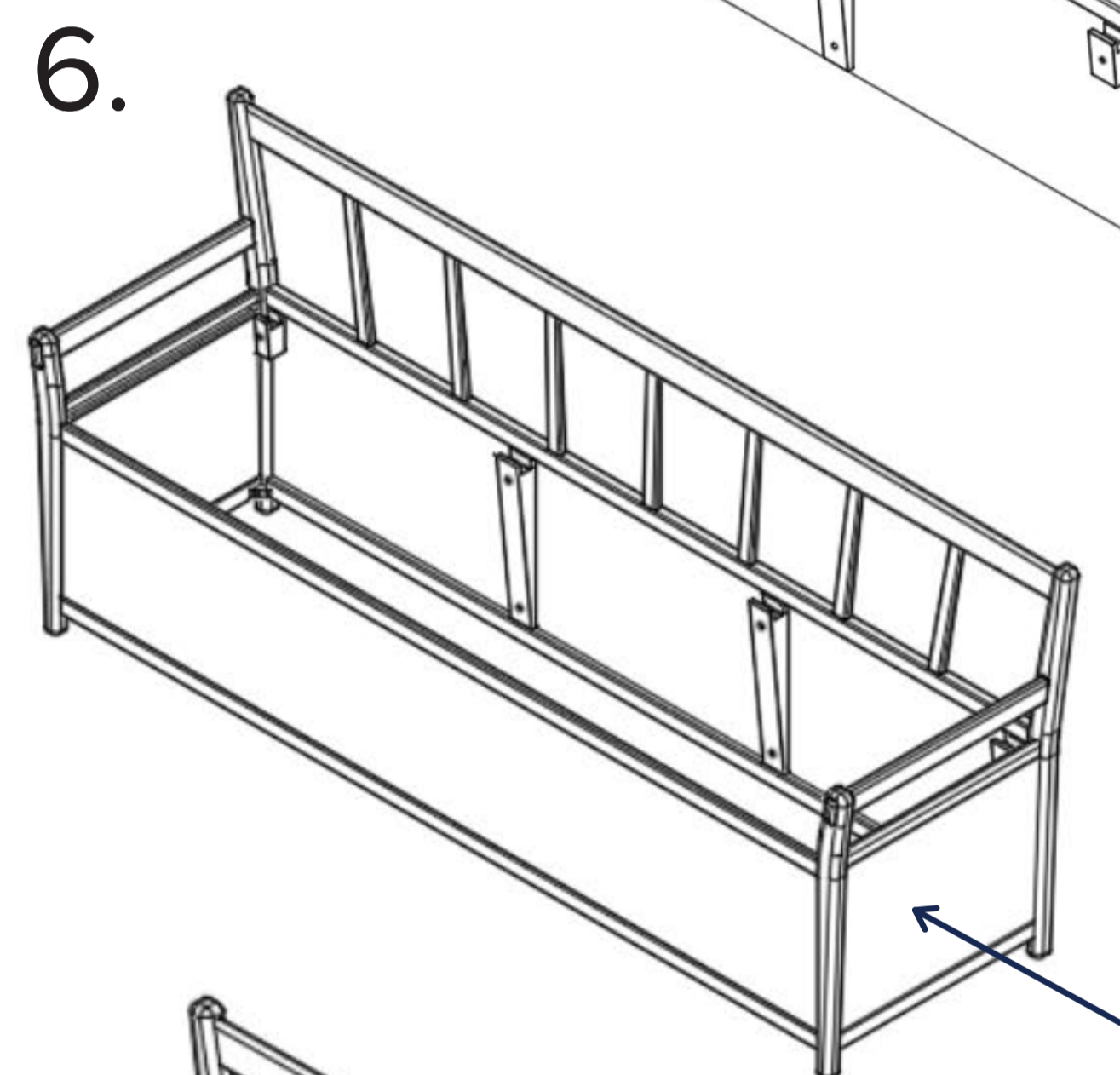
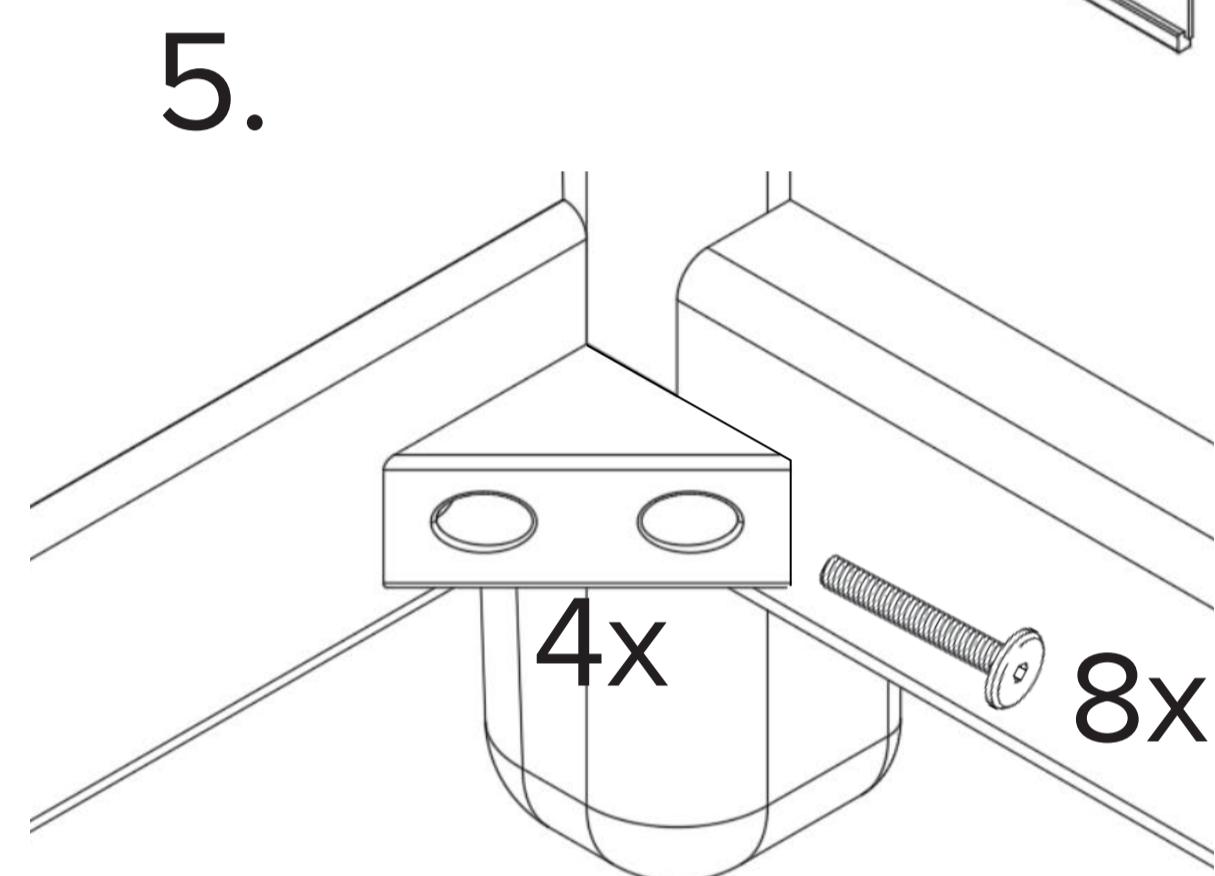
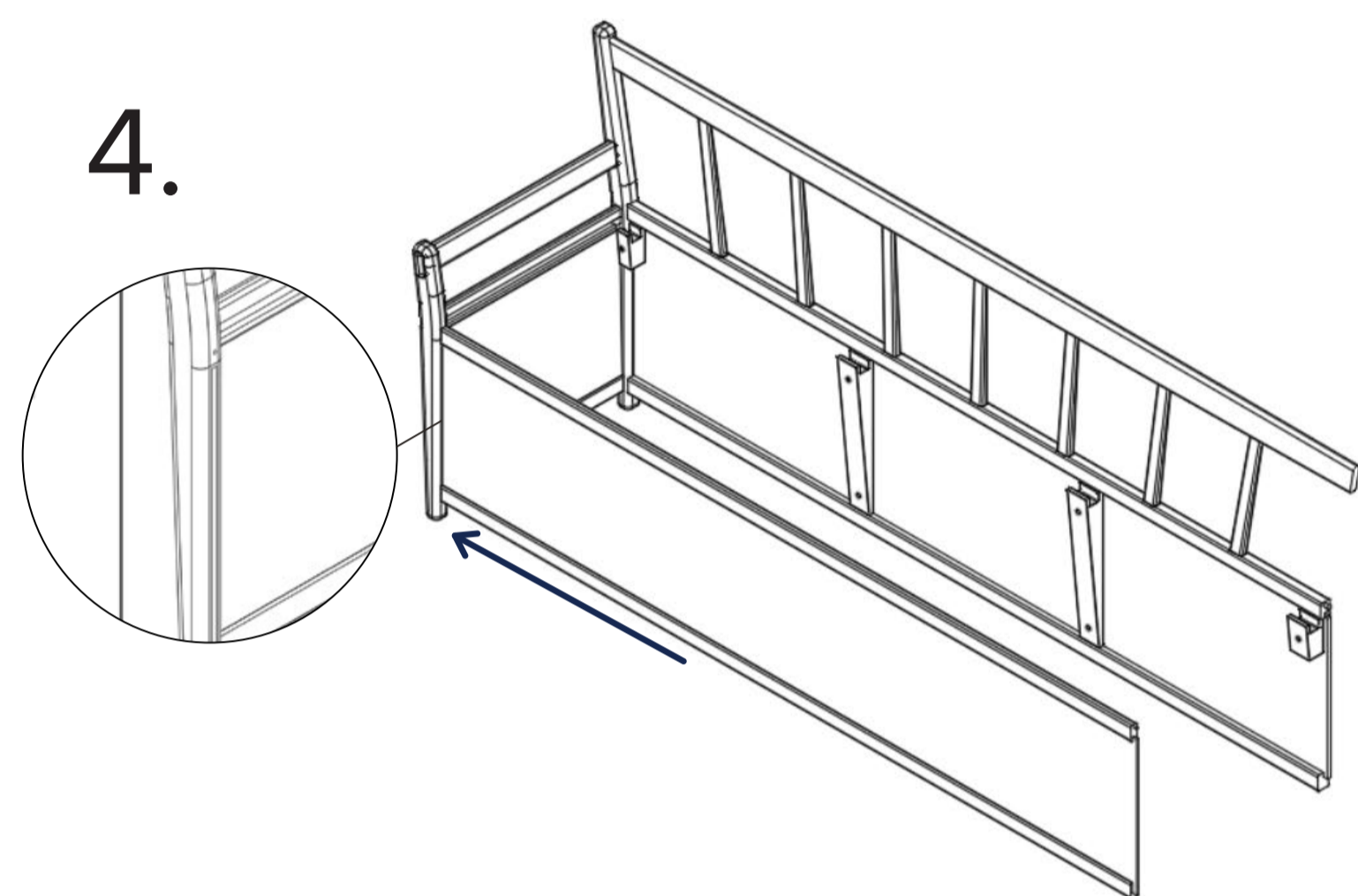
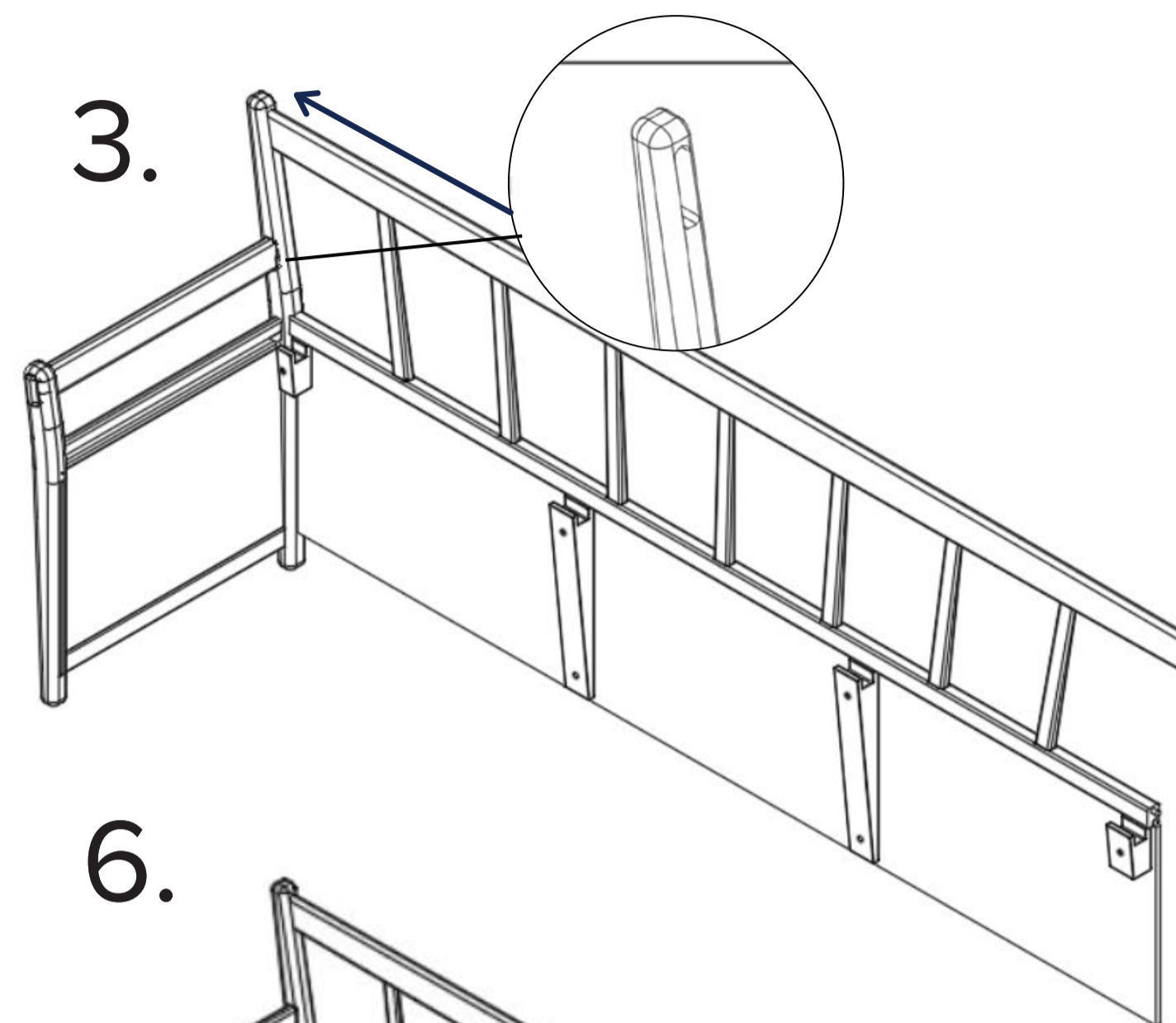
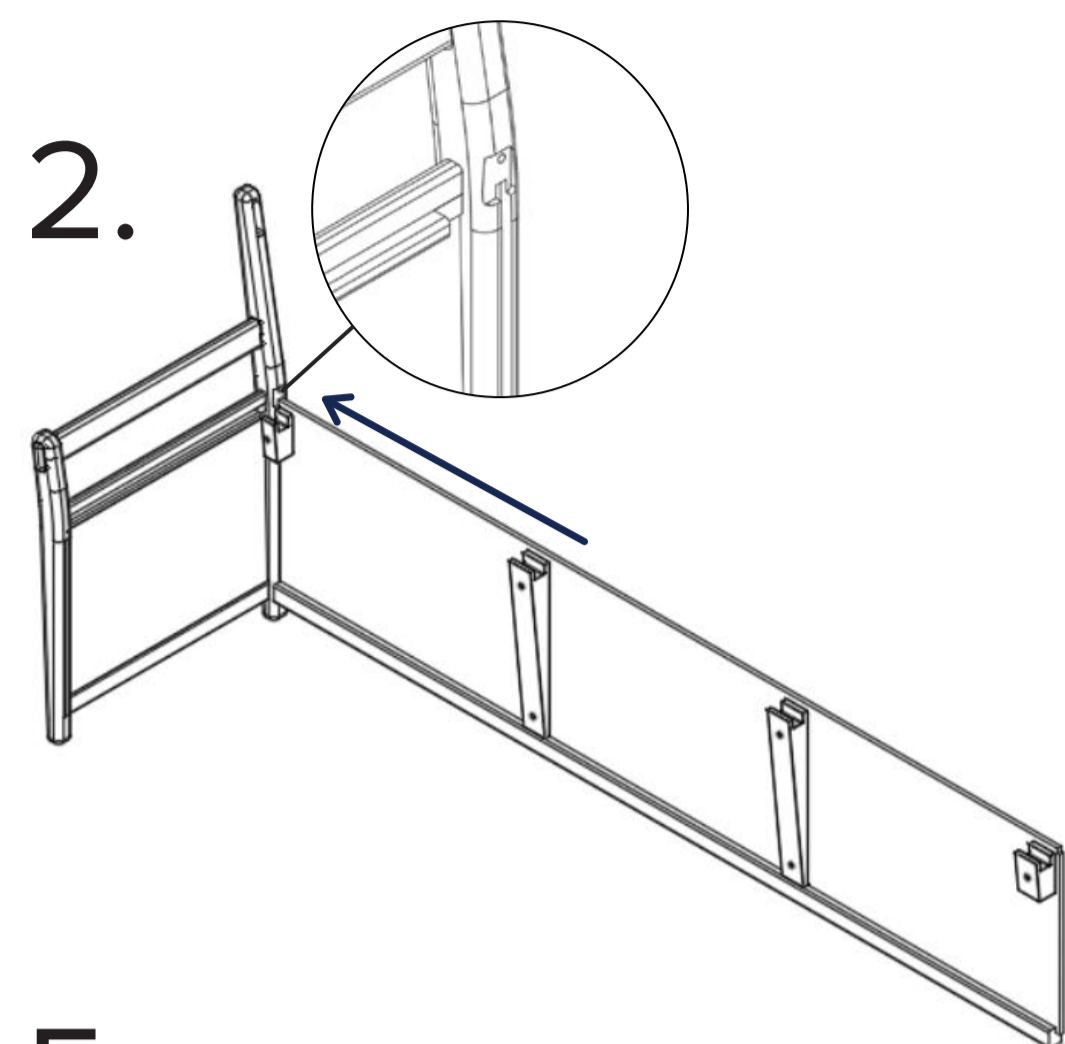
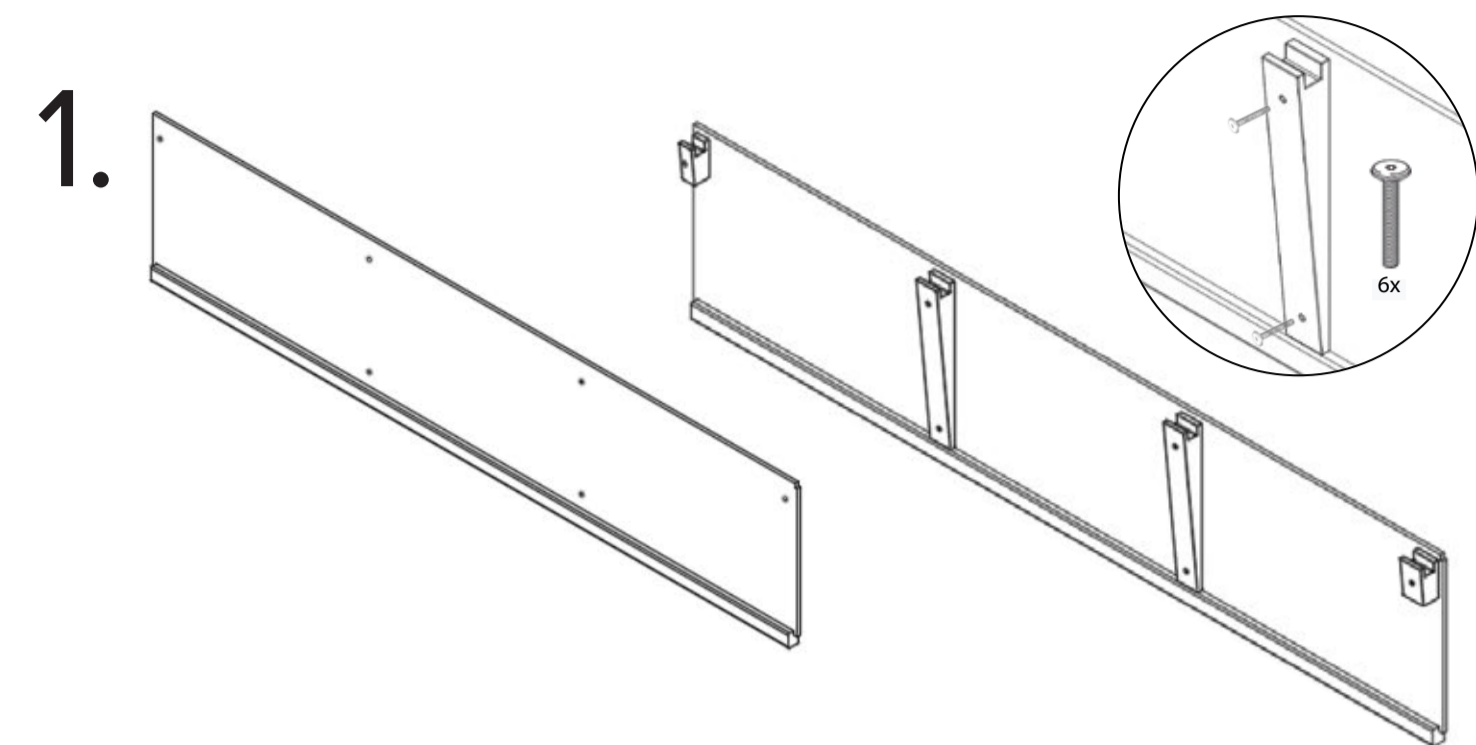
A model in scale 1:1 but 1/3 of the total kitchen bench, to try out function and size.

The lid stays upright at approximately 90 degrees angle to avoid falling onto the user and being easier to manage.

The bench backrest could be a bit longer to have better proportions. The seating could also be a few centimeters less wide which was implemented on the final model.









Natural surface
Store items
Solid wood



Multifunction



Jointery



3-part lid



Locks in place



Modular device



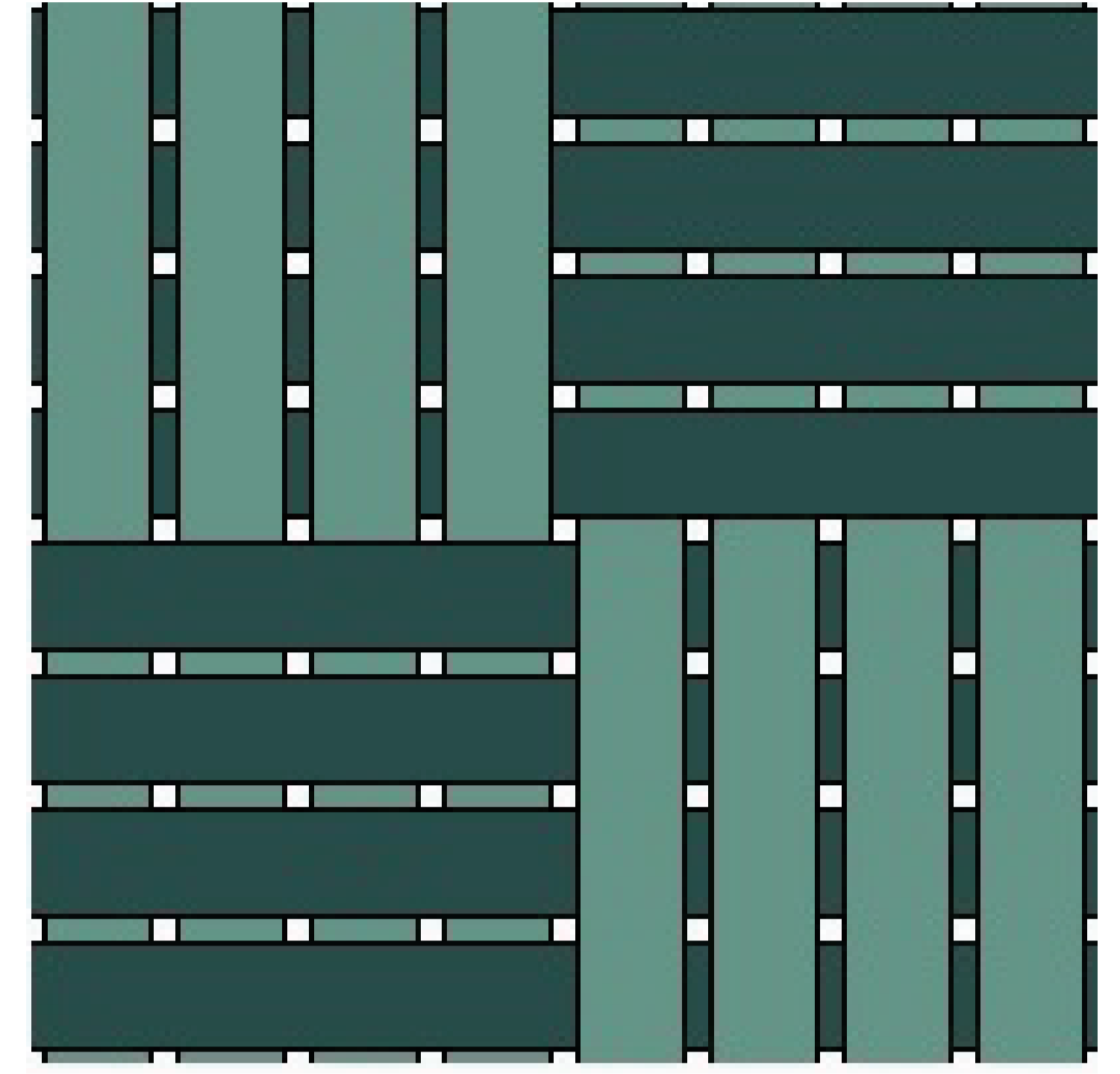
Material



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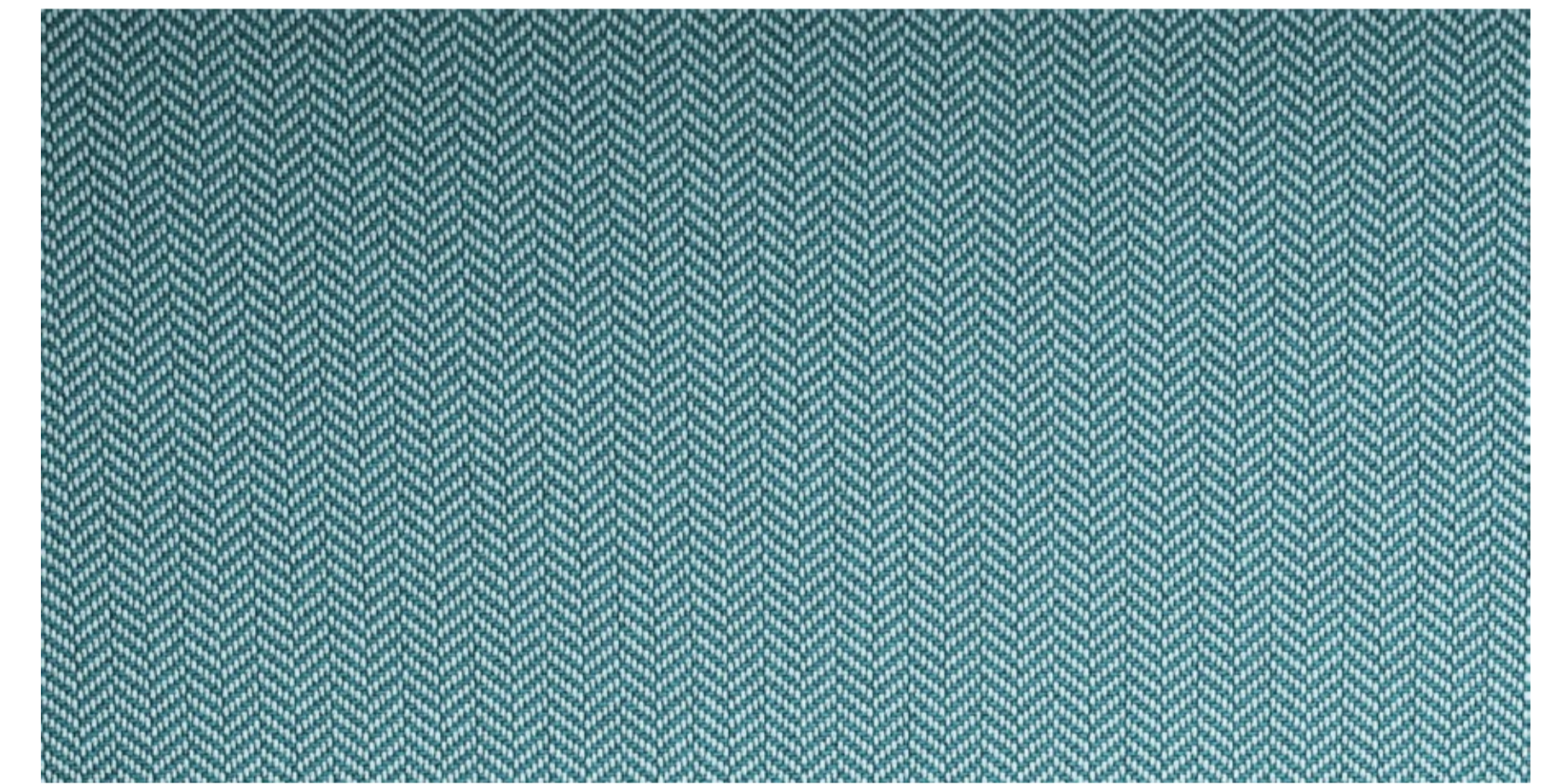


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Weave

Realization



Pattern



Gloss 0%



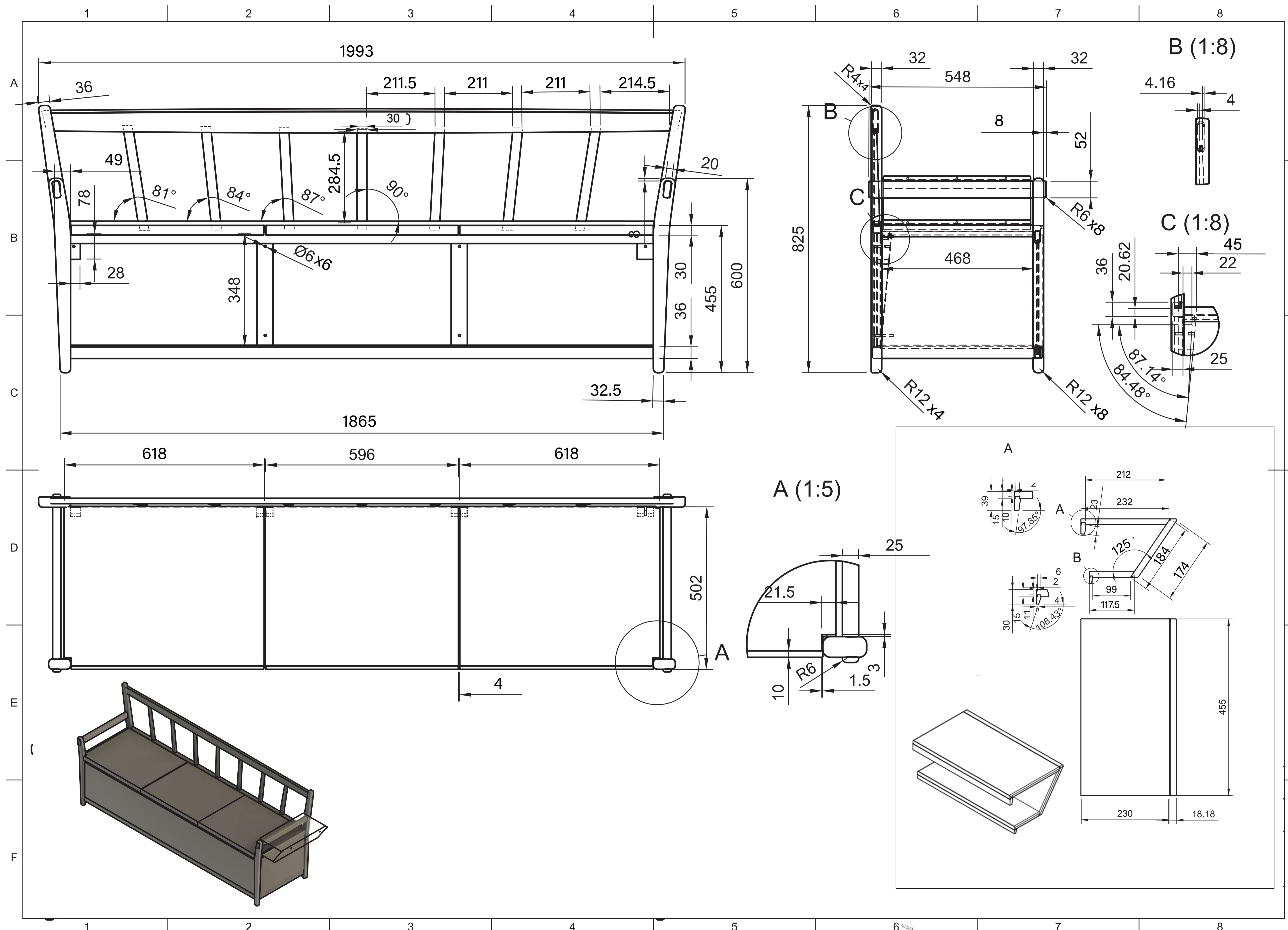
Gloss 20%

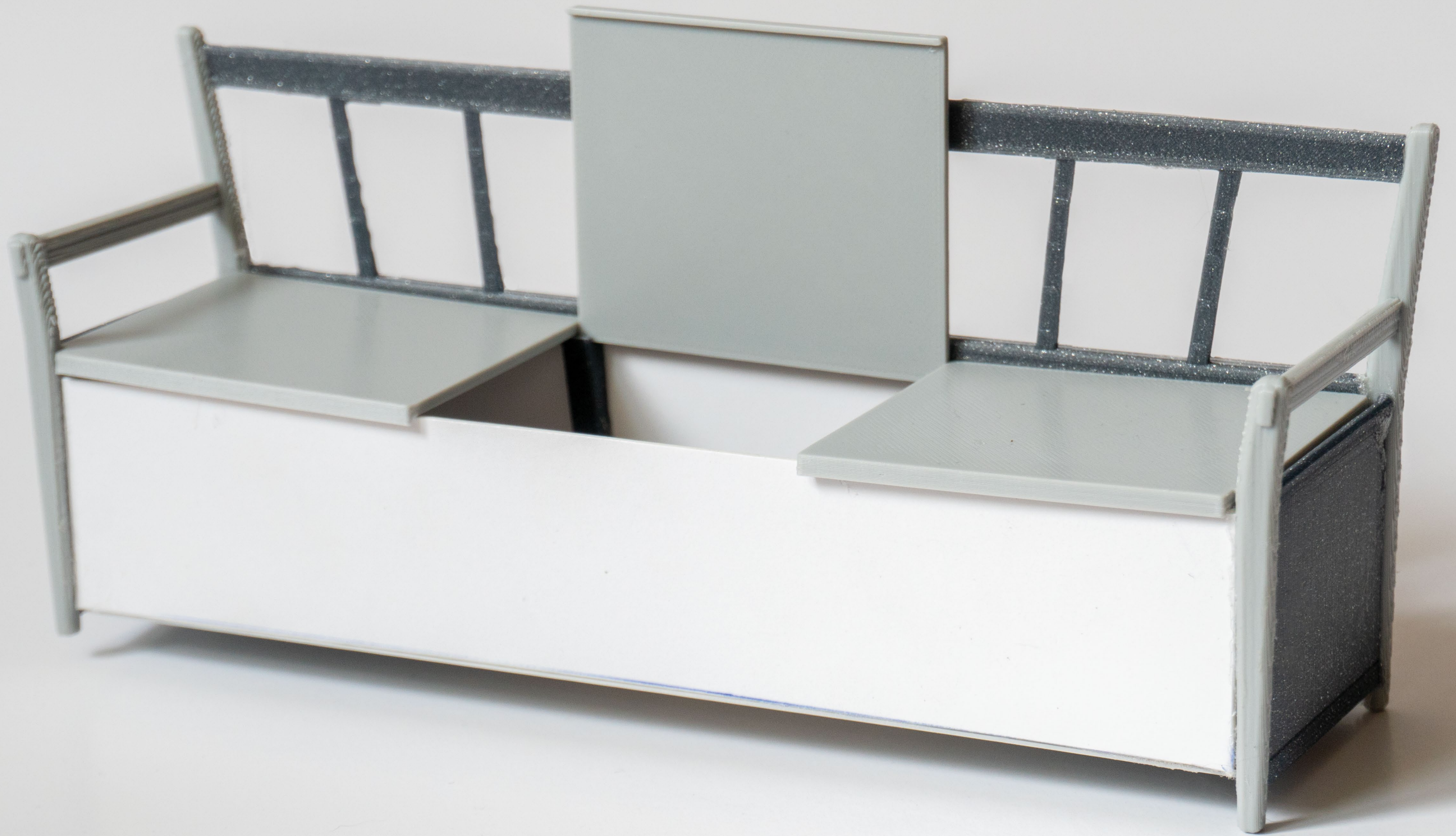


Gloss 50%



Gloss 100%









Realization



Evaluation

The project had its limitation and benefits due to the covid-19 pandemic. The final prototype was modeled and rendered in computer software. Creating an actual full-scale model would benefit this project, get a completely realistic view of limitations for the kitchen bench, and inspiration or feedback from the workshop personnel. I have learned a lot about managing work on my own and new valuable skills such as computer rendering.

Looking back on my process, I realized what I think is fun and want to work with and what I need to improve for future work. I think my research phase was fun, and I did what I could, and I also learned a lot about our history of Swedish architecture. The idea generation phase went quickly and was hard, I can't control when my ideas pop up, and more ideas have come after the process. I would like to expand this part more for future projects, generate ideas, and do more detailed sketches and concepts. I believe that I might need to go deeper and interview the users. I had conversations with relatives and friends about the kitchen bench, and I got many good ideas. The user in this project is a covid-19-work-from-home-person, gathered from the life at home report. The user could be more specified.

The final concept is a flat-pack design kitchen bench with its unique design. The flat-pack design gives the furniture something new compared to other kitchen benches on the market. The lid is split in three and will be locked when opened to be easier to interact with, which gives it a new function. The armrest will function in two ways: either support a head or give space to place items. I think the form and function work very well, and it resembles a traditional Scandinavian design, and I am pleased with the final renderings.

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