Bed of Nails: Notes JR_2018

The Bed of Nails explores freeform and prototypic methods of construction for electronic circuits. Breadboard is the name given to prototyping environments in electronics. It derives from early electronic engineers and amateurs banging nails into wood (breadboards) and using wire-wrapping, solderless techniques to construct prototypes. This method represents a pedagogic tool for the reading of electronics schematics and the building of circuits. The Bed of Nails is built around ideas of amplifier feedback, open 'clip art' circuitry, and touch and conductivity of the body.

The Bed of Nails uses mixed materials: wood, nails, wire, electronic components.

This results in the use of a range of tools and actions to make the Bed of Nails: sawing, hammering, wire-wrapping, soldering, etc.

Wood
Any size and shape may be used. The wood needs to be deep enough to hold the nail. Due to the IC (Integrated Circuit) pin layout and for ease of construction, a square-shaped piece of wood with the IC placed in the centre is recommended.

Nails
Different size nails may be used. Screws, bolts, pins, etc. can also form part of the circuit. The nails need to be free of rust and conductive.

Wire
Tinned copper wire at 22 SWG recommended: flexible enough to wrap by hand. Wire needs to be single core and free of insulation.

Connecting the wires to the IC
The IC has 8 legs. Each leg connects to a nail with a wire. The best way to connect the wires is to use a small piece of stripboard or Veroboard as photos 1 and 2. Alternatively, wires can be soldered directly to the legs of the IC as in photo 3. However, when this method is used, wires can come apart when other parts are soldered to the circuit. The other end of the wires wrap around the nails.

NOTES
A wire connects between nails 3 and 5
Component legs may be extended with wire where needed.
C1 and R1 are connected in series (daisy chained) between nails 1 and 6.

To 'complete' the feedback circuit and generate sound, nails 2 and 7 need be simultaneously touched.