Melbourne Festival Of Puppetry 2023
June 27 - July 2

Marionette Workshop Notes
Sydney Puppet Theatre
www.sydneypuppettheatre.com.au

SOME INFLUENCES

Norman Hetherington

Norman Hetherington achieved fame on Australian TV as “Mr Squiggle” - a marionette who drew with his nose and turned children’s squiggles into humorous drawings. At one time Mr Squiggle was the longest running show on TV anywhere in the world.

Norman had a brilliant design eye as seen here in these marionettes from his version of “St George and the Dragon”.

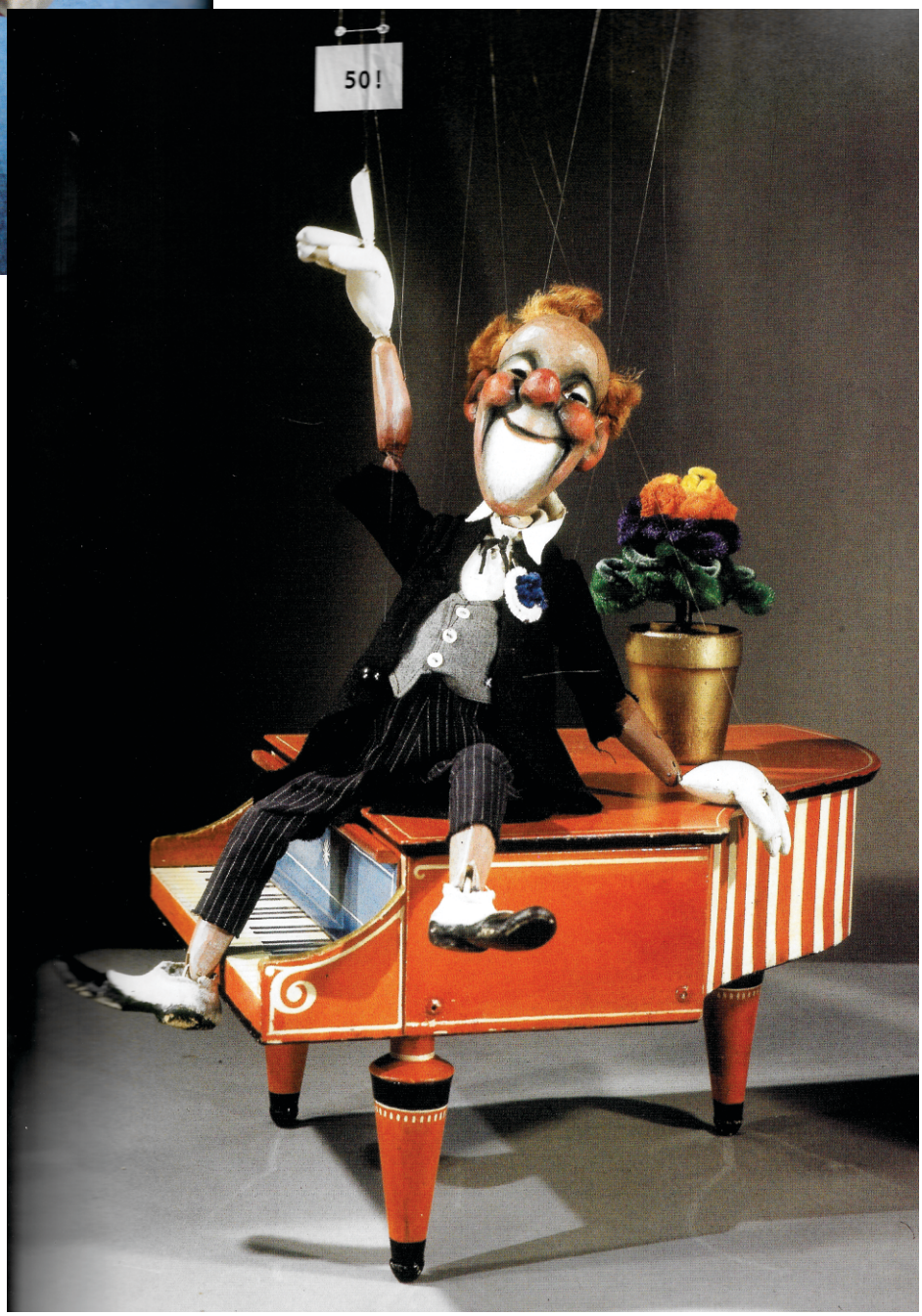
Norman favoured what he called “divertissements” and was a gifted performer.

Google “Mr Squiggle” to find many black and white clips.

Albrecht Roser

Albrecht Roser was a German puppeteer who changed the way people thought about marionettes, by exploring psychological themes and inventing new controls.
A supreme technician, just google “Jim Henson’s World Of Puppetry Albrecht Roser” to spend 50 minutes with a master.
Albrecht also started a highly regarded puppetry school in Stuttgart.

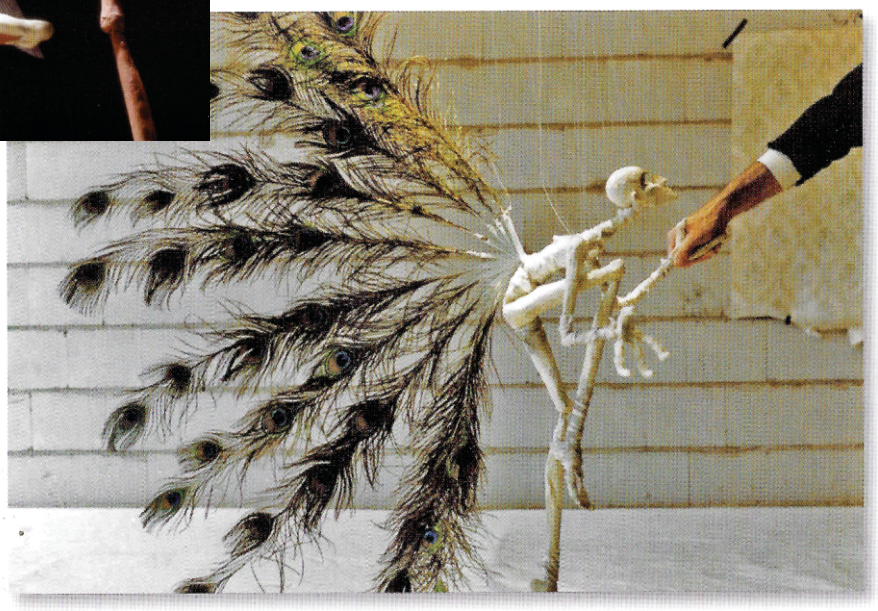
Henson Video
https://www.youtube.com/watch?v=WhHSp8SZxfc



Frank Soehnle
figuren theater tubingen

Frank Soenhle is an early graduate of Albrecht Roser's Puppetry school.
A master performer, designer and maker.
Frank has a keen eye for exaggeration.
Google "figuren theater tubingen".

Website -
https://www.figurentheater-tuebingen.de/en/



Youtube Channel -
https://www.youtube.com/user/figurentheatertuebin/videos

Ronnie Burkett
Theatre of Marionettes

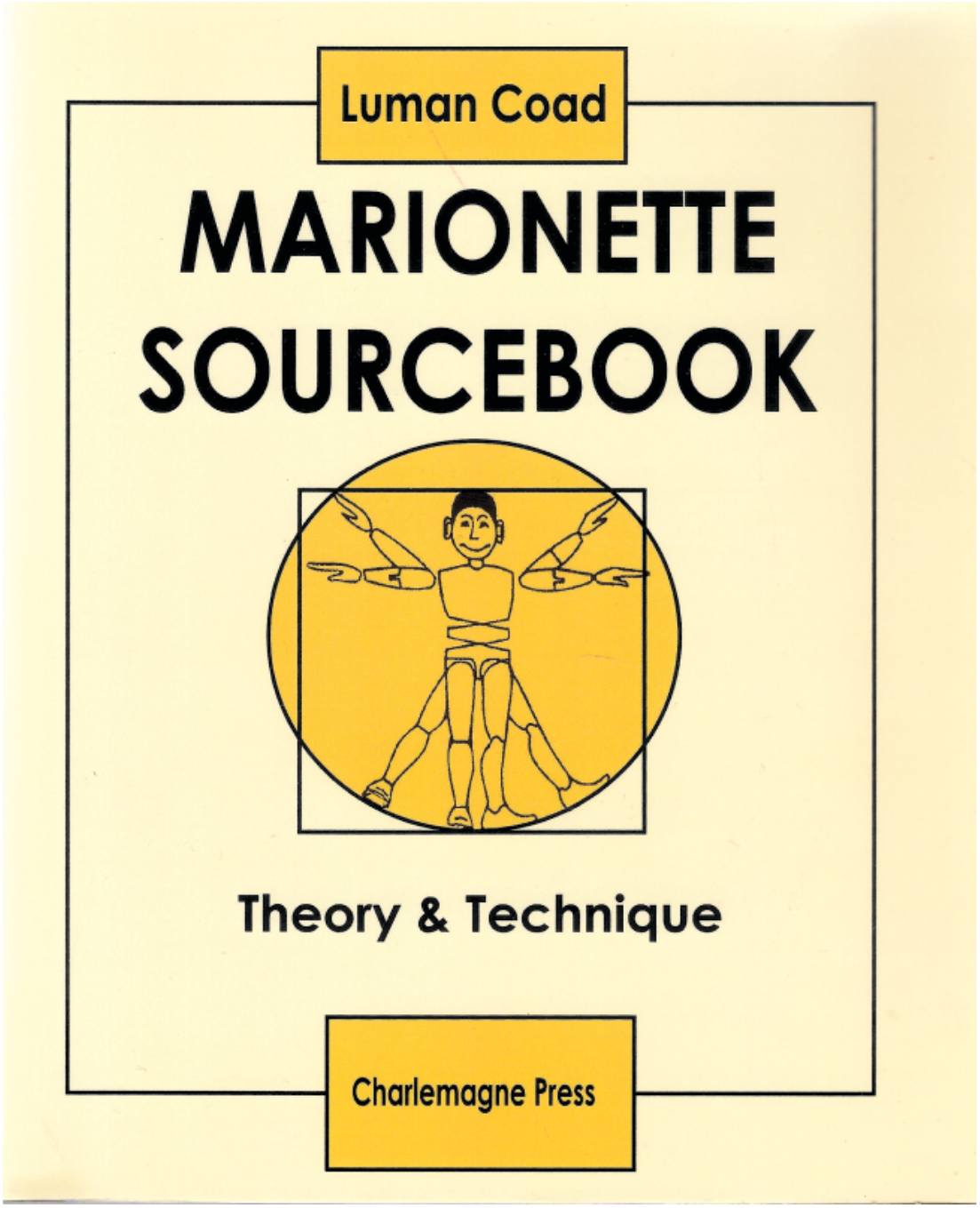
Canadian Ronnie Burkett is well known to Australian audiences for his skill and intricate shows.
A true polymath, Ronnie writes, draws, designs, and builds his shows.

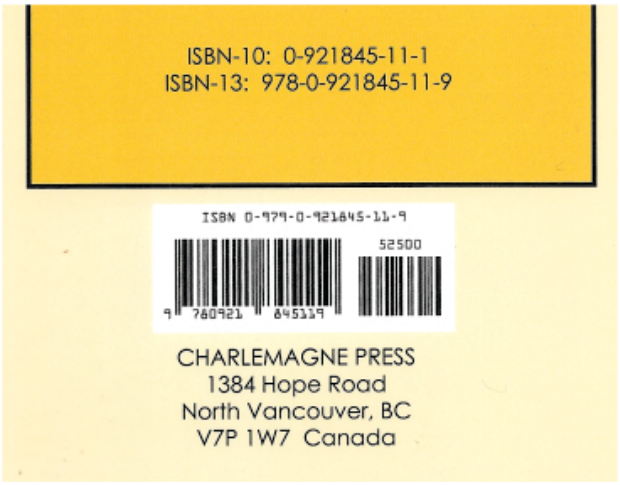
A collection of interviews with Ronnie Burkett
https://www.johnlambert.ca/ENGLISH/ronnie-burkett/

Some Pages From Luman Coad's Book

Luman Coad works closely with Ronnie Burkett to create controls for him.

https://www.charlemagnepress.com/ProductDetails.asp?ProductCode=978%2D0%2D921845%2D11%2D9

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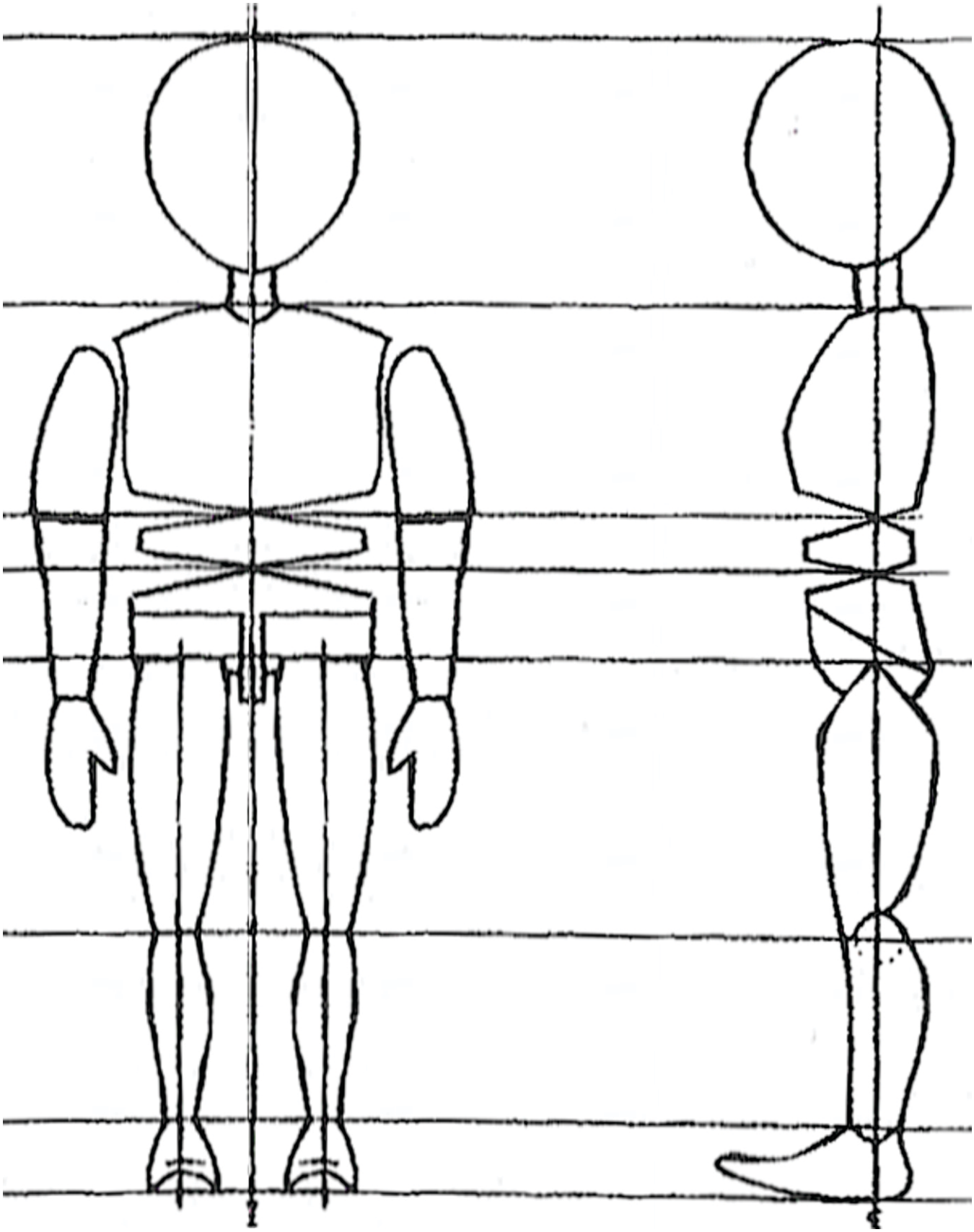
V7P 1W7 Canada

Make a full size drawing of the puppet figure - as detailed or as simple as need be.
Draw registration lines that line up all the important parts of a front drawing and a profile drawing.



A selection of possibilities for body construction.

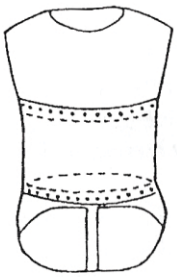


Fig. 71. Traditional Mid-torso.

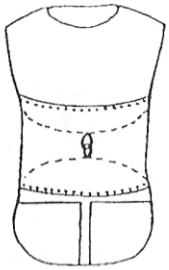


Fig. 72. Sarg Mid-torso.

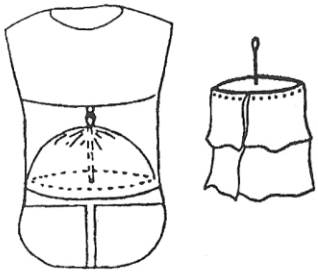


Fig. 73. Hastings Mid-torso.

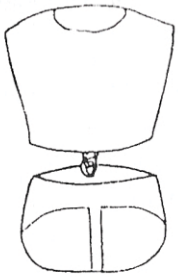


Fig. 74. Lanchester Mid-torso.

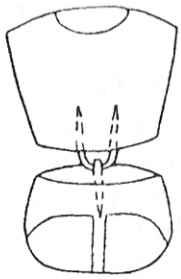


Fig. 75. Linked Staple Mid-joint.

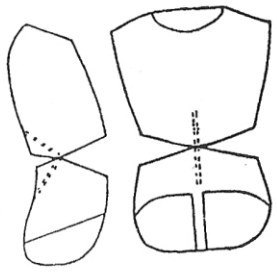


Fig. 76. Single Cord Mid-joint.

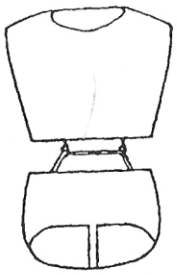


Fig. 77. Cord & Screweyes Mid-joint.

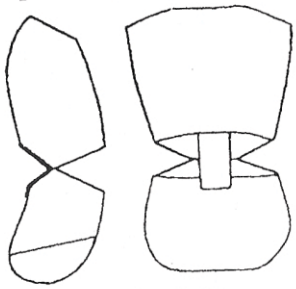


Fig. 78. Single Strap Mid-joint.

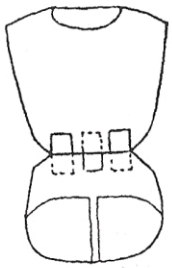


Fig. 79. Triple Strap Mid-joint.

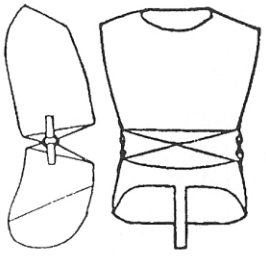


Fig. 80. Side strap Mid-joint.

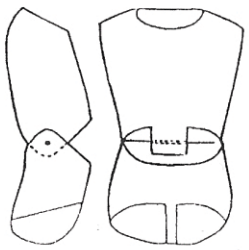


Fig. 81. Tongue & Groove Mid-joint.

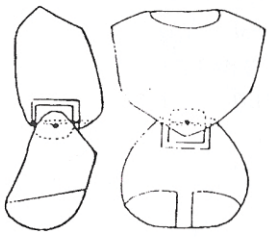


Fig. 82. Universal Mid-joint.

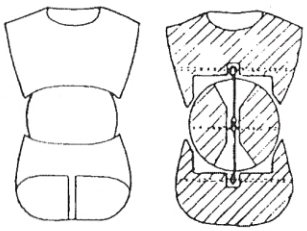


Fig. 83. Exposed ball Mid-joint.

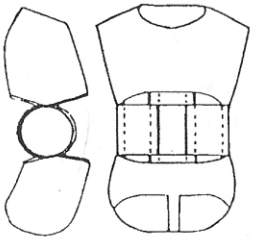


Fig. 84. Cylinder & Strap Mid-joint.

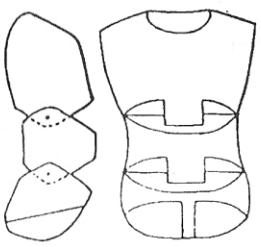


Fig. 85. Tongue & Groove Mid-joint.

A selection of hip joint possibilities

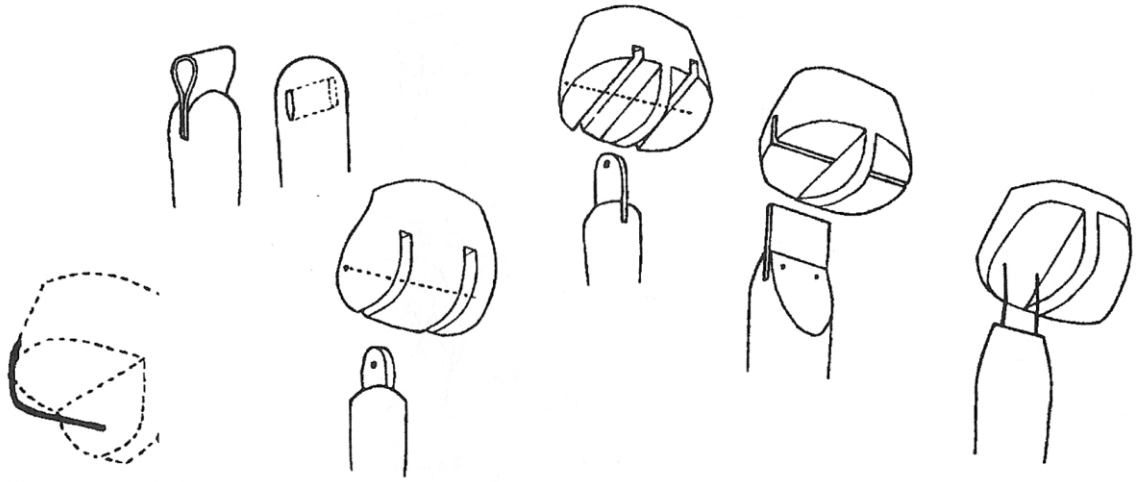


Fig. 104. Wire Hanger Hip.

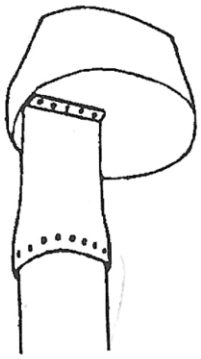
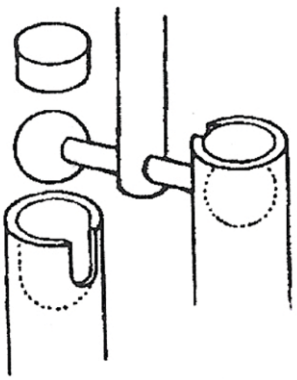


Fig. 105. Cloth Upper Leg.



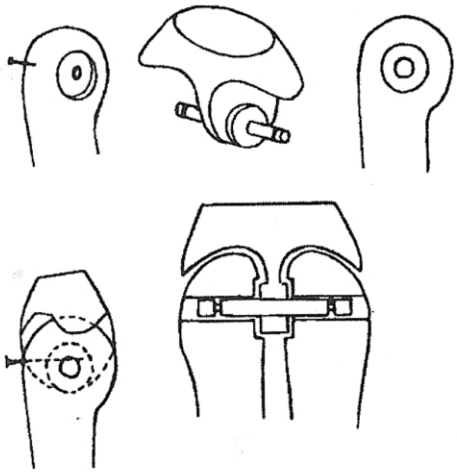
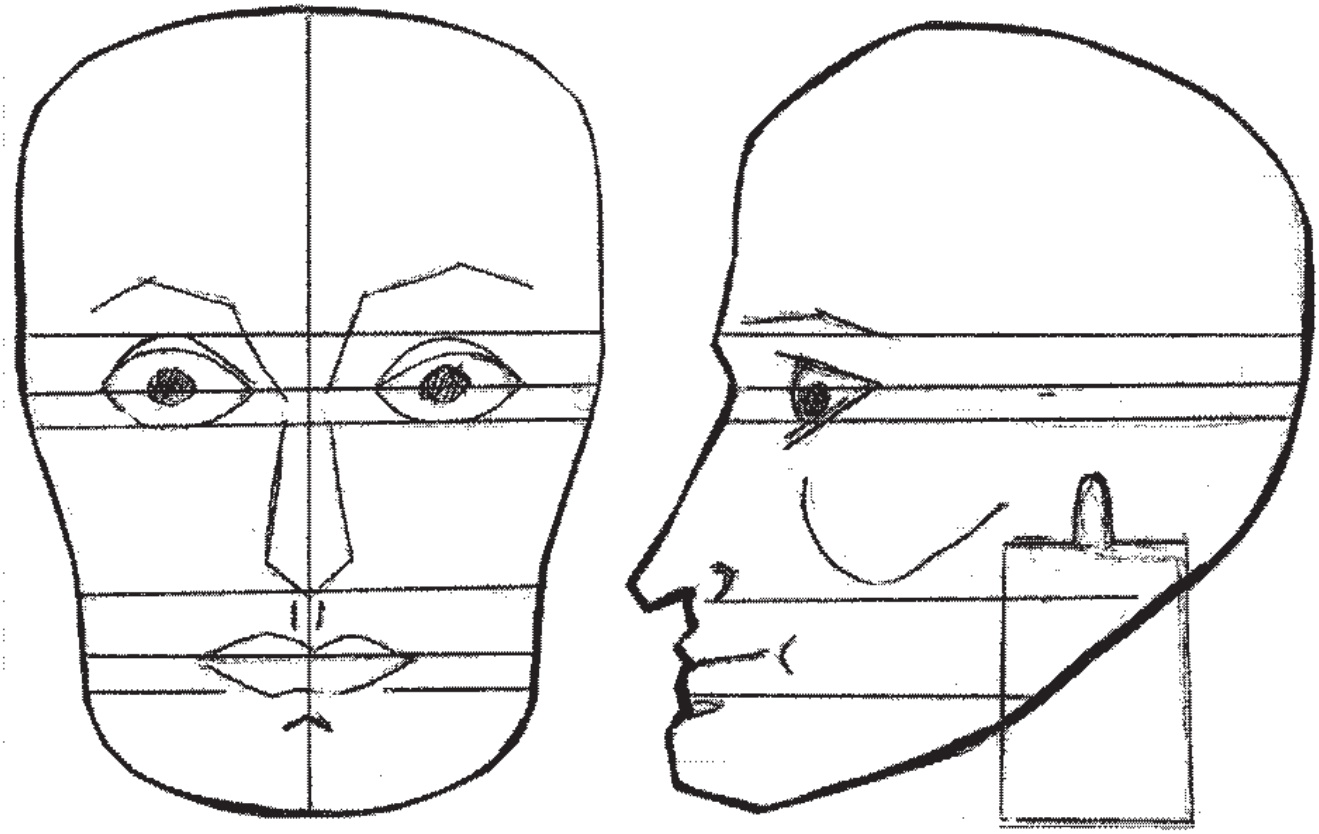


Fig. 107. Bross Universal Hip.

FURTHER IDEAS

Similar to the drawings of the whole figure, this shows a front and profile drawing of the head with registration lines for corresponding features



Shoulder Joints

Start with a length of dowel - this will be for the upper arm.

Set up a length of sash cord with a secure knot at one end and both open ends seared and sealed so they don't unravel.

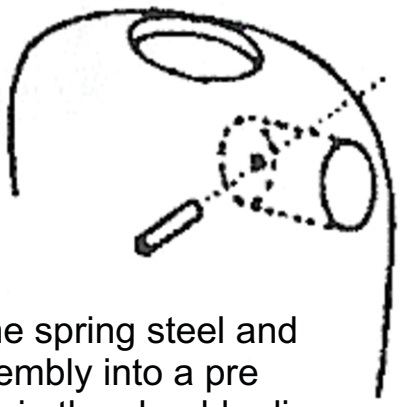
Drill through the dowel at the point where the arm meets the shoulder line of the body. The hole is a snug but not tight fit to the sash cord.

Over drill part way into the previous hole - this is to bury the knot of the sash cord.

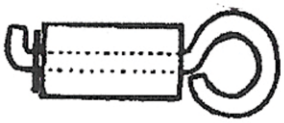
Pull the sash cord through the dowel and pull the knot into the over-drilled hole. The rest of the sash cord is pulled into a hole in the shoulder line and tied off inside the body.

This joint can also be used to connect the head and neck to the body.
Explore connecting upper and lower body sections with 2 lengths of sash cord in the same manner.

Waldo S. Lanchester's method of shoulder joint



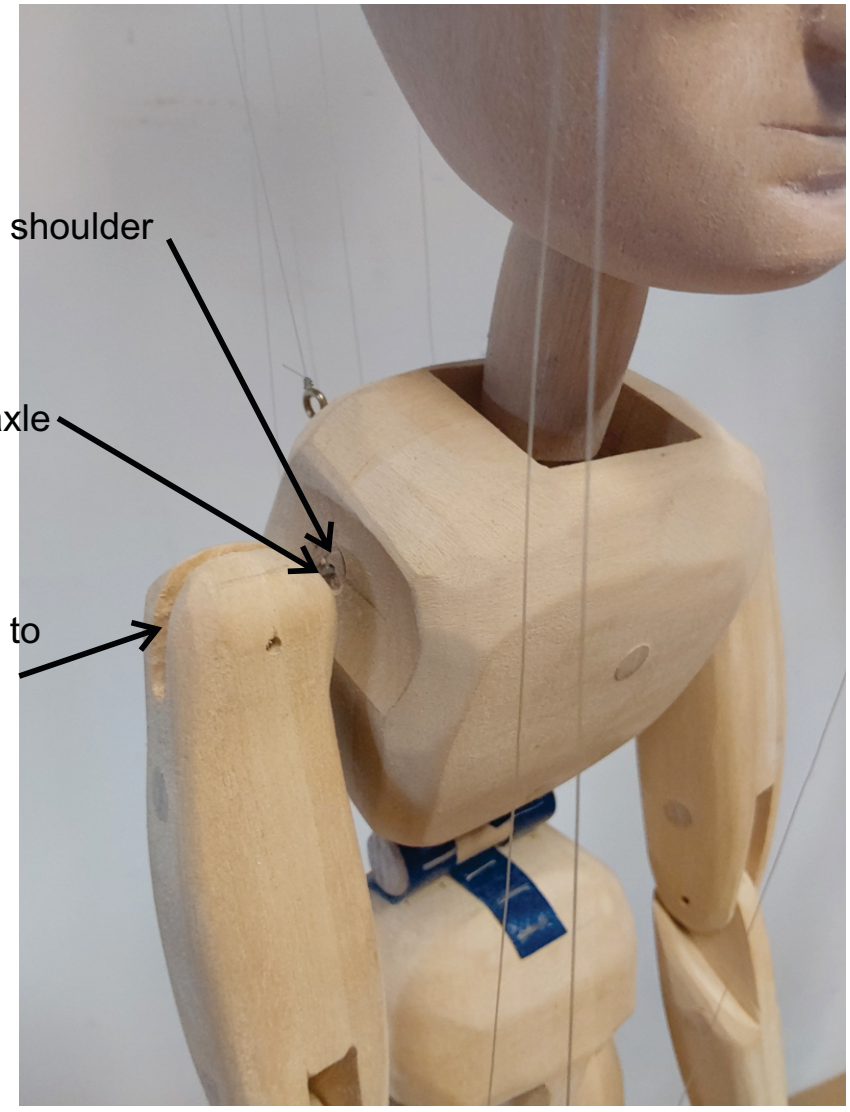
1. Make a closed loop in a length of spring steel and pass it through a snug (not tight) hole in a length of dowel.



2. Bend up the free end of the spring steel and cut it off so that it is not bigger than the radius of the dowel.

3. Slide the spring steel and dowel assembly into a pre drilled hole in the shoulder line and pin it with a wire brad or nail or screw.
This hole should be fairly tight and deep enough to not stop the bent end of the spring steel from rotating in the shoulder slot.

This joint allows the arm to move forward and back and to also rotate out to the side, allowing a good range of movement.

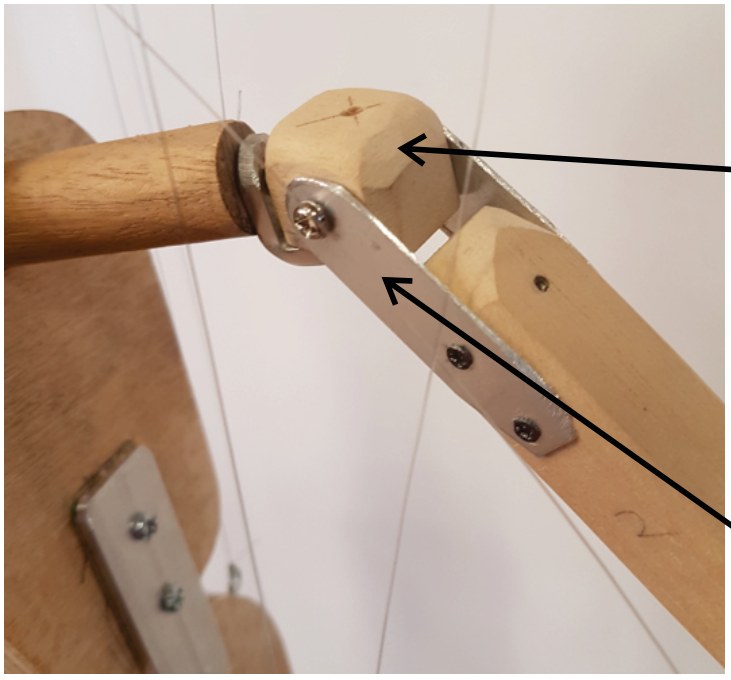


Explore using this joint at the elbow to allow the forearm to turn across the body.

Experimental shoulder joint by Sydney Puppet Theatre

This joint allows the arm to move in 3 planes.

Right angle bent 3mm aluminium pivots on the shoulder line.

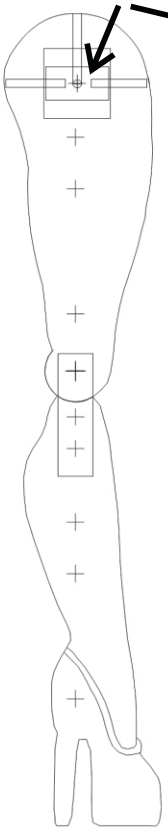


Wooden block can rotate on the bent aluminium plate to allow movement across the body.

1.6mm aluminium plates attach to the front and back of the upper arm and rotate on the wooden block to give in and out movement

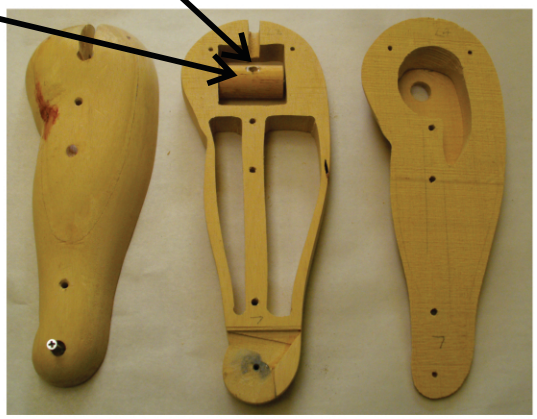
Not so experimental hip joint by Sydney Puppet Theatre

Internal dowel allows the thigh to rotate in 2 directions.



Tech drawing of parts in the hip joint.

Hole slides onto the threaded rod in the crutch and can rotate.



The 3 parts of the thigh pre cut to enclose the rotating dowel.

The crutch set up with a threaded rod and lock nuts to take the upper leg.

This joint allows the puppet to do a forward split, a side split and an open leg squat.

Double Neck Joint

Spring steel bent into a closed loop.

A length of dowel that has grooves set into opposing sides.

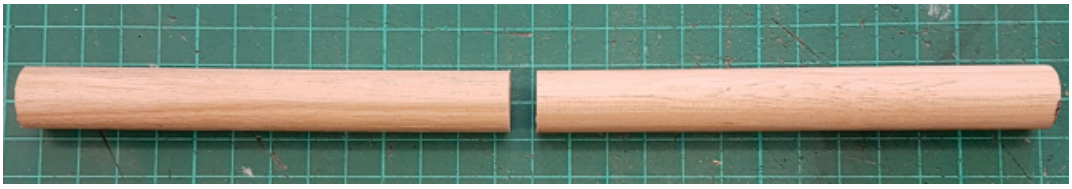
Spring steel loop is set over the dowel and pushed into the 2 grooves.

Dowel and spring steel assembly is pushed into a hole drilled through the shaped neck. The loops are left exposed.

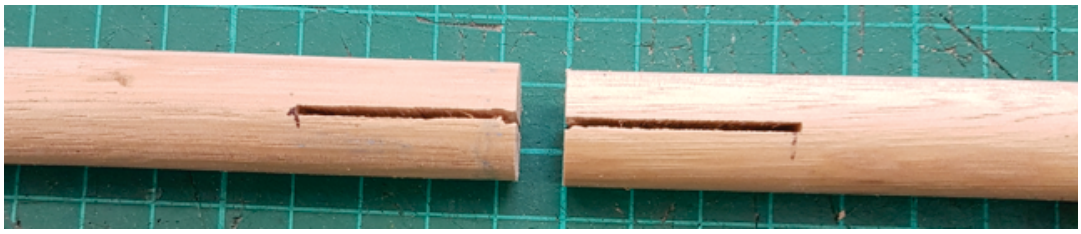
Neck is pinned into the body and the head through the 2 loops.

This joint is highly mobile.

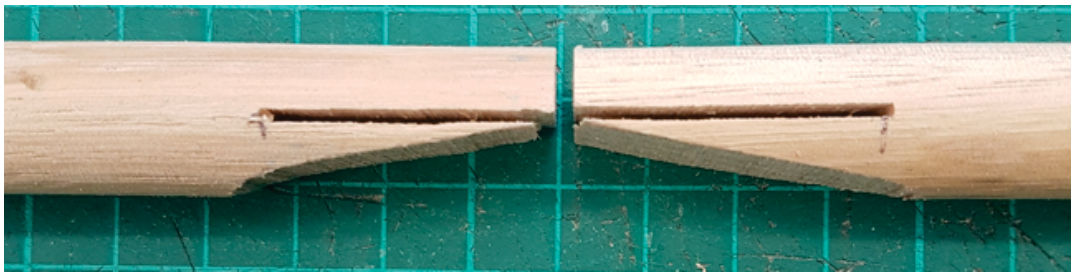
Elbow Joint



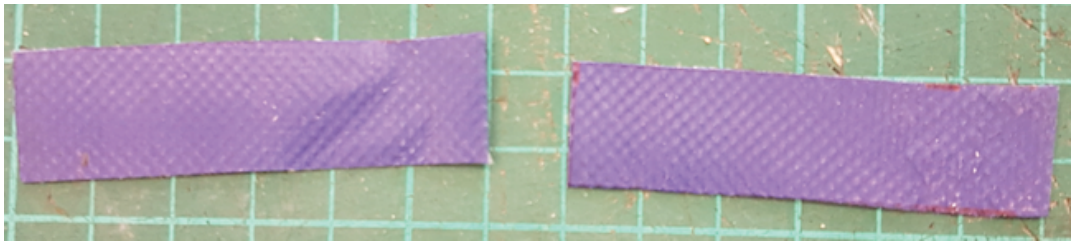
The two parts of the arm cut from dowel.



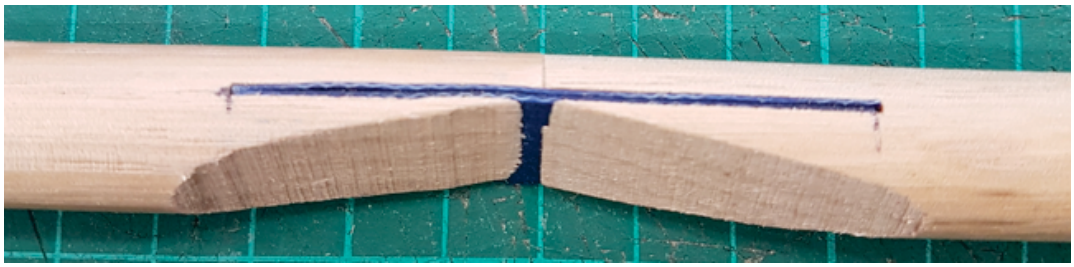
Slots are cut into the two parts of the arm.



Angle cuts are made into the two parts of the arm.

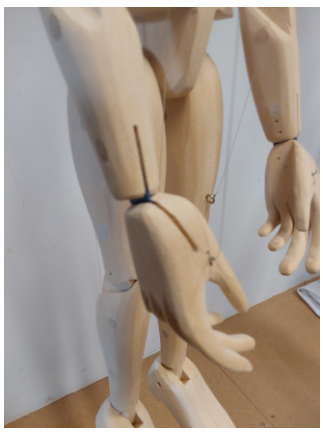


The joining material is cut to fit the slots. 2 are used for strength.



The joining material is worked into the slots. The 2 parts of the arm are pushed together.

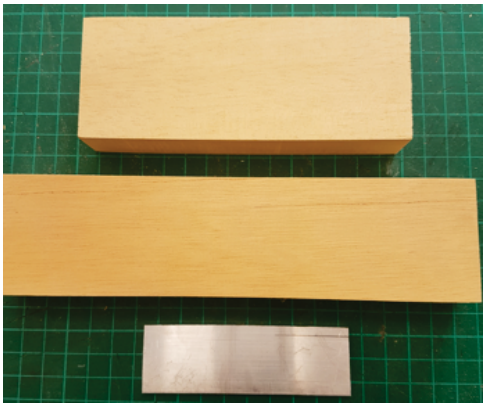
The joining material is nailed into the slots.



The same method also works well for wrist joints. The slots can be filled with wood filler or auto bog.

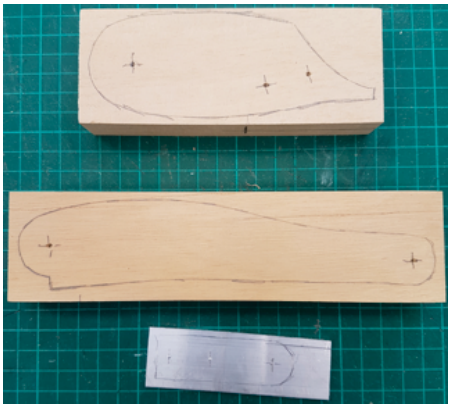
Knee Joints

1.



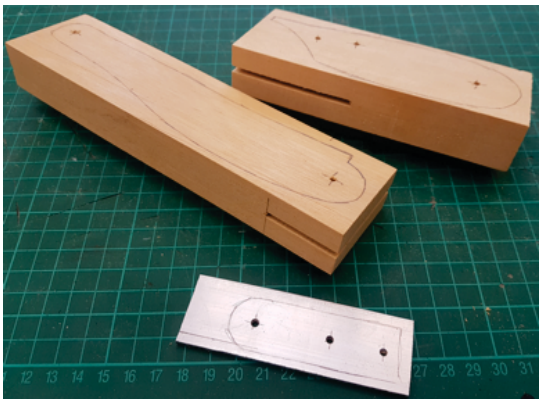
The 3 parts of the leg -
the thigh
the calf
the 3 mm aluminium joint piece.

2.



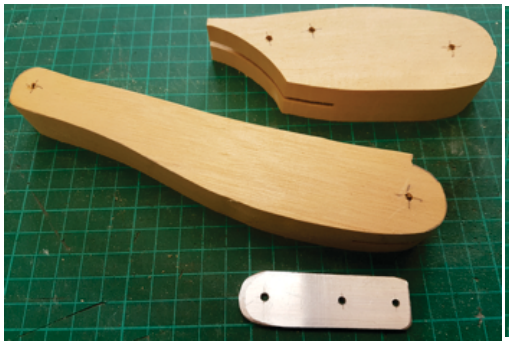
The profiles drawn on the 3 parts of the leg. Registration marks are made for the holes to be drilled - these need to be accurate.

3.



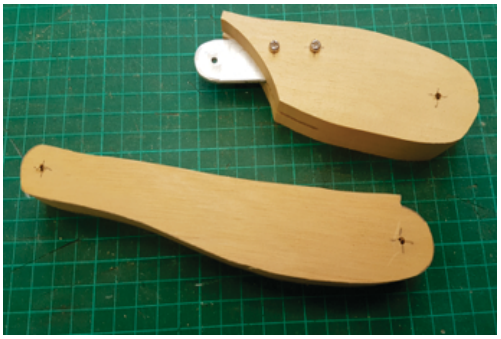
The slots cut into the 2 parts of the leg. The slots are quite tight to the thickness of the aluminium. Holes are drilled for the bolts and moving parts. Tight holes for the bolts and slightly oversize holes for the moving part (the rounded part of the aluminium).

4.



The 3 parts of the leg are cut to their profile shape. At this point the parts would be fitted and if need be adjusted to achieve easy movement. The 2 wooden parts would then be shaped to their final look before putting the joint together.

5.



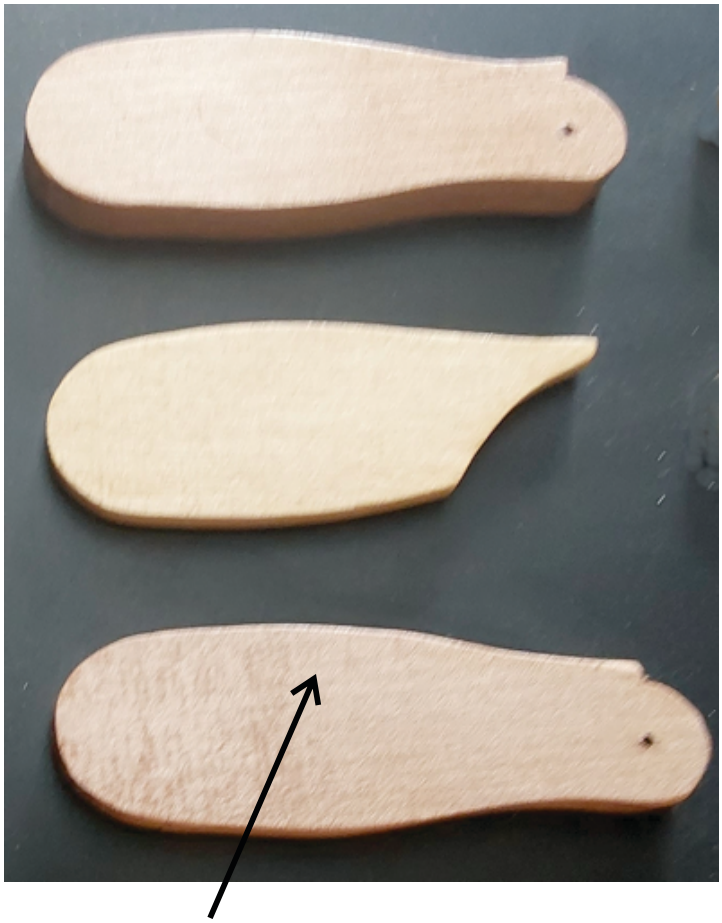
The aluminium joint piece is bolted into the upper leg.

6.

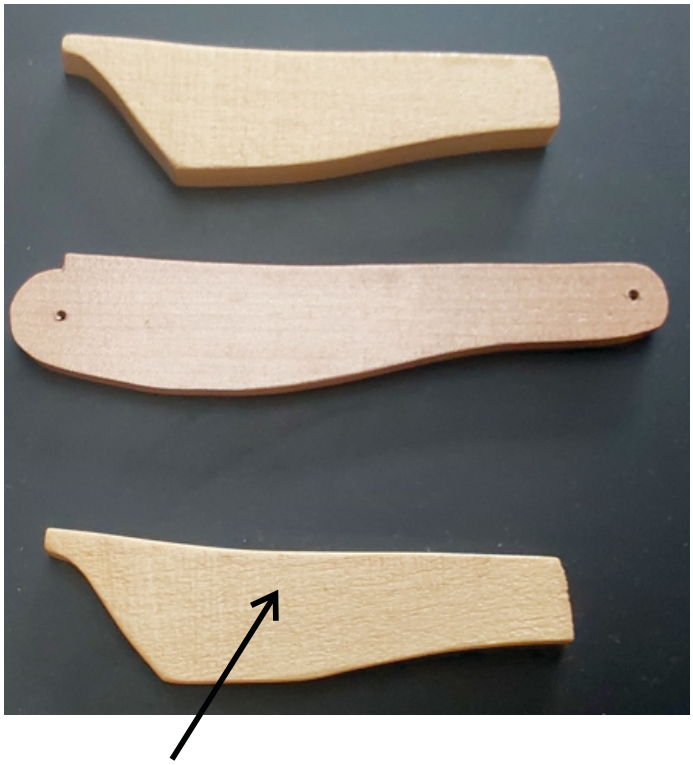
Finally the lower leg is bolted to the aluminium joint piece.
The hole in the leg piece is tight to the bolt - the hole in the aluminium is loose in the bolt so the joint can move freely.

This joint also works well as an elbow joint.
It is sometimes used as a wrist joint or as an ankle joint.

Waldo S. Lanchester's knee joint method



The 3 pieces of the thigh are cut to their profiles and drilled.
The 3 pieces are glued together and the front outlines drawn on. Make sure that the holes through the outside pieces line up



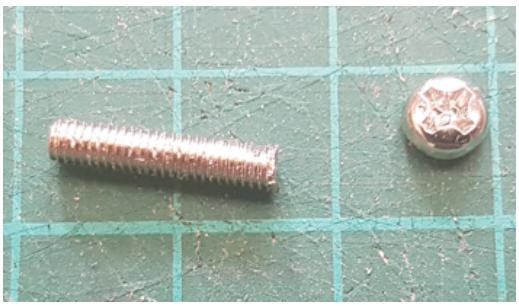
The 3 pieces of the calf are cut their profiles and drilled.
The 3 pieces are glued together and the front outlines drawn on.

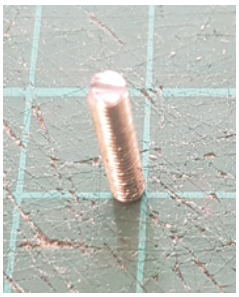
The tongue on the calf is slotted into the slot in the thigh. Test fit the bolt and make sure the movement is free before shaping the two pieces to their final front shape. Bolt the 2 together. See the next page for some ideas on how to set the bolt

Lanchester also uses this method for elbow joints.

3 ways to use bolts

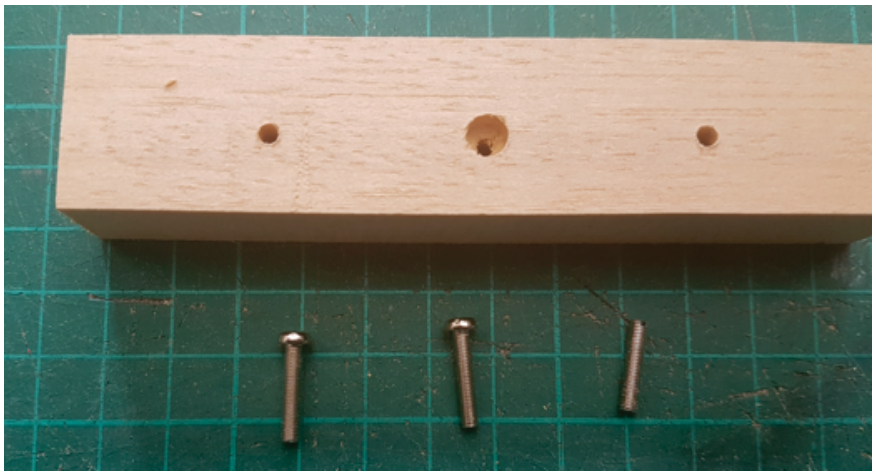
A 3mm bolt - used in most joints



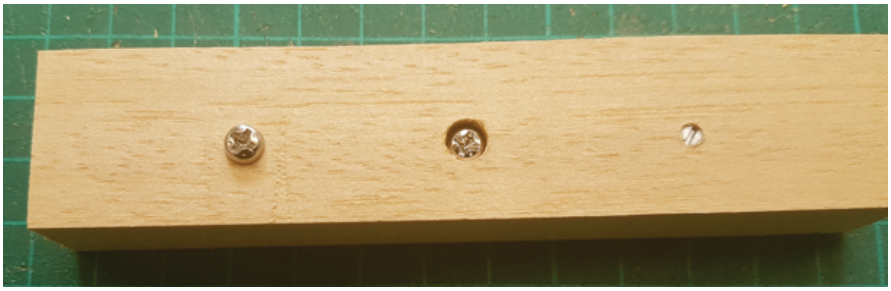


Bolt shown with the head cut off.

Then one end of the bolt is slotted with a hacksaw. The slot is only about 2 to 3mm deep

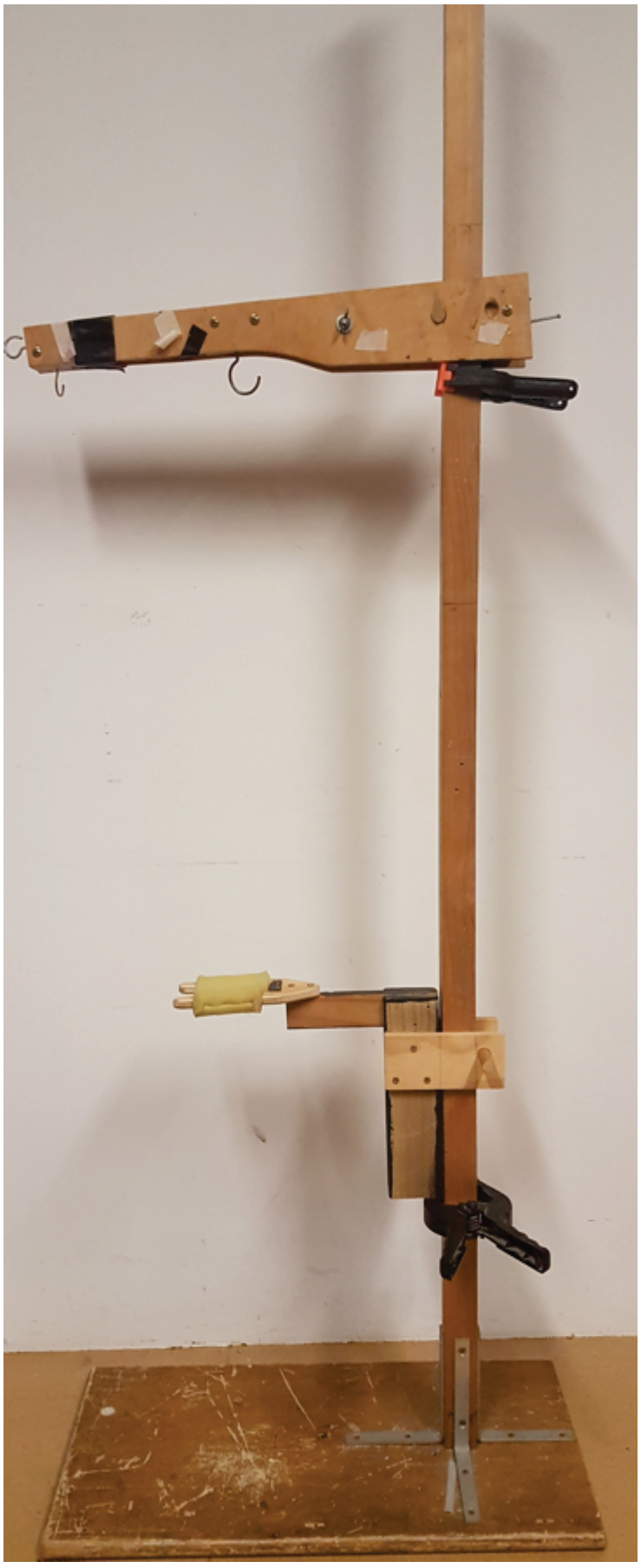


The wood piece is prepared with 3 holes -
first is a tight hole for a 3mm bolt
second is a tight hole that has been partially drilled out
third is a tight hole for a 3mm bolt



The wood piece shows the three bolts in place -
first has the head of the 3mm bolt sitting proud of the wood
second has the head of the 3mm bolt buried in the wood
third has the bolt completely flush in the wood

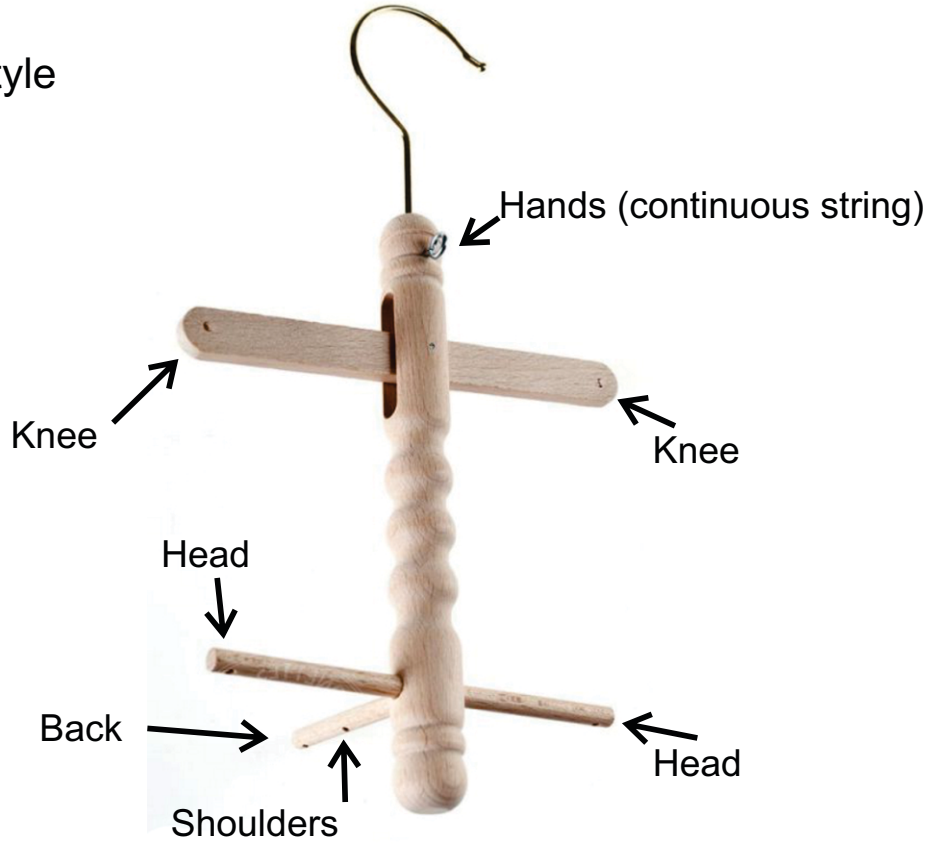
Gantry



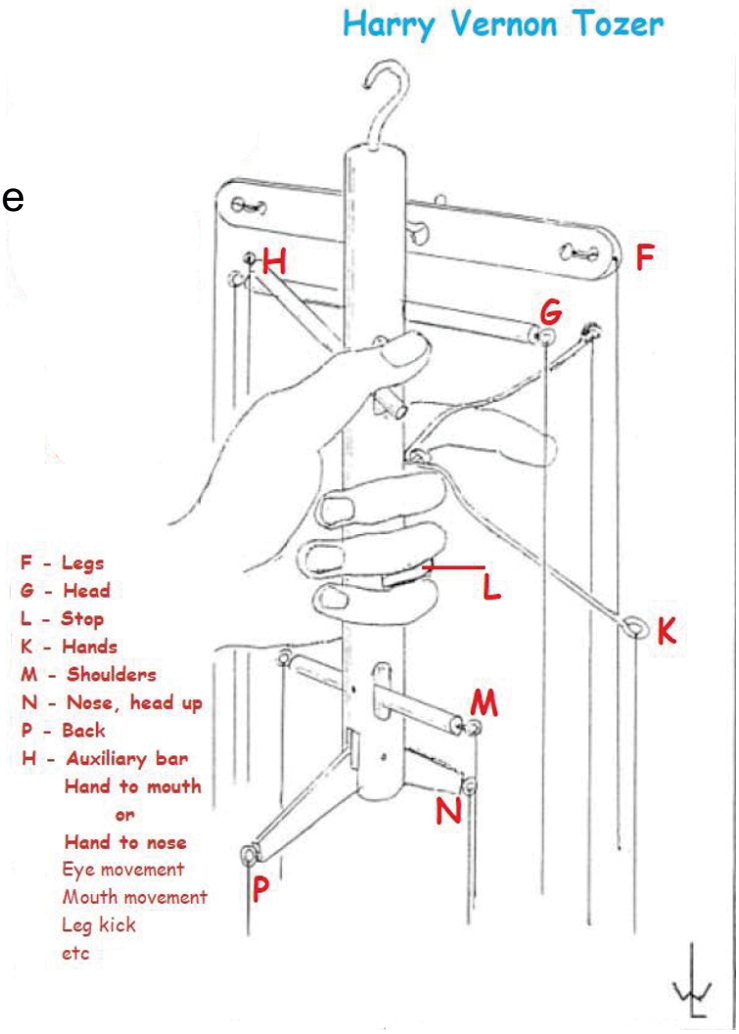
The gantry is used for stringing the marionette. The lower fork is used to hold the puppet around its neck. The upper arm can be moved up and down (it is held by friction and gravity against the dowels around the upright). The control is clamped to the upper arm and the head is strung to the control. The lower fork is removed by sliding out the dowel around the upright. Then the upper arm is raised or lowered until the puppet is standing on the bottom plate. The rest of the puppet can now be strung.

SOME CONTROLS

Vertical or Czech style

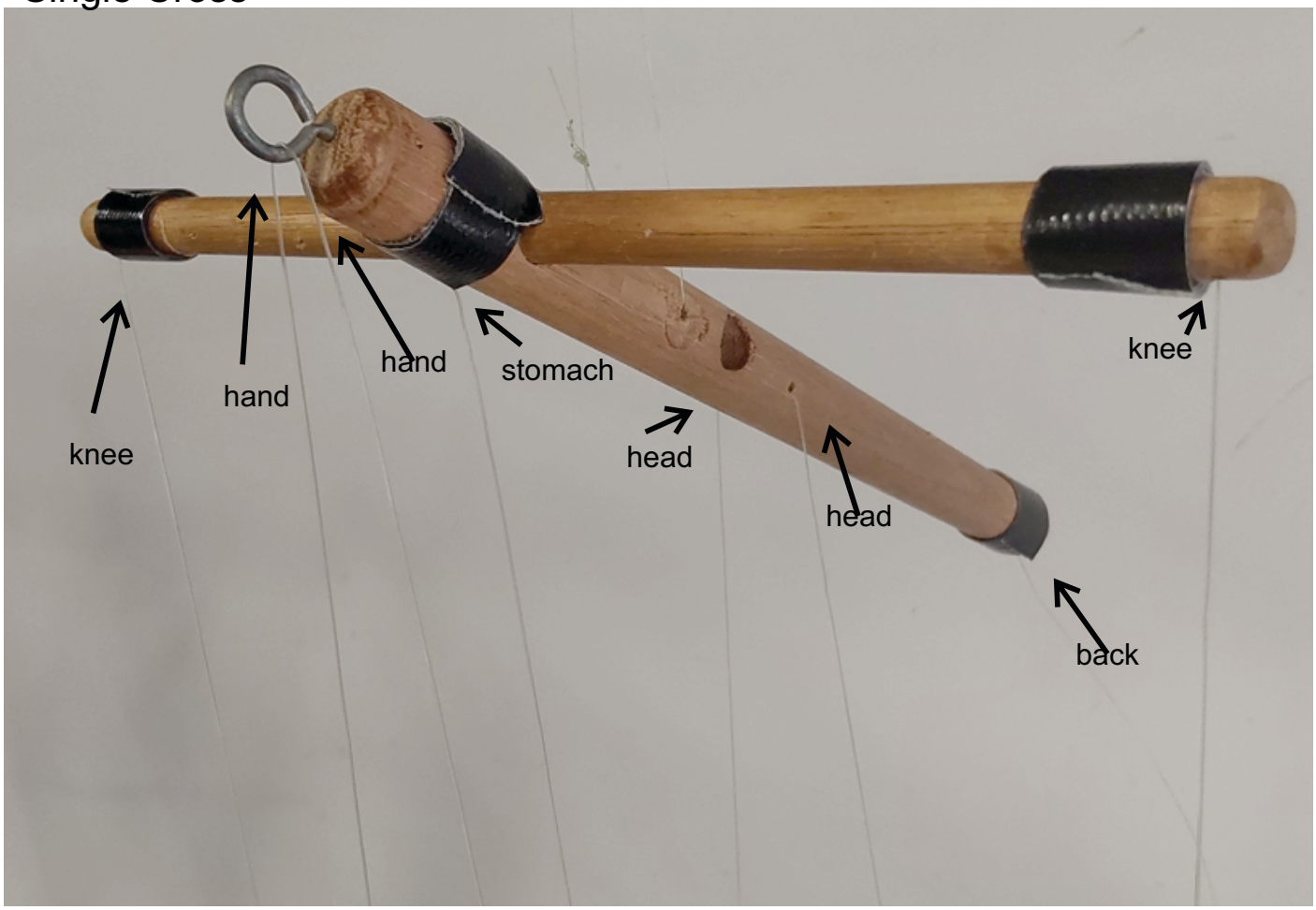


Tozer's version of vertical style

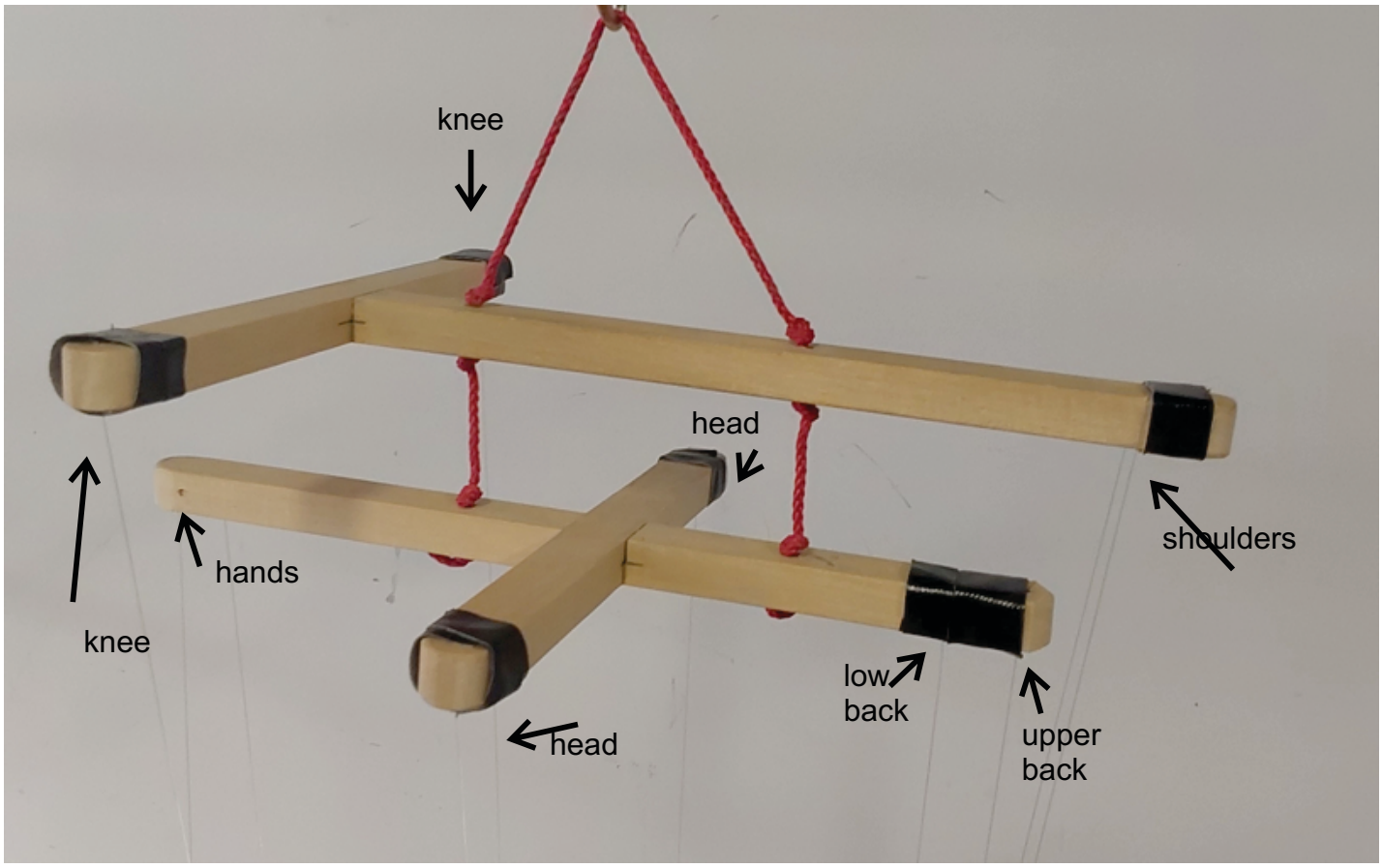


Aeroplane controls

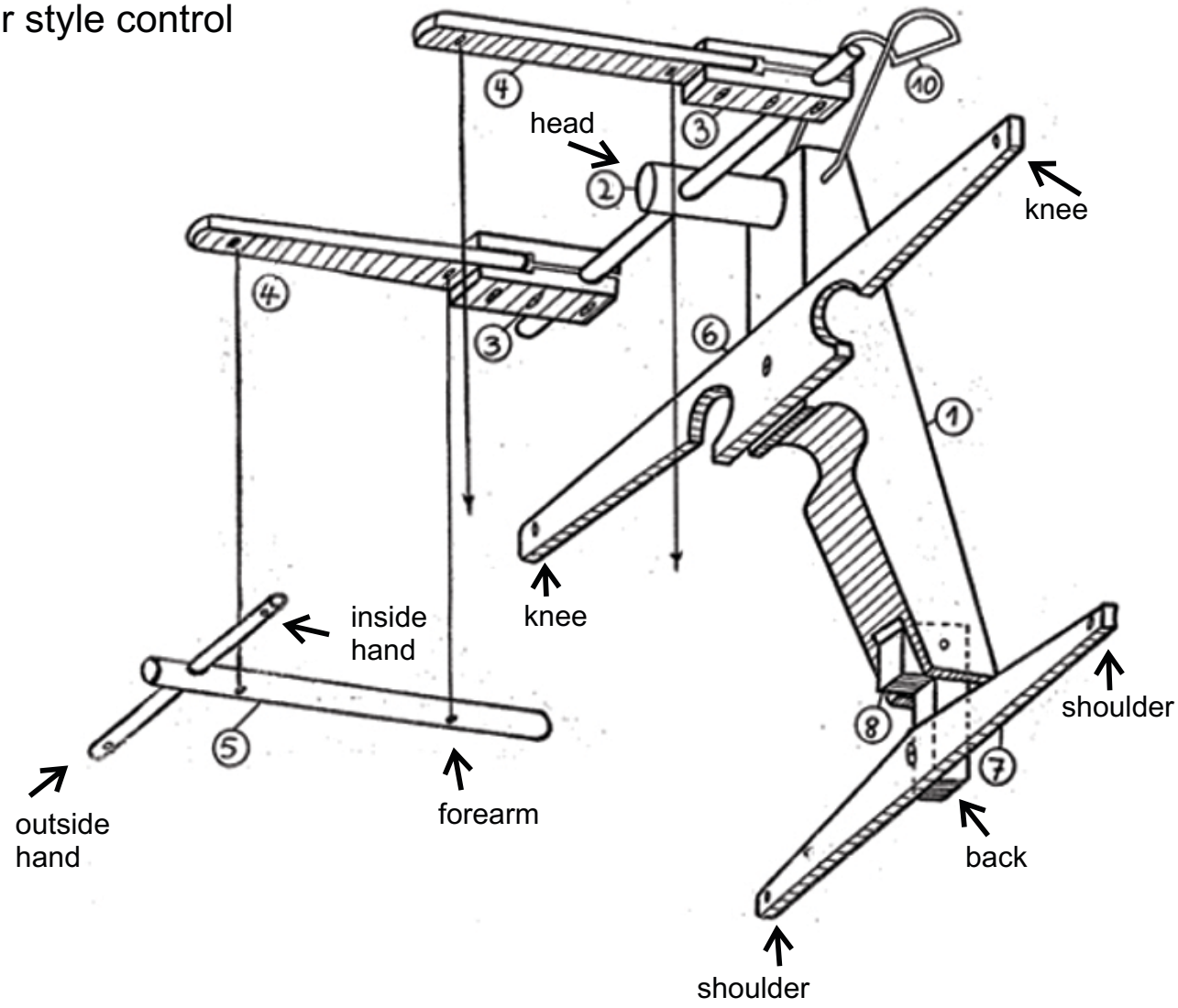
Single Cross



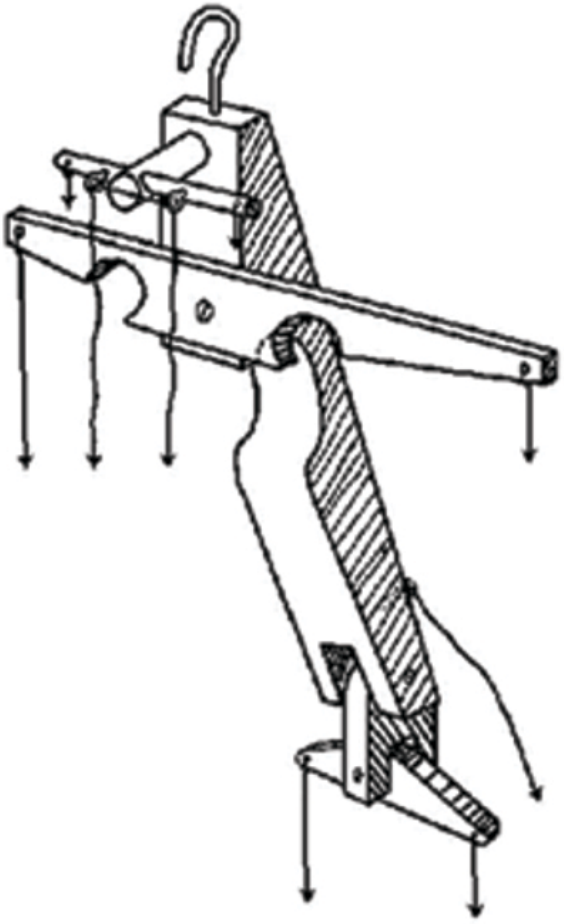
Double Cross



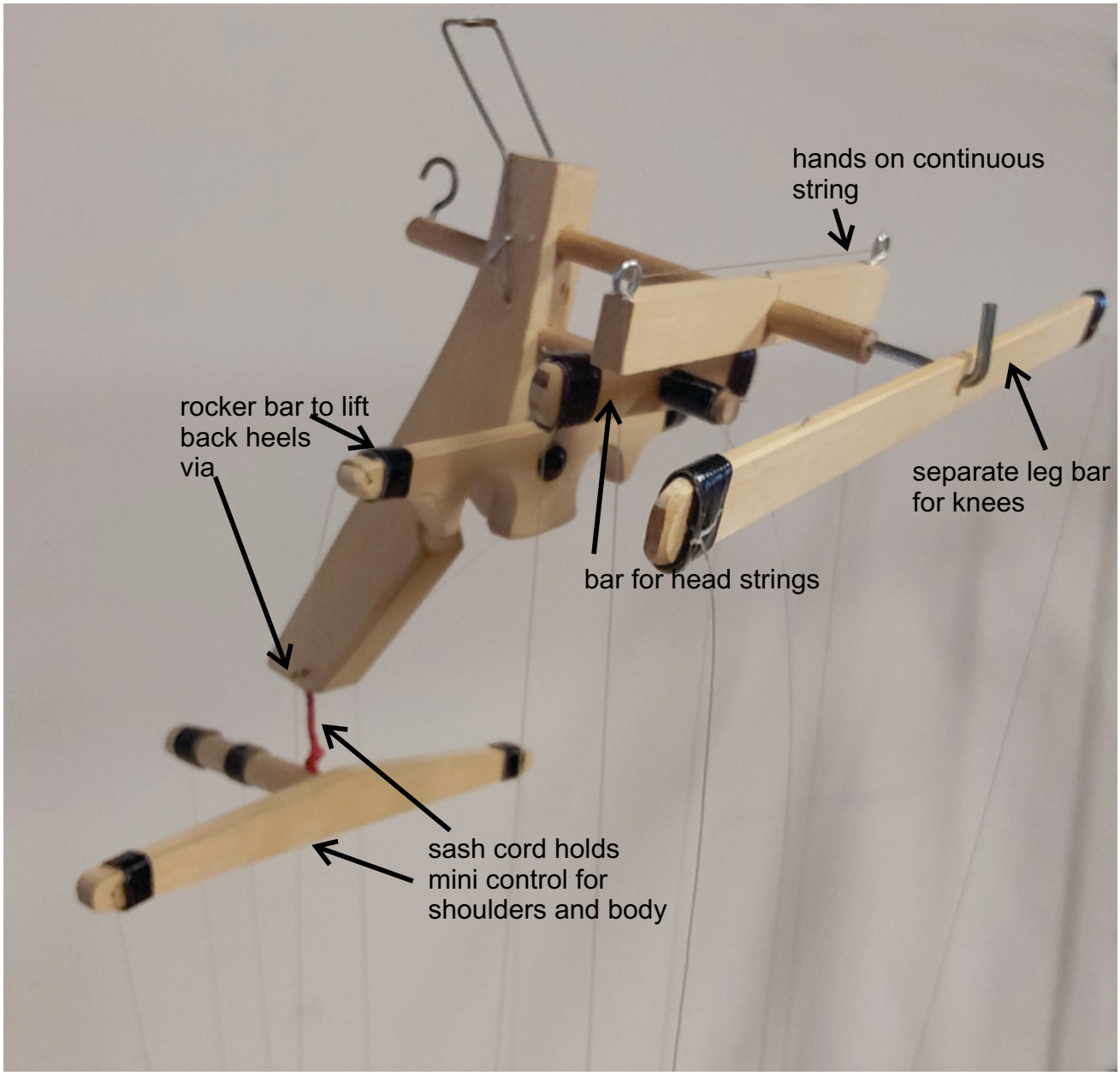
Roser style control



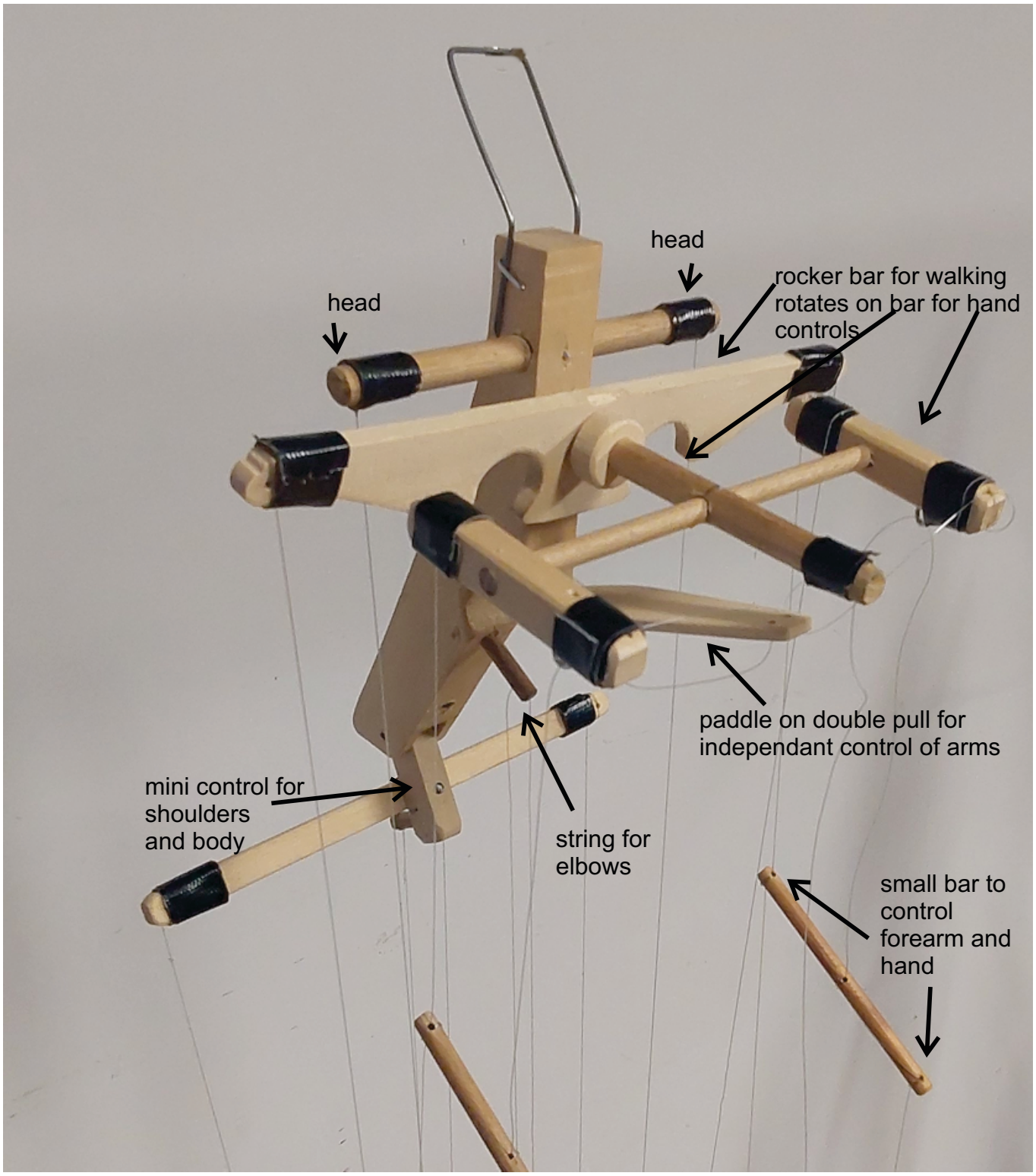
Simplified Roser style control



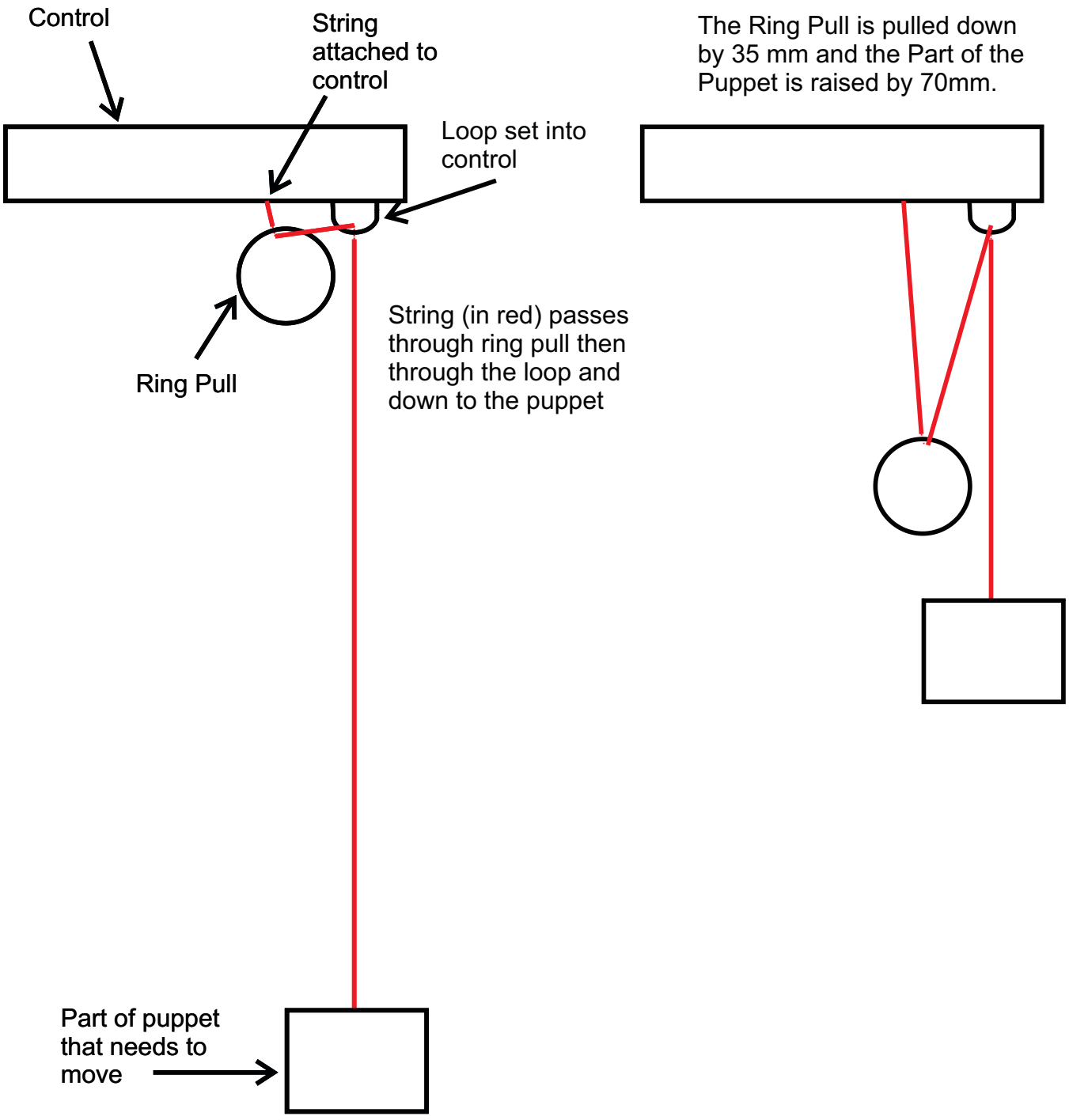
Sydney Puppet Theatre variation of Roser style control



Ronnie Burkett variation of Roser style control (sort of)



How the double pull string works



RESOURCES

Jelutong - the wood of choice for carving and controls
Matthews Timber
41-43 Rushdale St Knoxfield VIC 3180 (03) 8756 6333
https://www.mathewstimber.com.au
sales@mathewstimber.com.au

Anagote
144 Renwick St, Marrickville, NSW 2204 (02) 9558 8444
https://anagote.com/

Neoprene –(neoprene rubber, industrial neoprene)
Critical Coatings - http://criticalcoatings.com/product/cc1101/
or
Creature Cast - https://creaturecastrubber.com/new-products
both in U.S.A – shipping will be steep

Stuff from Bunnings or Mitre 10 etc

3mm bolts
assorted screws
19mm x 12mm red cedar or tasmanian oak - straight grained for controls
12mm wire brads
25mm nails
dowel - various diameters from 6mm up to 25mm
aluminium - 1.6mm or 3mm thick - 10mm to 50mm wide
7 ply
butt hinges 35mm or 50mm
screw eyes and hooks
lead flashing
wood filler - timber mate or auto bog (plastibond)

Stuff from Spotlight or Lincraft etc

craft glue (preferably Stannards 450) - the ones that smell like nailpolish remover or acetone
sash cord (known as macrame cord)
screw eyes and hooks

Titebond - the glue of choice for wood - available from Carbatec
Spring Steel - 1.25mm to 2mm - available from hobby and model stores
Foam - available from Clark Rubber
EVA foam - ebay or search the ‘net
PVC Ripstop Tarp - ebay or search the ‘net
Fibreglass - Fiberglass A/Asia Pty Ltd (Syd), Allnex Trade Centre (Melb)
Fishing Line - BigW
Latex, Pinkysil, Pro Cast, Easy Cast - Barnes or Lumin’s Workshop
5mm Leather cord (thonging) - shoe repairers or ebay or search the ‘net

TOOLS

Essential General tools

hammer, pliers, side cutters, long nose pliers, screwdrivers (assorted), hack saw, japanese pull saw
100mm bench vise
craft knives, stanley knives
clay (plasticine) shaping tools
compasses, protractor
hand drill
set of drill bits
dremel (or equivalent) and dremel bits
hot glue gun

Essential Luxury tools

digital micrometer (vernier caliper)
drill press
band saw
dust extractor
scroll saw
grinder and linisher
high end carving chisels
high end palm chisels
sharpening stones
Inside/outside caliper

Luxury tools

tormek sharpening system
thicknesser
soldering equipment
gas flame torch