

1/4"

4/2/5/8

Rasp saw
dowel
photo

A Leo on Wheels Do at Home Activity

Leonardo's Gravity Bridge

Leonardo da Vinci was into bridges—all kinds—and all very clever and innovative*

One especially simple and easy, but tricky, one is this one:

do Vinci
S (care)

23
moral

Insert photos

weights -
balance
wts. in office
Kitchen
stuff
set
super
etc.

Here's what you need:

2---1/4 inch diameter soft wood dowels, at least 4 ft long (any store that sells hardware or lumber should have these for less than a dollar each)

1---1/4 inch round file (lots of folks have one in their tool box)

1---small hand saw

Cut the dowels in 6 inch segments—you need 15 pieces for the bridge.

5 dowels are used as is, just gently sand the ends to minimize getting splinters.
10 dowels need to be gently filed in 3 places, like this:

picture

Assembly (careful!):

Pictures

Testing:

That's all!

L3
LONDON

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Mario Taddei
Edoardo Zanon

I Ponti di Leonardo Leonardo's Bridges

Straordinari progetti di Leonardo da Vinci
ricostruiti in grafica tridimensionale
Extraordinary projects by Leonardo da Vinci
reconstructed in three-dimensional graphics

LIBRO/BOOK

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I Ponti di Leonardo Leonardo's Bridges

I Ponti di Leonardo ~ Leonardo's Bridges

a cura di, edited by Mario Taddei, Edoardo Zanon
testi di / text by Andrea Bernardini

Dieci progetti di Leonardo da Vinci per attraversare i corsi d'acqua raccontati con esclusive ricostruzioni tridimensionali. Affascinanti strutture come il ponte girante, il ponte autoportante, il ponte d'attacco e tanti altri.

Ten bridge projects designed by Leonardo da Vinci explained with exclusive three-dimensional reconstructions. Fascinating structures like the swing bridge, the self-supporting bridge, the assault bridge and many more.



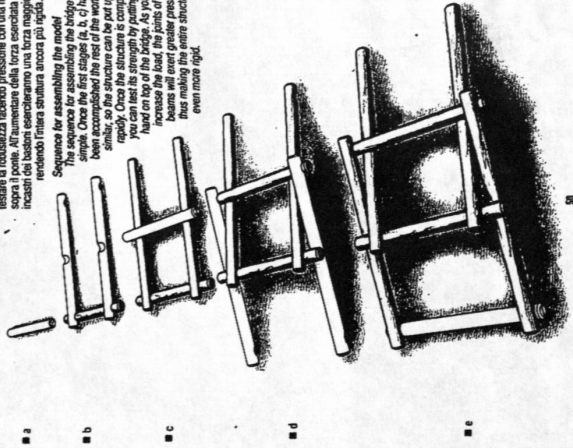
L3
Questo libro è disponibile dal CD-ROM / This book is available on the CD-ROM.
The book cannot be sold without its companion CD-ROM - Leonardo's Bridges

I Ponti di Leonardo - Leonardo's Bridges

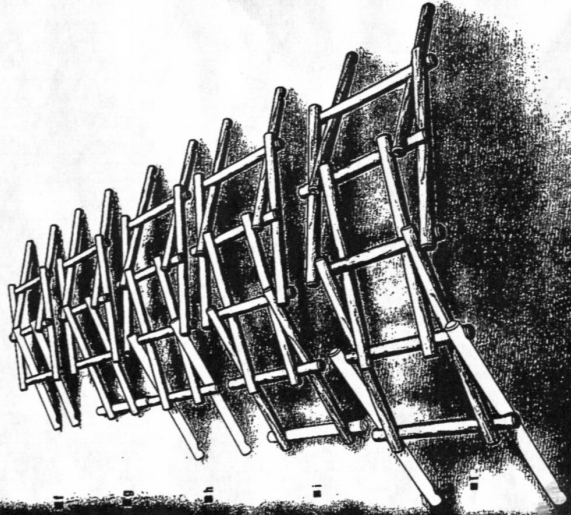
Se 07

La sequenza di montaggio del modellino. Una volta svolti i primi passi (a, b, c), questi successivi sono uguali e il montaggio della struttura risulta molto rapido. Una volta completata la struttura, si applica la colla e la struttura è pronta per essere usata sopra il ponte. All'aumentare della forza esercitata gli incastri dei bastoni eserciteranno una forza maggiore, rendendo l'intera struttura ancora più rigida.

Sequence for assembling the model. The sequence for assembling the model is similar. Once the first steps (a, b, c) have been accomplished, the rest of the work is rapid. Once the structure is complete, glue is applied and the structure is ready for use over the top of the bridge. As you increase the load, the joints of the beams will exert greater pressure, thus making the entire structure even more rigid.



Il ponte autoportante - Self-supporting bridge



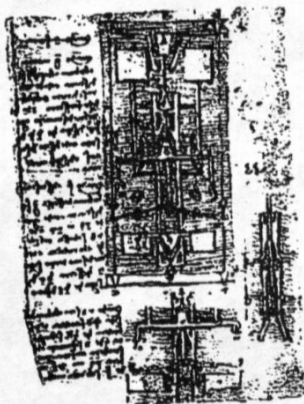
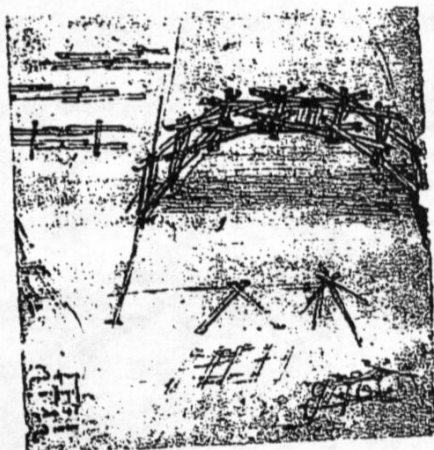
*Leonardo's Bridges, by A Bernardoni, M Taddei, and E Zanon, is a book, kit, and CD game available from and at www.leonardo3.net; www.leonardo3.net/leonardo/store_eng.htm#ponti

Zanon



Ponte
autoportante e
cassa idraulica

Codice Atlantico
foglio 69r
[228 x 214 mm e
201 x 144 mm]



62.144

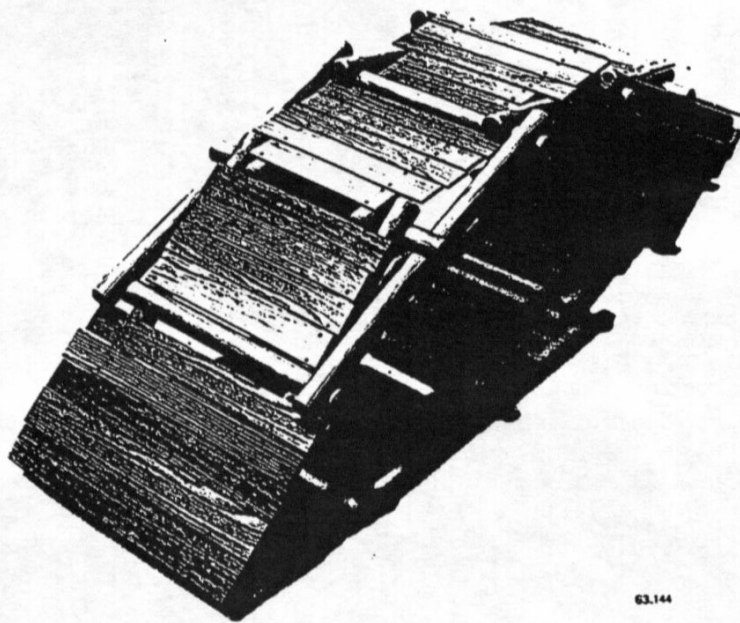
Ponte autoportante e cassa idraulica *Self-supporting bridge and water chamber*

Nella parte superiore del manoscritto Leonardo disegna, sopra a un fiume, un ponte autoportante realizzato con tronchi o pezzi di legno uguali. Il ponte, probabilmente pensato per un uso militare, sta in piedi senza nessuna legatura grazie soltanto alla geniale tecnica d'incastro. Nel secondo foglio un complesso sistema di galleggianti, valvole e leve serve per automatizzare l'ingresso e la fuoriuscita dell'acqua nel recipiente. Il disegno è visto in sezione verticale.

At the top of the manuscript Leonardo has drawn, above a river, a self-supporting bridge built of wood logs or wood pieces of equal size. The bridge, probably intended for military use, remains standing without any kind of fastening, thanks to the ingenious technique of interlocking joints. On the second page a complex system of floats, valves and levers serves to automate the in- and outflow of water to the container. This design is shown as a vertical section.

Self-supporting
bridge and water
chamber

Codex Atlanticus
folio 69r
[18.9 x 8.4 in.
7.9 x 5.7 in.]



63.144