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Bulle clock lubrication:

With reference to squeaking Bulle clocks, where does the squeak come from? The silver pin rubbing on the Y contact, unlikely; the Y arbor, probably. But then the contact between the arbor and its bearings is part of the electrical circuit, supplemented by the small spring running in a groove at one end of this arbor. The end contact strip touching the end of this arbor seems to be too stiff to provide electrical contact without seriously increasing the end thrust friction. Was it there just to limit end float?

Quoting from the instructions issued by Bulle:
" The BULLE Clock, Instructions
1. Free pendulum by removing wedge etc placed to steady it.
2. Connect red wire to central terminal (red) of battery and black wire to the other terminal.
3. Place battery in position to be held by the clips.
4. See that the pendulum swings freely and does not rub against the black bar. The adjusting foot under and at the back of the clock case, screwed up or down, levels the clock to this effect. Wall clocks have two adjusting screws at the back of the case, one at each side.

The BULLE Clock should not be oiled!!!

Never transport the clock with the battery connected!!!

Regulation of the BULLE Clock is easy by means of the brass nut at the bottom of the pendulum. If slow, screw nut up; when fast screw down. One complete turn corrects a variation of approximately two minutes in 24 hours. To ensure satisfactory working of the BULLE Clock, no other parts must be interfered with."

The Magnet

I have come across magnets which have the North poles at the end but I suspect that they have been remagnetized incorrectly, not that it matters too much as reversing the battery polarity will make the clock run. Check the colour of the battery connections against the battery polarity to see if a change has been made. What the effect of arc erosion at the wiping contacts on the pendulum is with reversed polarity, I am not sure.

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Restoring the Bulle Field Magnet:

The Bulle battery clock's pendulum just wouldn't move enough to actuate the motion works pawls no matter how many dry cells I hooked up to the circuit.

I compared the residual magnetism in the faulty clock's magnet with a functional Bulle clock's magnet. The faulty magnet wouldn't hold a paper clip at either end nor in the middle. The good magnet would pick up and hold a small nail.

I believe the Bulle clock permanent magnet could be described as one physical magnet with four poles. A North at one end of the "U" and South at the other end plus a North-South pair in the center.

I don't know how Faure-Bulle made these magnets, but using the "right-hand-rule",I figured that it would take two solenoids back-to back to create the two magnetic domains within the single iron bar and have North-South poles in the center. The two solenoids would have to be energized simultaneously, draw the same current but opposite in polarity.

The solution was simple. Wind one continuous solenoid the full length of the "U" shaped iron magnet but leave a center tap mid way.

I began winding some number 18 enameled wire at one end and counted sixty turns when I got to the mid-point of the bottom of the "U". Here I twisted up a center tap in the wire and continued winding sixty more turns to the opposite end of the magnet. Both ends of the wire were joined and hooked to the negative pole of a twelve volt car battery. Then I quickly "zapped" the center tap to the battery positive terminal. I have no idea how much current flowed, but in the brief moment it was hooked up, the wire got hot and wanted to unwind but the Bulle magnet was restored.

Testing with a compass, I found the "null" right in the center of the magnet where the two poles were formed. The Bulle clock's pendulum now swings with lots of action.

By unknown.

Comments, questions, and suggestions are always welcomed from the membership in Clockers.

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