TF 38 Tischfernsprecher Restoration

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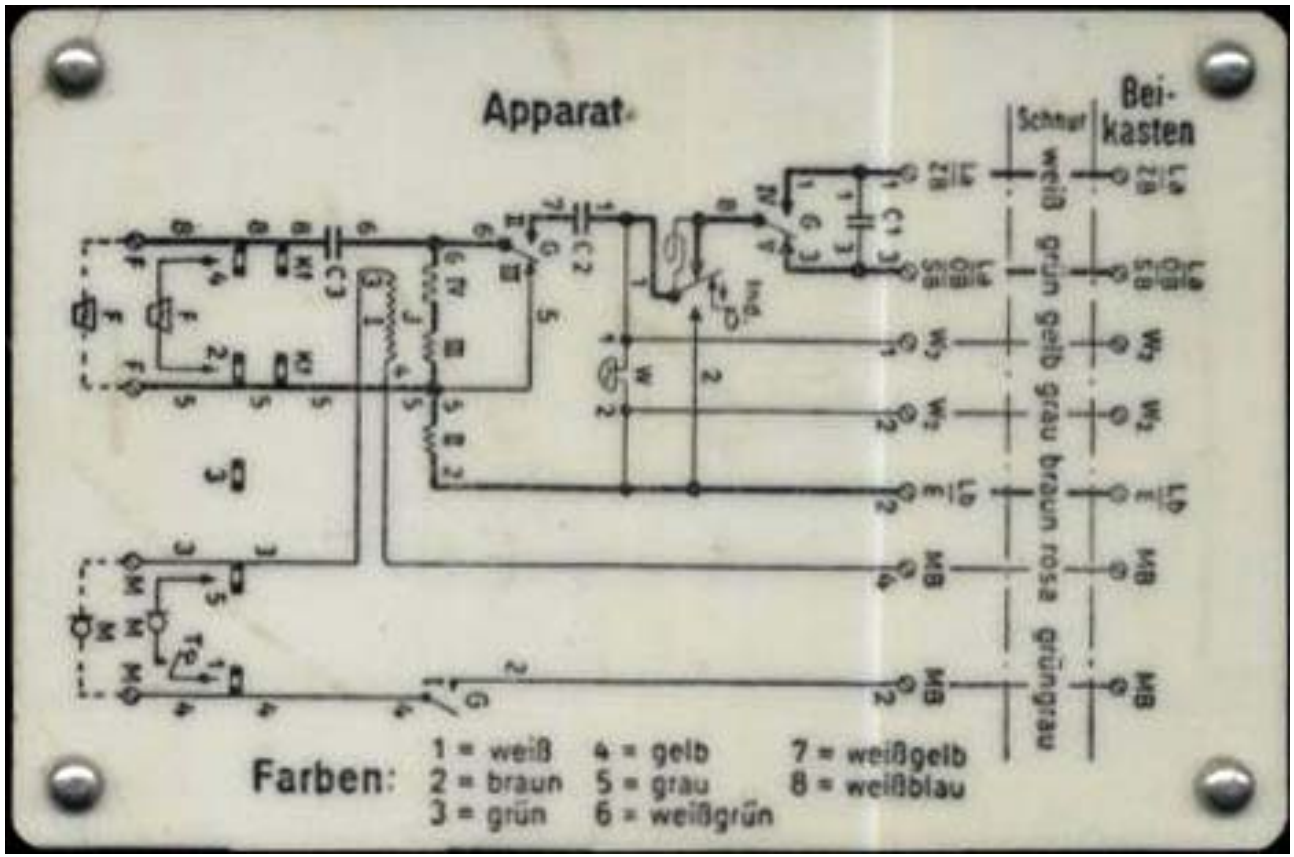
Schematic diagram

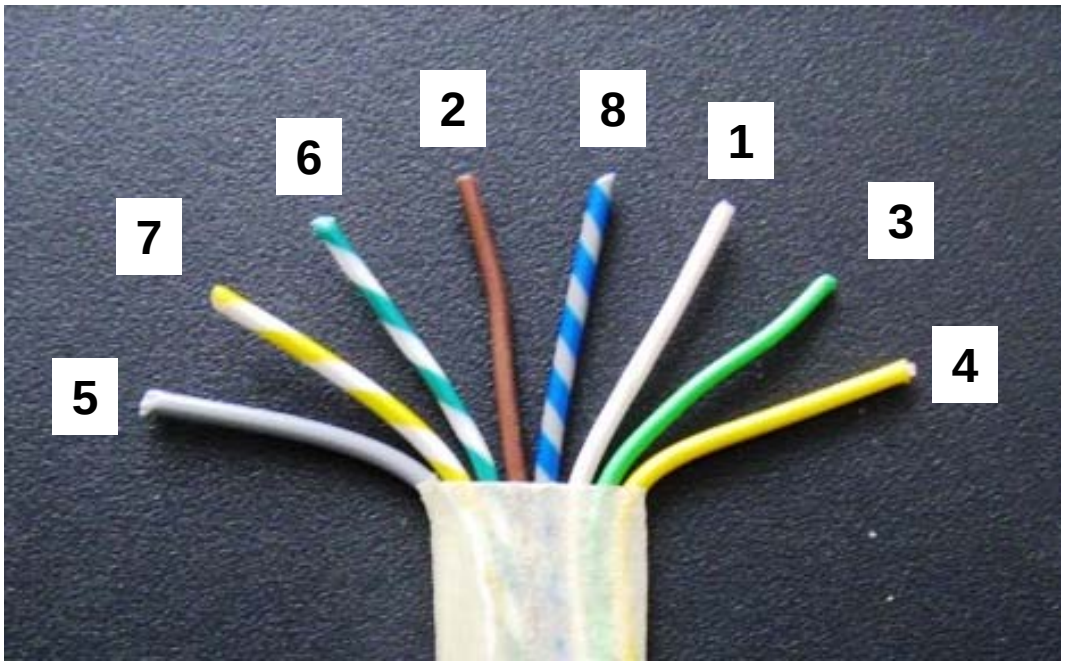


1. White
2. Brown
3. Green
4. Yellow
5. Gray
6. White-green
7. White-yellow
8. White-blue

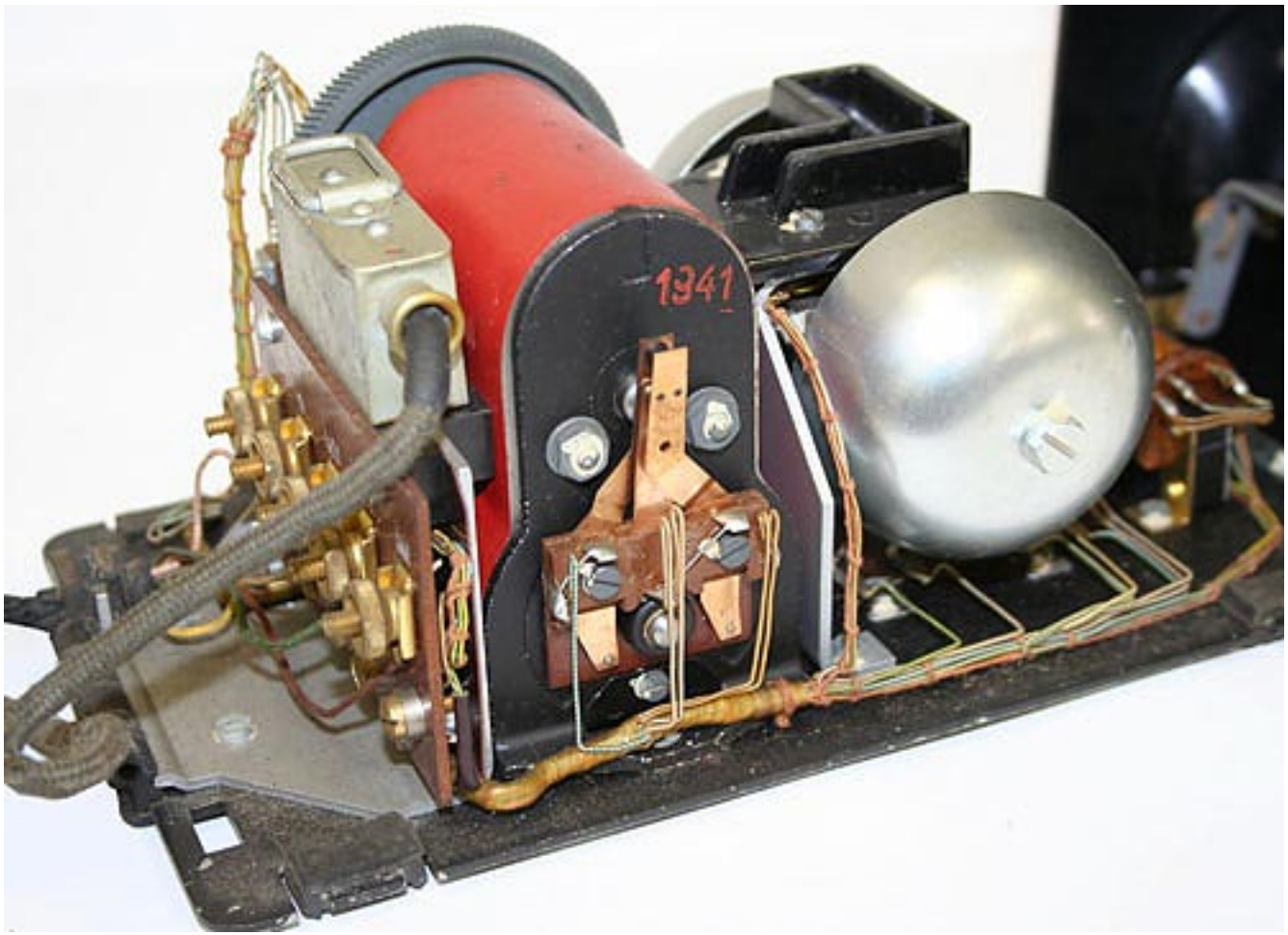
The phone had been rewired in the sixties by somebody who used plastic-insulated wire without any relationship with the color coding in the schematic diagram.

It is impossible today to find the original type of wire with waxed paper or fabric insulation in the right colors.

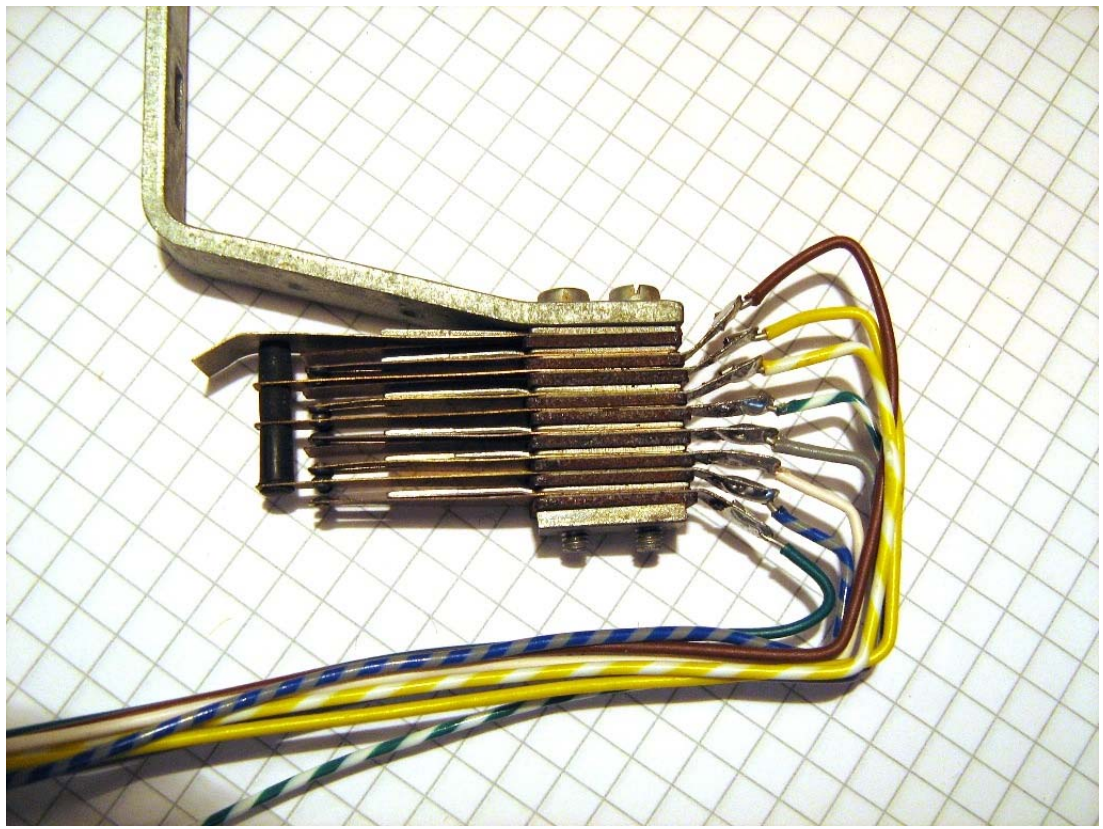
In my restoration work the compromise was to use modern plastic-insulated wire but at least with the right colors (see next page)



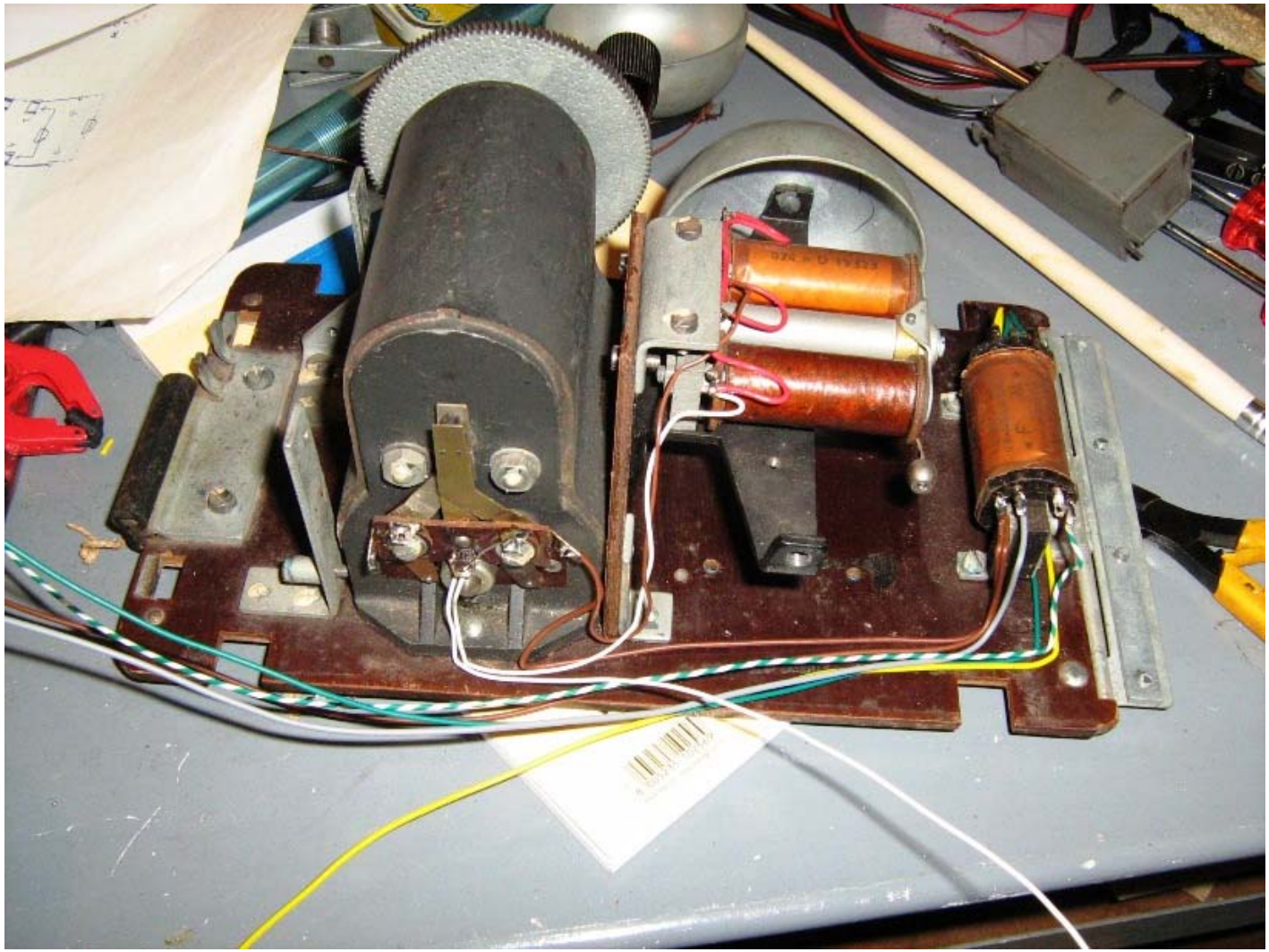
I could find the good colors, but the wires are too thick
(0.6 mm dia or about AWG 23). 0.4 mm (AWG 26) would be more appropriate.
They should be solid tinned copper (not stranded)



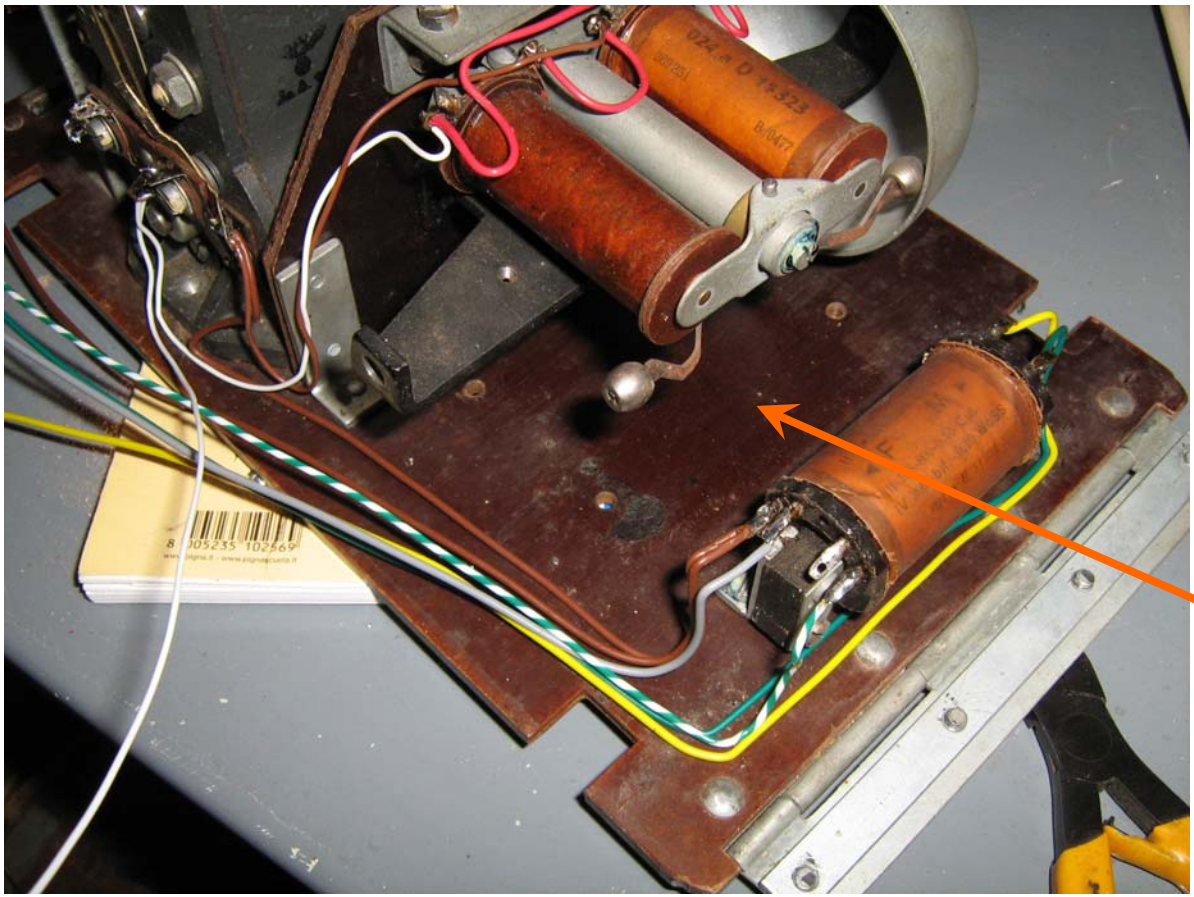
This picture from a museum phone shows that the original wires were in fact quite thin

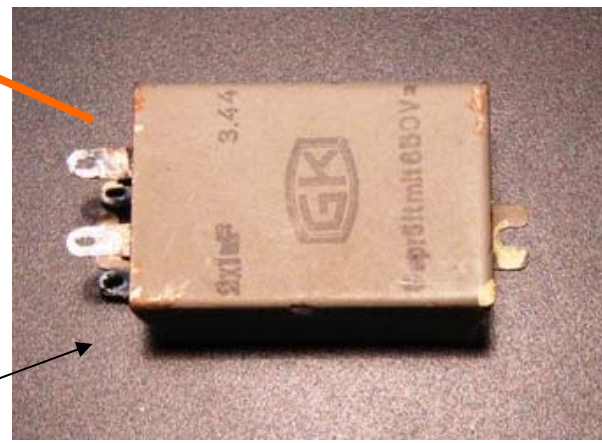


The cradle switch was wired first, leaving the leads free. They were cut to size before soldering them to the rest of the circuit.

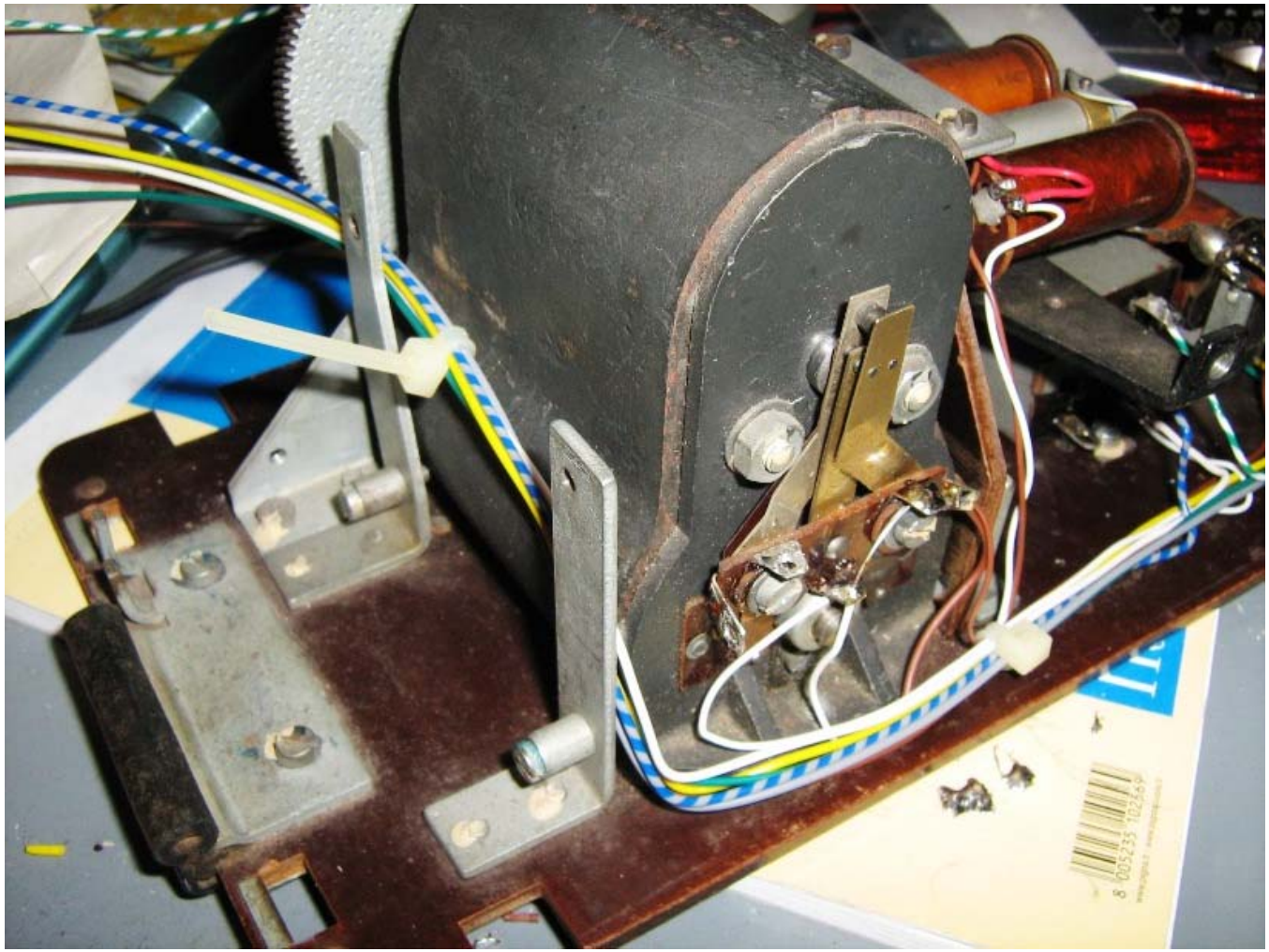


I started wiring the phone from the ringer and induction coil.
The wires are cut long enough to reach easily
the terminal board with a good extra slack.

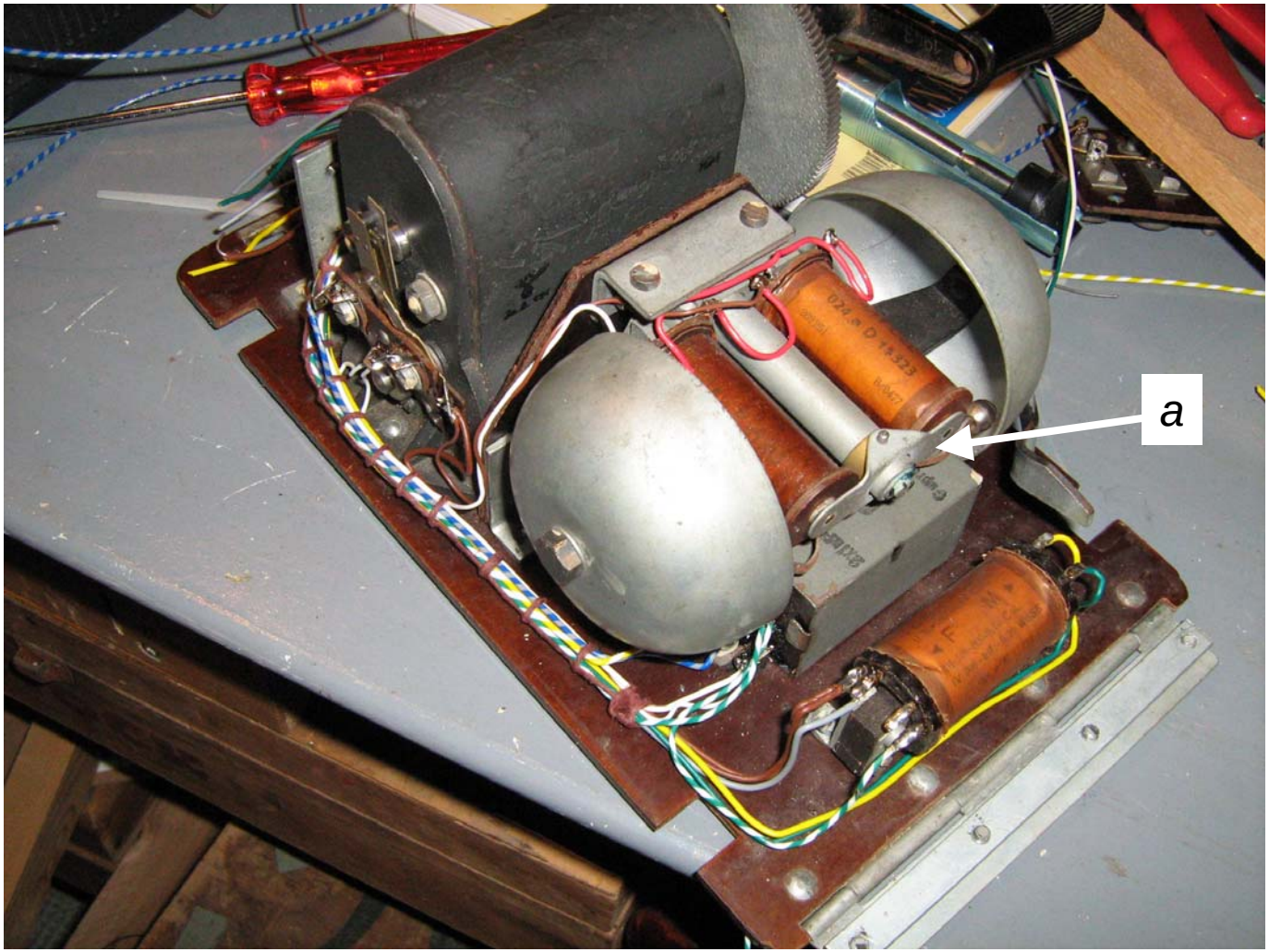




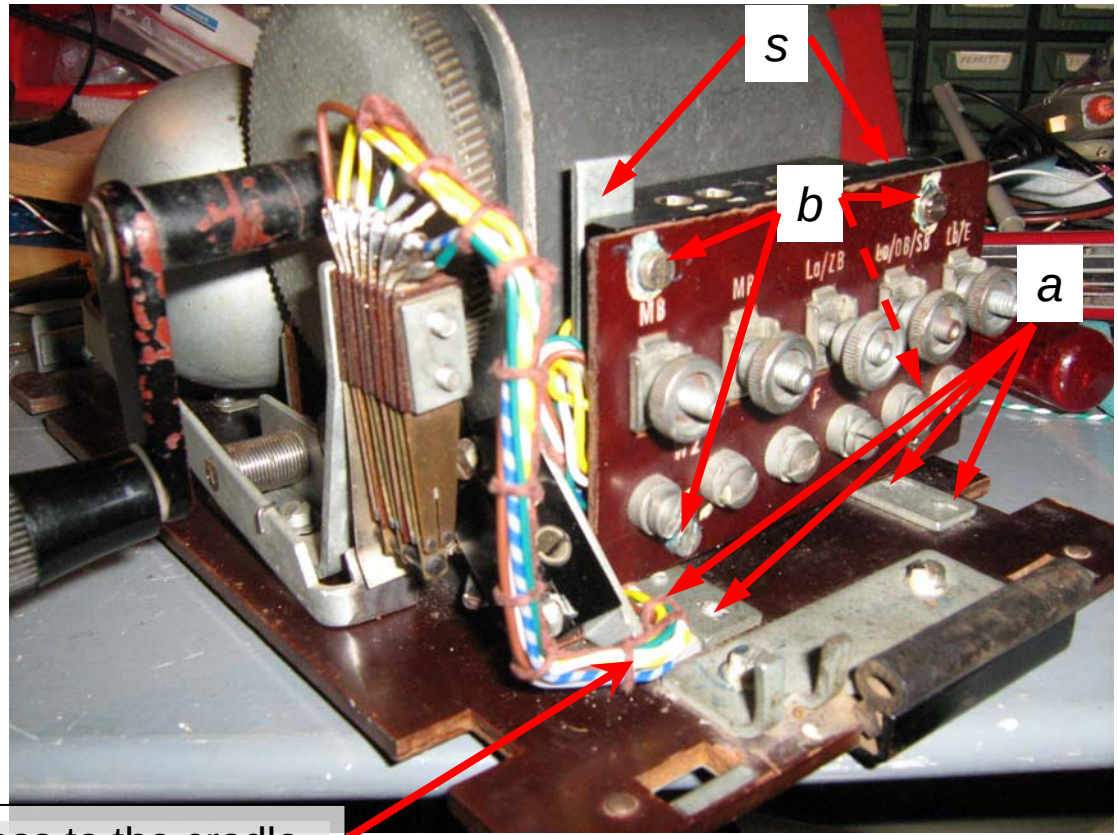
The capacitors have not yet been inserted



The terminal board has been removed to simplify the wire layout

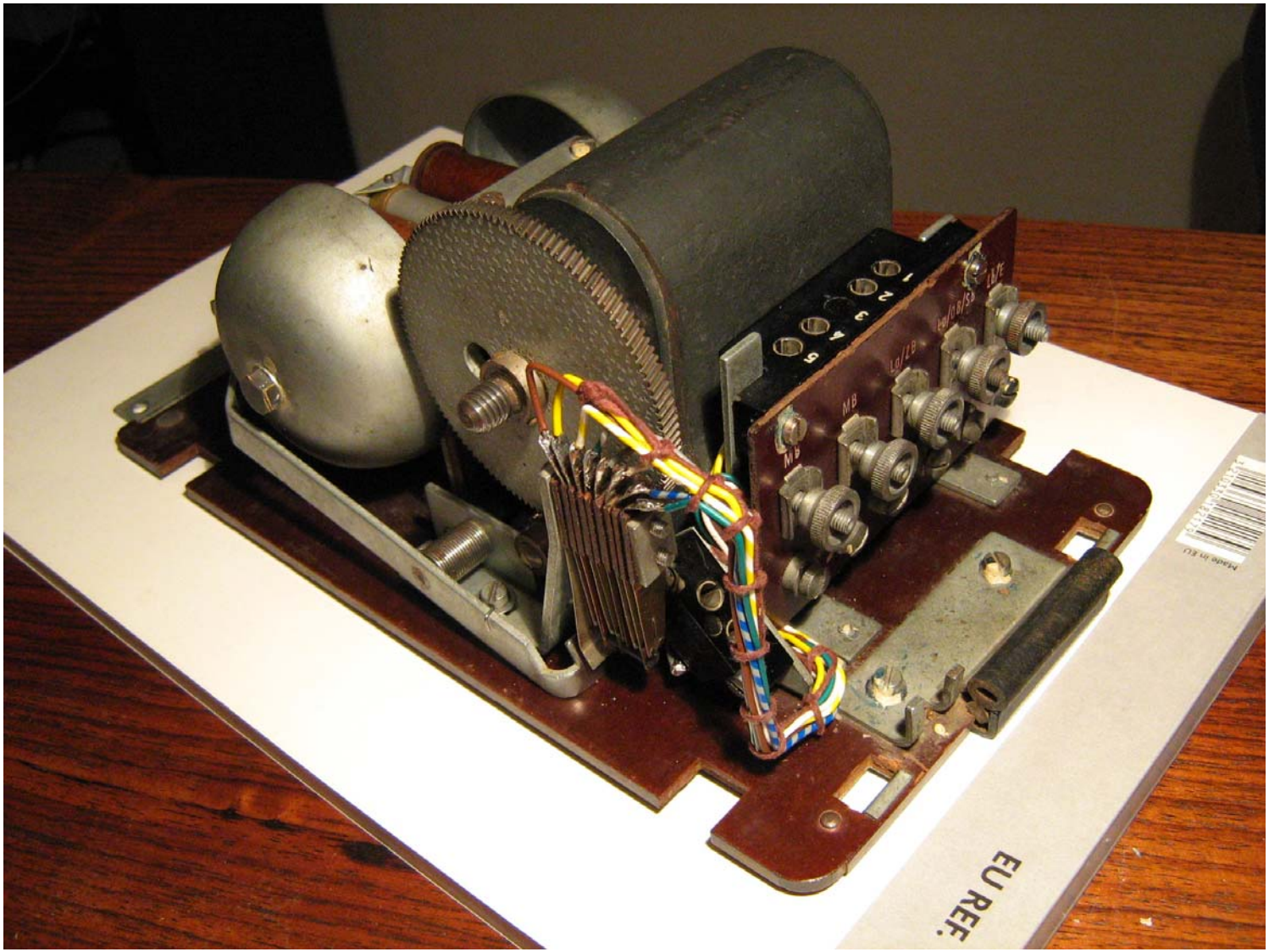


The wiring on this side is completed, including the capacitors. Both bells are in place. Their positions should be adjusted carefully, in order to have both hit by the clappers on armature ***a***.



The wire harness to the cradle switch is routed this way from behind the board

To connect the various wires the terminal board is lifted by removing the four screws ***a*** which fasten the L-shaped standoffs ***s*** to the base plate.
Then removing the four screws ***b*** gives access the back of the board.
Once the wires are soldered the board is put back in place.



The work is completed !