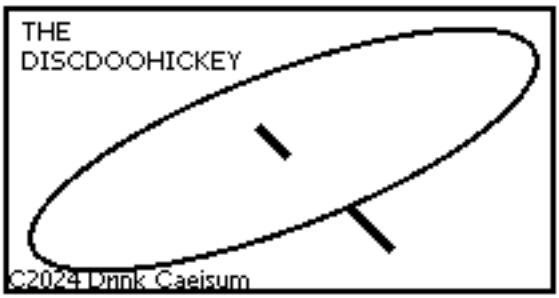
The DiscDoohickey Diagram



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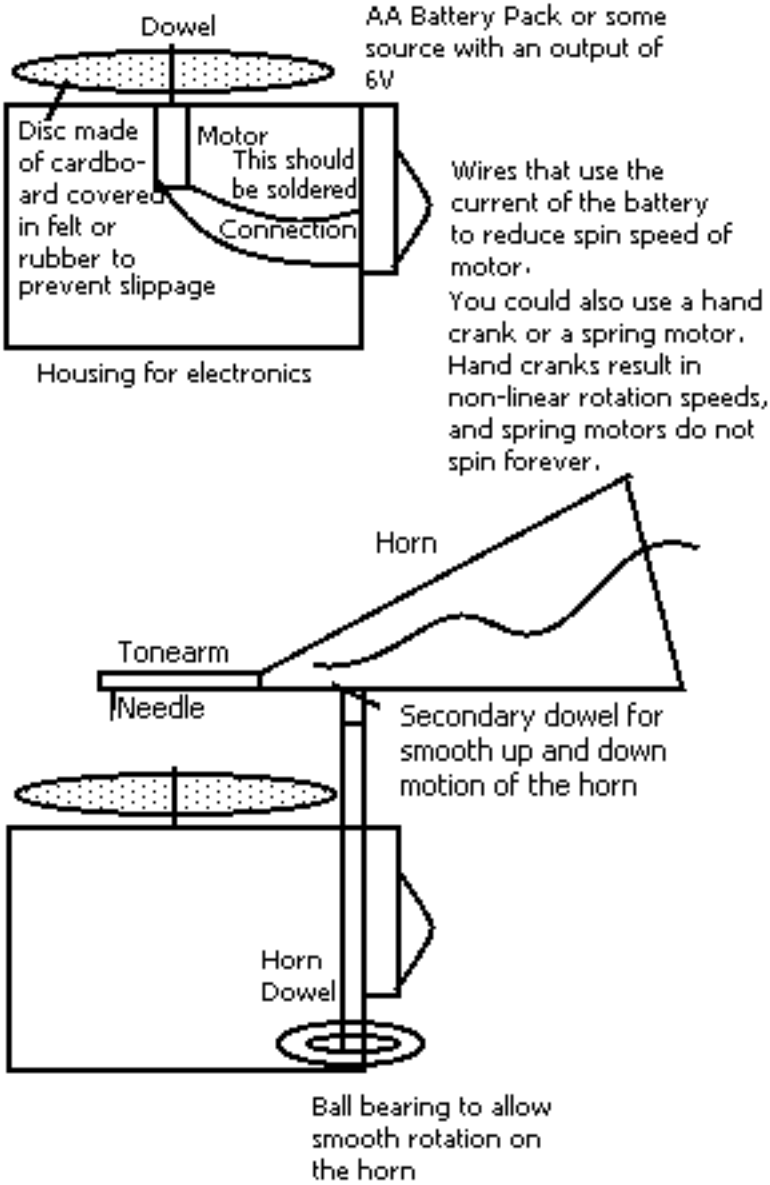

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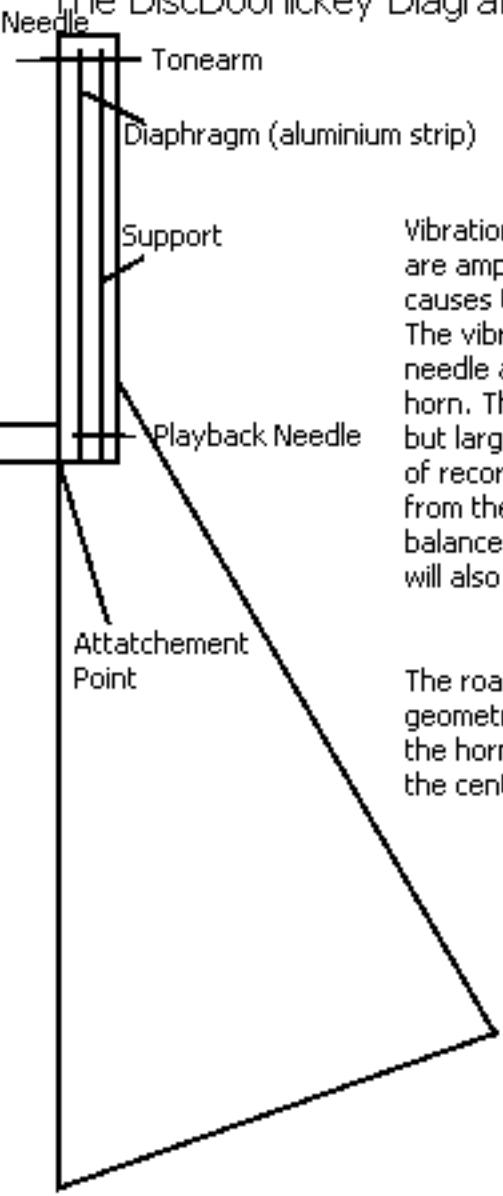

Vibrations detected by the first needle are amplified by the diaphragm, which causes the playback needle to vibrate. The vibrations of the playback needle are amplified one again by the horn. The larger the horn, the louder, but larger horns will make the lifespan of records lower due to extra wear from the heavy horn. You should balance the horn, as a heavy weight will also stop the records from rotating.

The roatation and natural geometry of the disc will cause the horn to move towards the center

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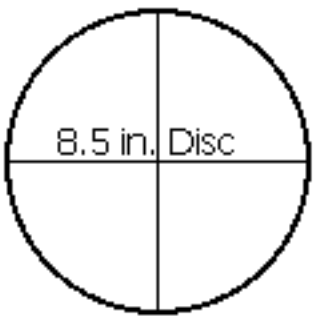
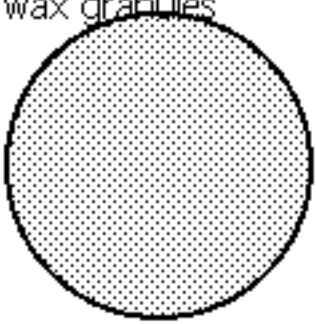
Recording and Disc production Process

1.



2. Cover disc is rough wax granules



3. Once wax is smooth, place disc onto the contraption

4. Play music into the horn while the disc spins. The vibrations will etch a pattern into the disc

5. Once the wax has cooled, create a plaster negative of the recording by pressing the wax disc into wet plaster

6. Once the plaster negative is dried, you can stamp it into another medium, probaby plaster or PVC

7. Once the copy is dried, it can be played back on the Doohickey

The DiscDoohickey Diagram

How it works

The physical recording of music is actually quite simple.

For more detail on this, visit http://www.victor-victrola.com/Basics%20of%20the%20Acoustic%20Phonograph.html

Lines contain undulations in thickness (amplitude) and frequency (Hz.)

The addition of a horn is to amplify playback, as the vibration of the needle and diaphragm alone is not enough to be audible.

These lines are made by the vibration of the needle.
During playback, the needle vibrates in the same pattern it did while recording, and with that, replaying the sound.

Several things can affect the quality of the recording. If the diaphragm is too thick, the recording may only have samples from 3000 - 15000Hz, while human hearing tends to be from 20 - 20000Hz. If the diaphragm is too thin, it may tear to easily.

The DiscDoohickey Diagram

Notes:

1. DiscDoohickey Discs, DDDs, are NOT compatiable with normal record players due to being carved with a much wider stylus.
2. Vice versa, normal vinyl records are not compatable with DiscDoohickeys, as they will ruin them.
3. BE VERY CAREFUL WHILE HANDLING THE TONEARM! The diapragm is made of thin aluminum, and in my expierence, will tear easily, rendering it useless.
4. You need to balance horn size and weight. Too heavy and the force of the needle will stop the DDD from playing. However, too small, and the recording will not be audible.
5. You could also use a digital amplifiler placed near the playback needle, but I did not own the materials to do this, so I do not know how it would work.
6. The motor you use should have high torque and a very strong attatchment to the slipmat.
7. The motor should spin from 35-50 RPM.
8. The wax recording are very fragile. You technically can play them back without the rest of the process using the plaster negative, but they will only last a few plays. In my expierence, even when left alone, the wax recordings will flake and crack due to their volumes shrinking from cooling.
9. You should record the song or whatever while the wax is still somewhat soft, as it will be much easier to carve.