

How did I start to weave ?

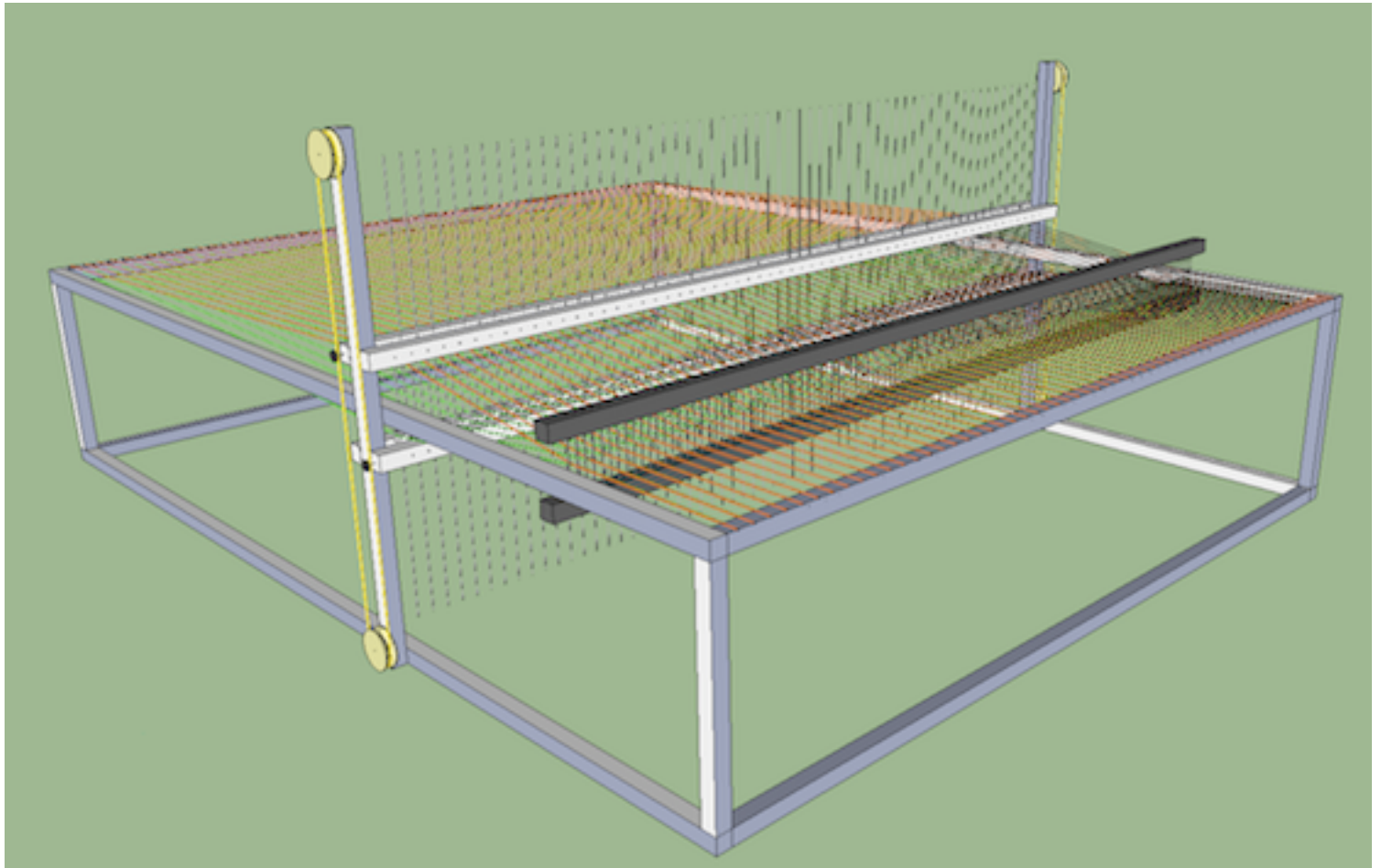


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Abstract :

How I contracted the weaver's virus and how by building looms I found the basic principles of weaving.



I always liked doing things myself.

If there is a term that suits me well it is the adjective "self-taught".

In my life I made a lot of things myself. A sink, a woolen mattress, a radio, looms, houses. Whenever I needed something, instead of buying it, or using a professional to do it, I would say to myself, "If the others did it before me, why would I not be able to do it myself ? "

I also needed to understand how it works.

In 1972, the day I settled with Monique in a small maid's room on the 6th floor in Paris, I realized that I did not have a large blanket.

What to do ? I had just done an internship as a summer camp monitor in the north of France.

Secular teachers and a little conservative had taught us a lot of useful things like "How to make a game book ?", But also a bit of manual work. In particular I had discovered the technique of the "pompom carpet". How to make a kind openwork curtain, with lots of little wool pompoms; the kind of horror that some drivers hang on the back shelf of their car.

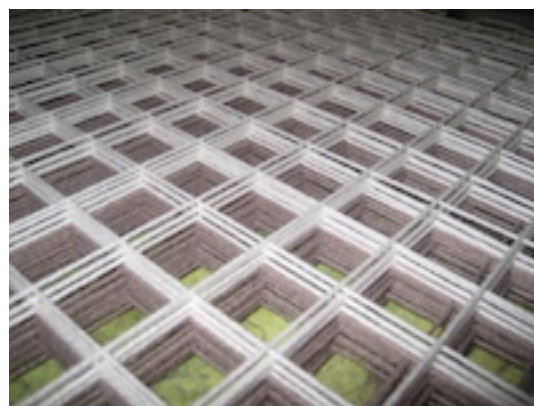
Here is the recipe for the "pompom carpet":

Hammer nails on a rectangular wooden frame every two centimeters. Stretch a thread between the nails from top to bottom then from bottom to top so as to fill all the verticals of the frame. Do the same for horizontal, to get a kind of crossed word of wool. Repeat the operation about ten times, forming successive layers of grid. Make a solid knot around the ten vertical threads and the ten horizontal threads at each intersection. Gently cut the eight upper threads between all the knots to make the pompoms, leaving the two threads underneath intact ; they tie the pompoms between them. It's over, just remove all nails.

[On this site everything is well explained](#)



1st layer



10 layers



The knots



The pompom carpet

For the weaving of the blanket I also remembered the principle, one above, one below, probably learned in kindergarten where we learned to weave colored strips of paper. No problem, I said, just start a pompom carpet and stop at the "10 layers" step. If we then pass a lace of wool in the squares, one above one, below, we will get a fabric! Just make a big lace, putting together a dozen single threads.

As soon as I think about it, I buy batten, make a frame of two meters by two meters and hammer the nails.

One nail every 2cm x 2m x 2m, 400 nails; it's the neighbor below who had to count them ...

At the first layer everything went well. Then, little by little the batten began to bend under tension. Then bend again, more and more. It was going to break. It was necessary to strengthen the frame from behind. Well, I got to ten layers.

Then it took days and days to pass the lace, one above, one below and one above, one below, from the left to the end to the right, then to the next rank, and this a hundred times. 10,000 squares to go through ; I learnt the patience of the weaver.

This first blanket kept us warm at night for many years, but above all it triggered an interest in the woven thing that has not left me until today.

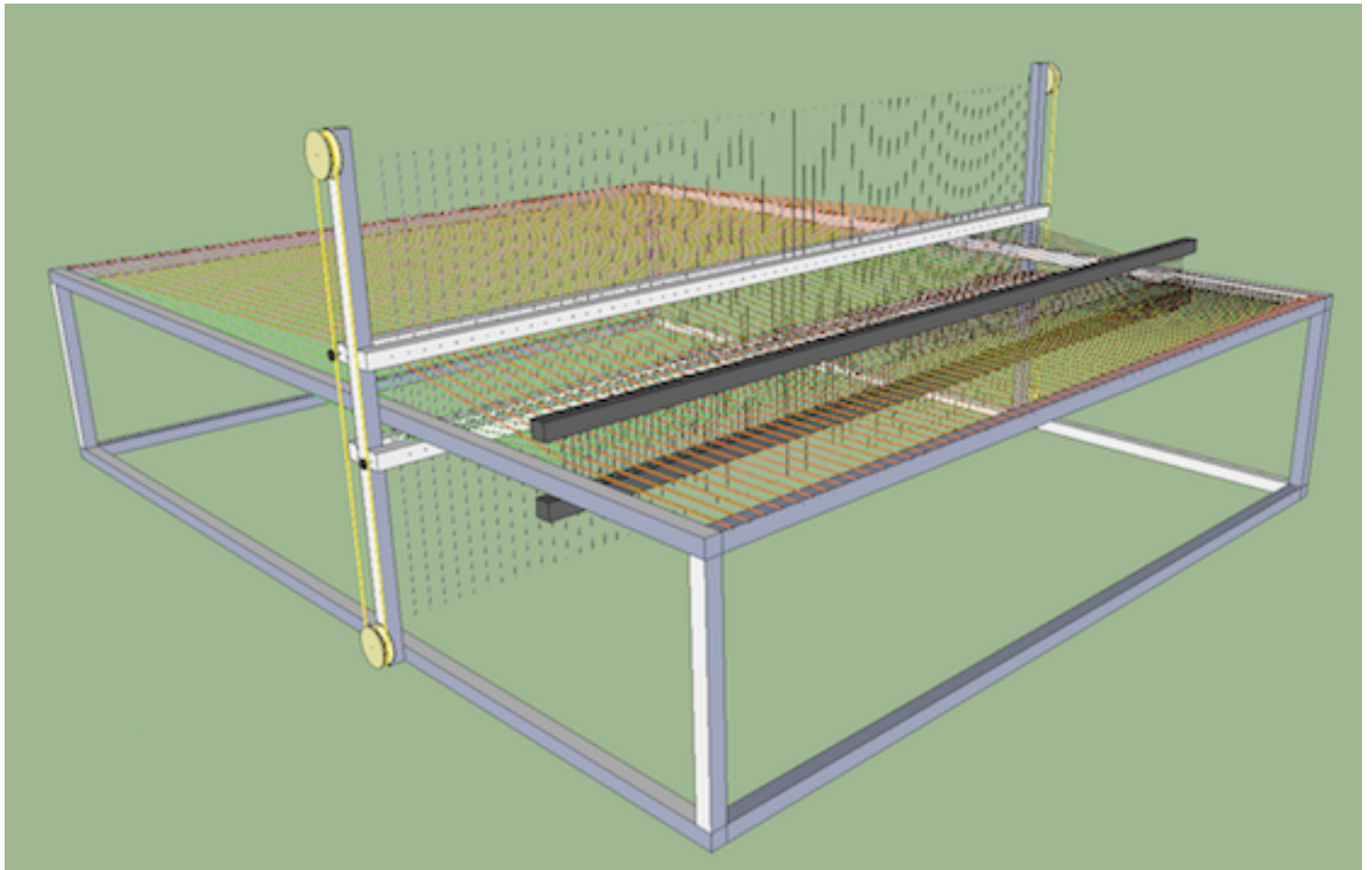
Woven? Not really. By going through all these threads in the squares I realized that half of the grid was useless. All the horizontal threads stretched at the beginning could be removed because, what I will call later the "pick" was naturally blocked at the next rank, by the alternation of the above-below. It was enough to keep the vertical threads; the "warp". Moreover, since there was no longer any need for horizontal threads, there was no need to make packages of vertical threads either ; a solid thread by nail was enough.

I understood the basic principle of weaving.

After those hours, I said to myself, "There must be a simpler way to do that."

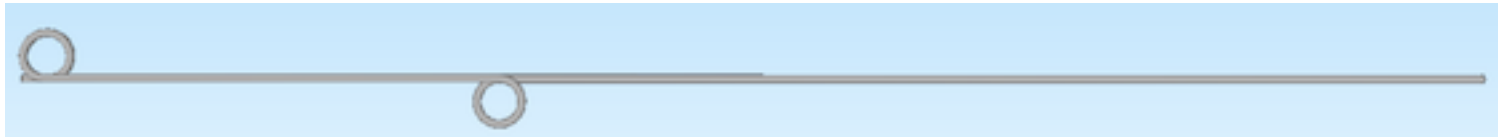
And I thought about ways to cross threads. After several insomnia, I drew my first "weaving machine".

Unfortunately, I have no pictures of this prototype, but I have restored it from memory with today's 3D tools. It looked like this:

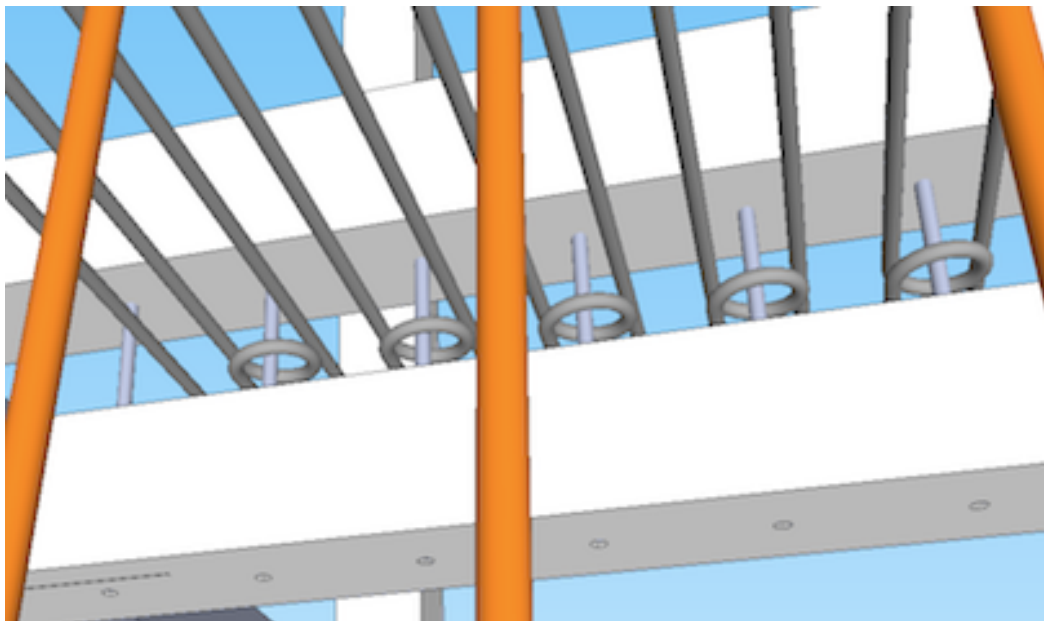


It was not yet a real loom but it already had :

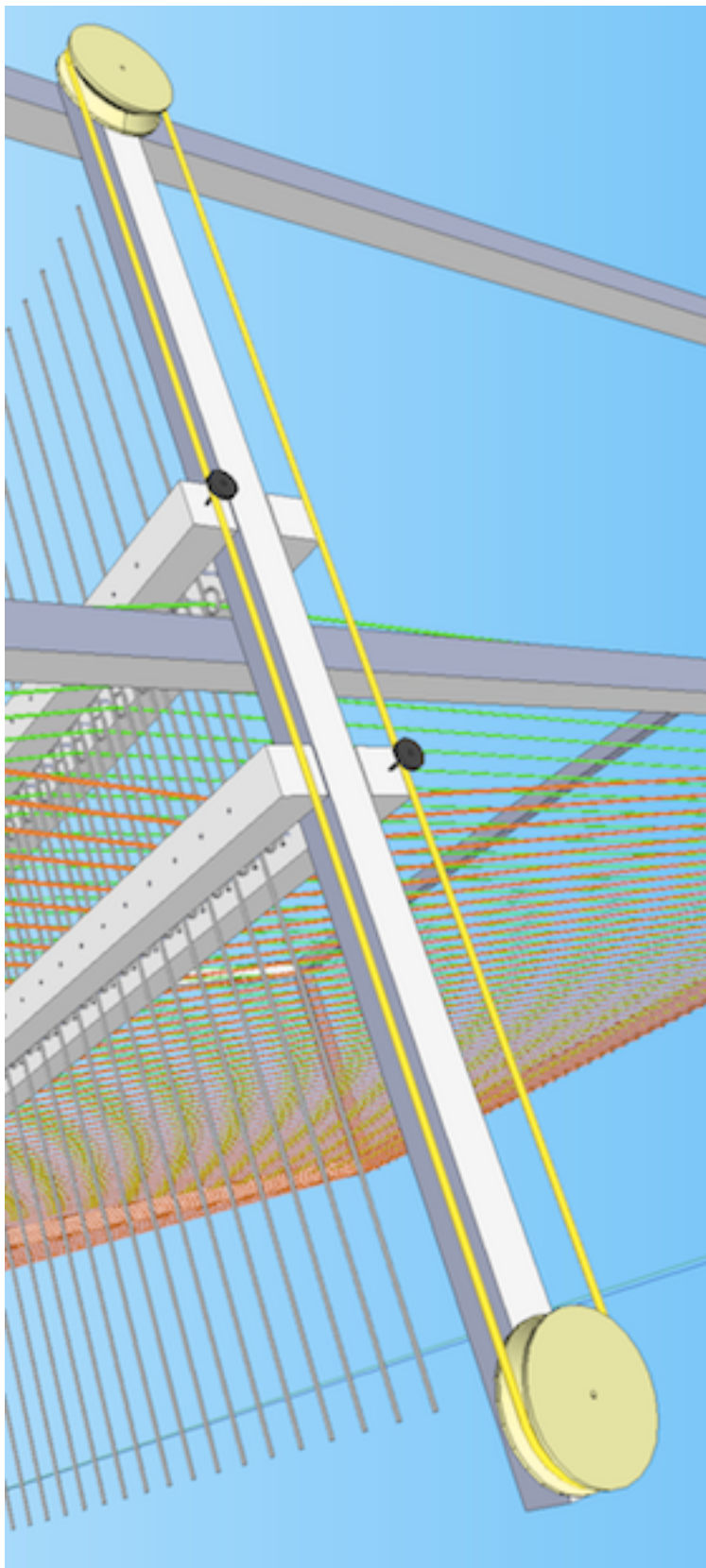
- a comb (wire) but without a beater ; he was guided by a system of pulleys.
- two beams (in 2cm x 2cm batten, much too fragile)
- and a wire crossing device, a "harness", made of wire !



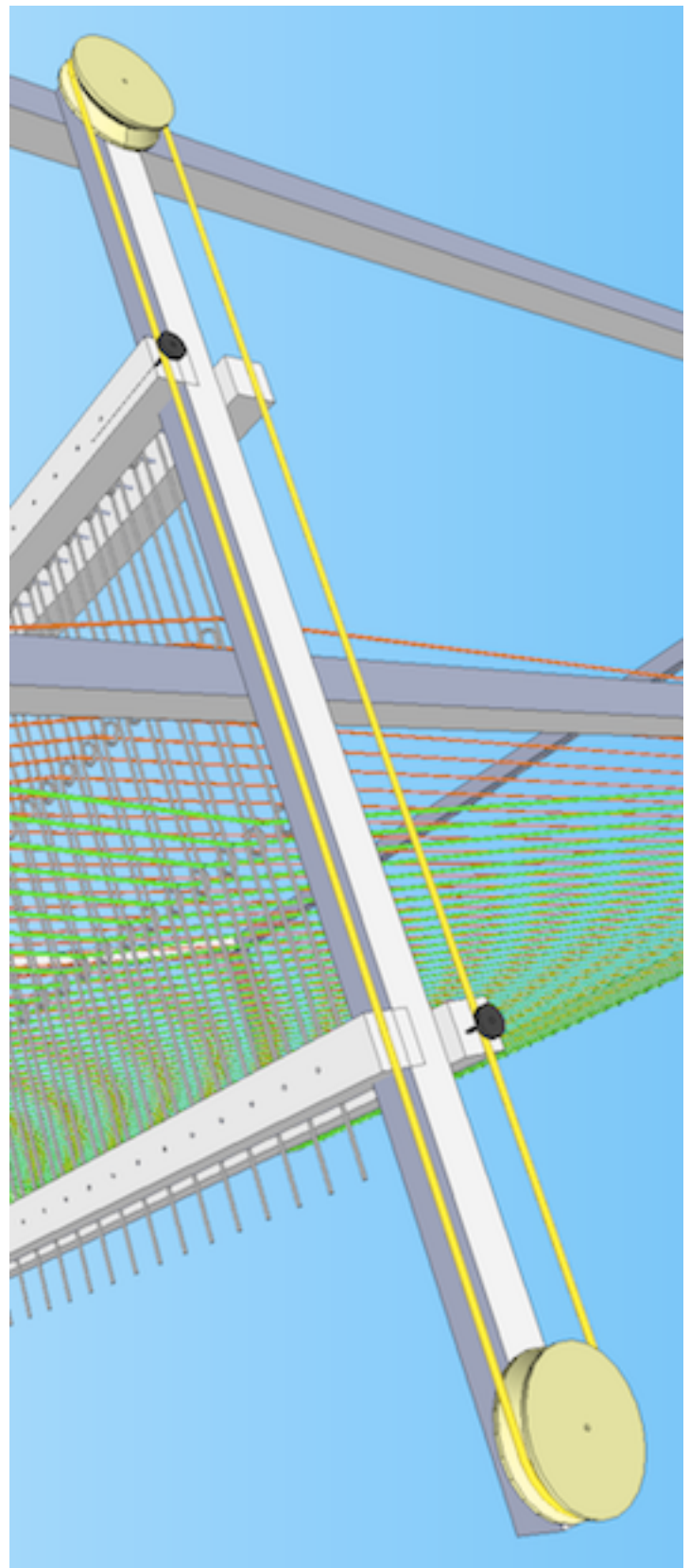
The pseudo wire "heddle"



The even heddles were tied around the axes of the lower batten and went between the axes of the top batten, the odd heddles were tied up and went through the bottom batten.



The harness in the clustered position
even threads (green) up



The harness in the expanded position
even threads (green) down

A system of pulleys lowered the batten of the bottom when one rise up those of the top and inversely rise up the batten of the bottom when one lowered those of the top.

This original system (unique in the world !) only allowed the plain weave. The warp density was still (1 thread/cm).

But the initial goal was reached, the weft thread passed one above, one below.

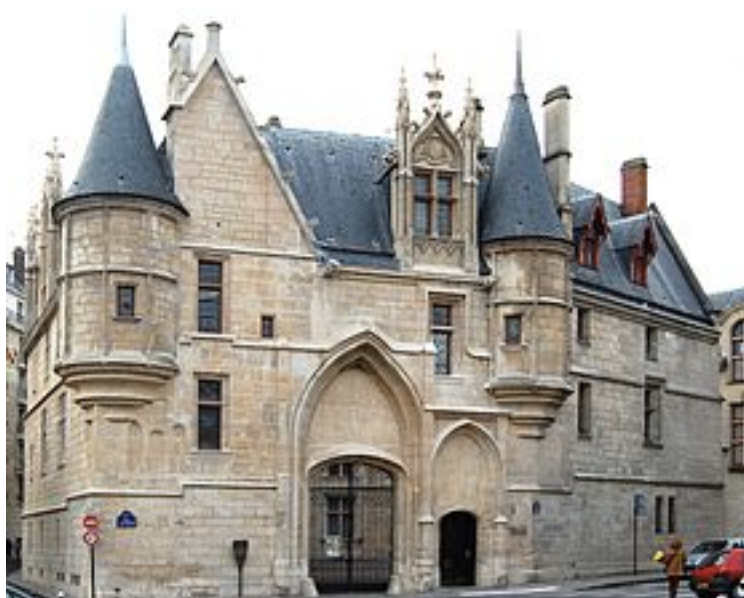
Building this machine had to make a little more noise than the frame of the first blanket since one day we heard knock on our door. It was the neighbor below. We explained to her that we were building a loom planing to go into handicraft. When she realized that our livelihood was at stake, she kindly left us to our nails.

With this first "loom" we wove another blanket, half black, half white, so Zen.

In the evening it was necessary to put the "loom" against the wall to make the bed ; one day we would have to move on.

But the virus was caught and I wanted to learn more about the subject.

I do not remember who advise me the Fornet library is in Paris a library dedicated to arts and crafts. On the other hand, I have a precise memory of the moment when I opened my first weaving book and saw a picture of a real "loom", it was a revelation. To lift the threads there were "shafts", equipped with "heddles", why had I not thought it ? It was much simpler than my wire crossing device. I found the beams that I had imagined but much bigger, the comb, but cleverly hung at the top, without complicated guide device.



The Forney library

A little parenthesis to say that it is also in this library that I borrowed by chance the book on the method of the initials : "Un aspect mathématique du tissage a lames"by Brandon-Guiget.

I was then interested in the mathematical approach but having only at the time a loom with four shafts it was impossible for me to test this theory in practice, and I forgot this book immediately after having read it.

It was only in the 80s that I heard about this book again from the Breton weavers union.

Henri Lazennec then introduced computers to the Union and I was able to study this theory more closely ...

When I came back from the library I drew the plans for my second loom.

No way to build such a machine in a maid's room. Fortunately my parents who lived in the suburbs have accepted that I undertake this construction in the cellar of the house.

This second loom being large (I understood that if we wanted to weave a blanket at once we needed a comb wider than the blanket), but far from perfect.

As I did not know where to buy a comb, so I imagined to make one with : "nylon fishing thread" ! I still hammer thousands of small nails on two chevrons and pass the thread up and down. Here again I have experienced that the addition of many small forces becomes a large one ; the beams of my comb came dangerously close in the middle. This comb still worked once. Very quickly I replaced it by a second-hand comb purchased from a reseller of textile equipment in the south of France. Under the comb there was a large board, supposed in my mind to support the weight of the shuttle. In weaving I quickly realized that it was useless ; the shuttle was guided by the shed and the threads were enough to carry her weight.



Finally I had installed the handles of the 4 shafts on the side of the loom. Probably because the picture I had seen showed a standing weaver. It worked, but you had to be two to weave : one to pass the shuttle and beat the comb, the other to move the handles that lifted the shafts. In addition it was necessary to synchronize and hail the other like on a boat. Funny but not very effective.

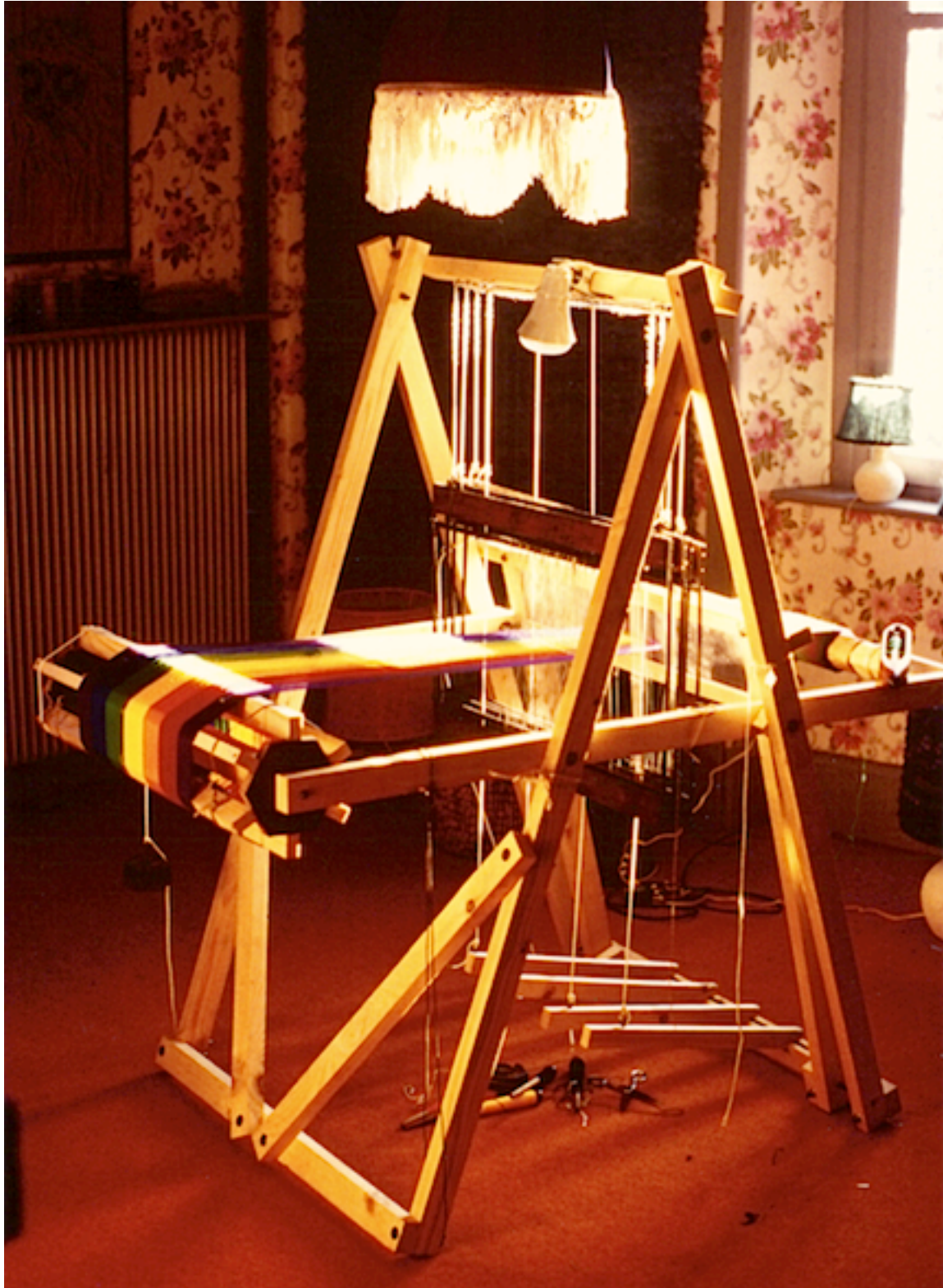
I drew then a 3rd loom.

This one was a real one, smaller but with 4 pedals as in our country.

The construction was also more professional ; a friend allowed me to plan the wood in a technical high school.

The adventure of weaving then really began and we made our first handicraft exhibition at the end of 1974, with a friend potter and a friend weaver (Jean-Luc Demolliens and Donatienne Girard).

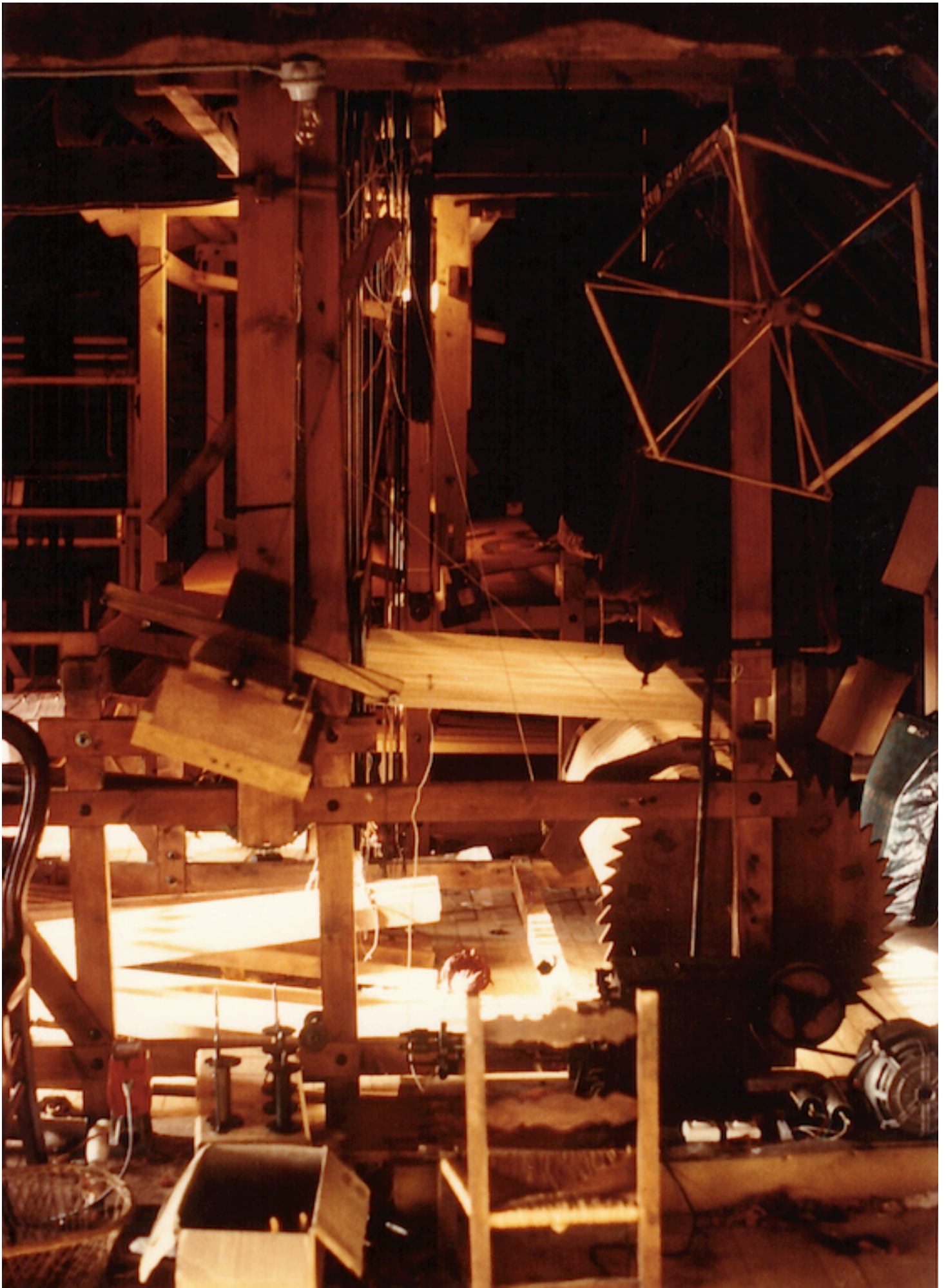
I then bought woodworking machines and built looms for others while still weaving myself.



Small loom that could be fold warp set against a wall

During our live in Morocco from September 1976 to July 1978, I could not help but build another loom, with which I wove a unique tapestry.





My 3 looms in my attic in Brittany

That's it, I needed to build three looms to get to the basics of weaving.
It would probably have been faster to see a weaver and look at his loom.
However, I do not regret this blind approach, always wanting to "reinvent the wheel". Seeking to do it yourself makes it possible to approach from the inside the problems that arise and thus to really understand the solutions found over the centuries by men. With experience one becomes able to solve problems more and more complicated and sometimes, rarely, new problems that have not yet found a solution.



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