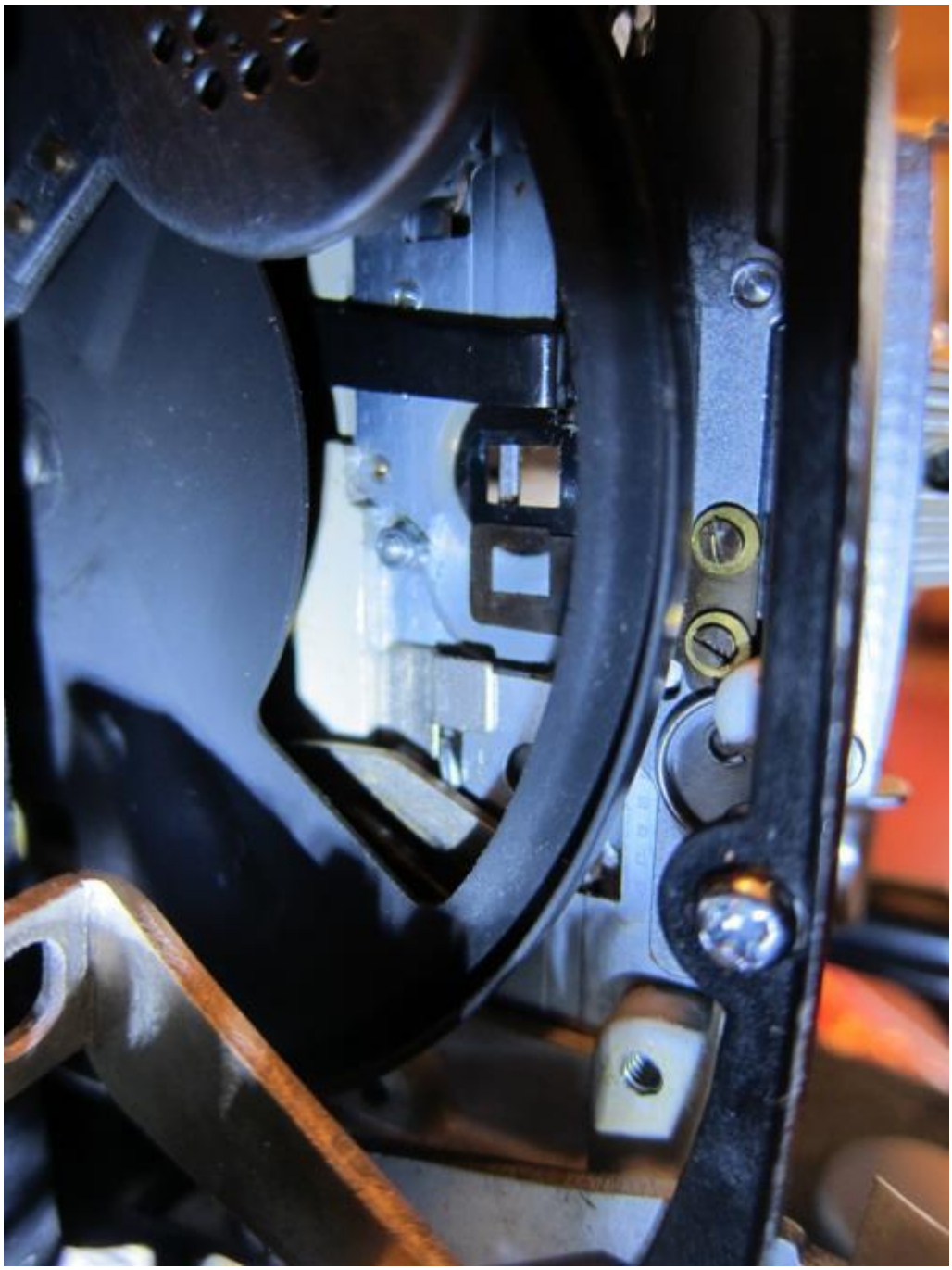
Standard 8 aperture maintenance, courtesy of Onnie Granados.

February 03, 2020, 09:54 PM
Greetings, Gary (et al);

Thanks for the close-up of the rear aperture opening or whatever Elmo calls it, you're definitely gonna wanna pull this thing apart to clean this gate no matter what, so I don't feel so bad now about guiding you through these finger-cramping steps. As soon as I posted re my advice to do this, I immediately thought, "Darn, he'll probably now want to actually do this, if he asks for pix I'm gonna have to actually pull one of these @#$#@ things apart again."

Okay as I mentioned I have two of these projectors, in one of them I removed, a long time ago, the 8mm film mask piece you'll see in these photos -- because I use that projector for telecine work and I opened up the entire film gate to get beyond full-frame transfers. So this is the gate in my stock (or close enough) Elmo FP-C, should be pretty close to your average model.

I'll start with an establishing shot to show what all this fuss is about -- this little metal gate/mask/thing that's attached to a sliding bracket with 2 really tiny screws. This is the piece we want to remove, clean, and check for alignment. Or just remove if you want to open up the film gate as much as possible.

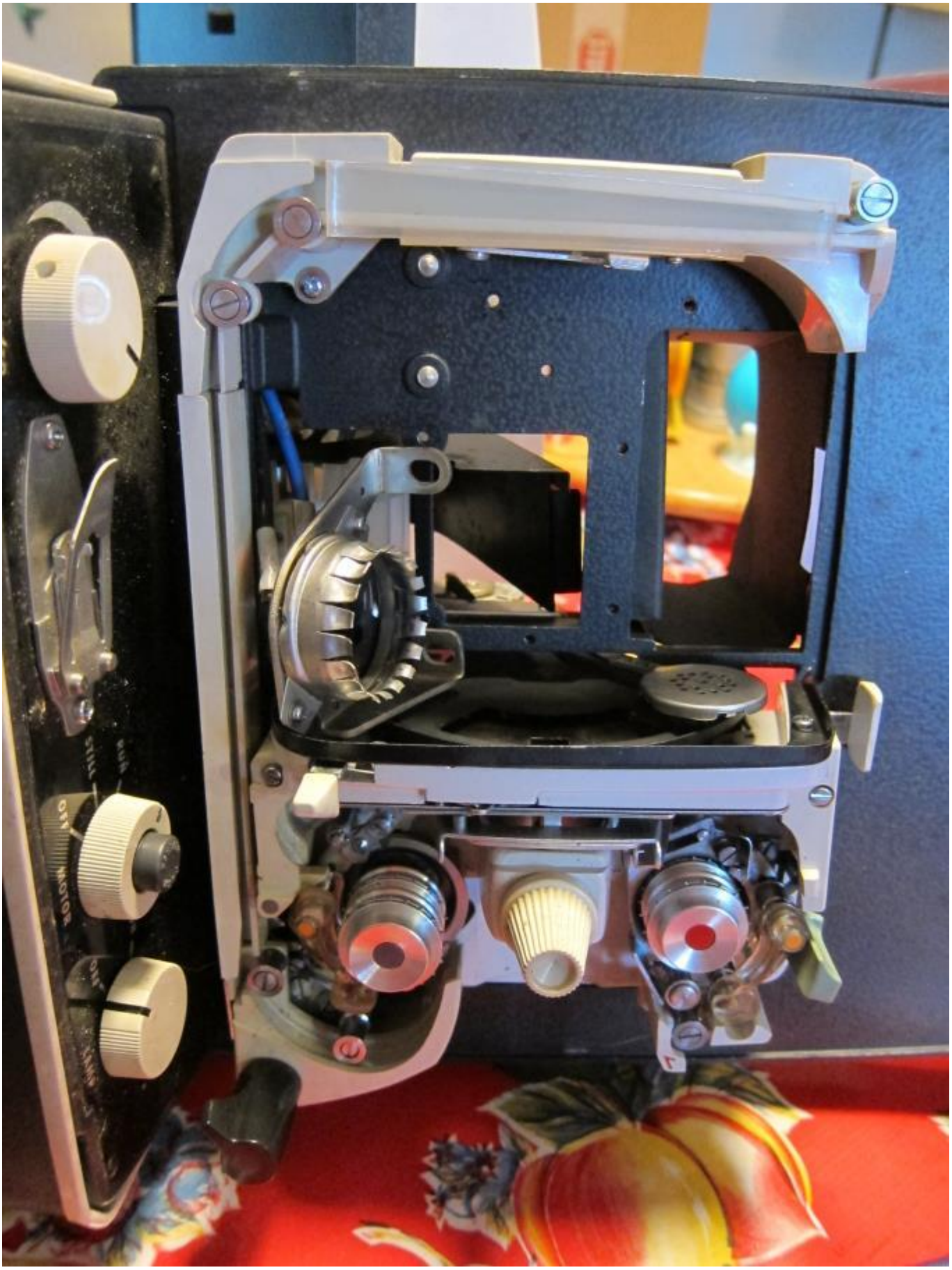


Actually I probably should have started out with a list of tools you'll need for this job, but better late than never – here's what I would recommend you have in your tool kit before even thinking of opening up this projector:

- Flathead and Phillips screwdrivers, "standard" size pretty much everybody has in a box somewhere. If you don't already have a set of screwdrivers, just go down to Home Depot or Harbor Freight and get a general purpose cheap set of screwdrivers, the ten-dollar set is fine, but feel to spend as much as you want.
- "Jeweler" type screwdrivers -- if you already have a nice set of $$$ jeweler screwdrivers, great, but if not, you can pick up a decent set of Husky "precision" screwdrivers at Home Depot for around ten bucks. Comes with a case so you won't lose all the pieces. https://www.homedepot.com/p/Husky-Pr...518H/303330830
- Tweezers -- generic household tweezers are fine, if you've got hi-tech anti-static super-tweezers that's fine too
- Poster putty. Might also be called "mounting putty." You can find it at anyplace that sells office supplies, Walmart has it, look in the paper/pen section.
- Plastic-safe electrical contact cleaner. You can find this at any automotive supply store (any brand, just make sure it says "plastic safe") or Home Depot https://www.homedepot.com/p/CRC-QD-1...30-6/202262505
- Foam tipped cleaning swabs -- if you don't already have a bunch of these in a box somewhere, order some right now from Amazon or eBay or check around and see if your neighbourhood pharmacy stocks these. Oh, and a bottle of isopropyl alcohol (the 90% and up stuff)
- Small jar of vaseline

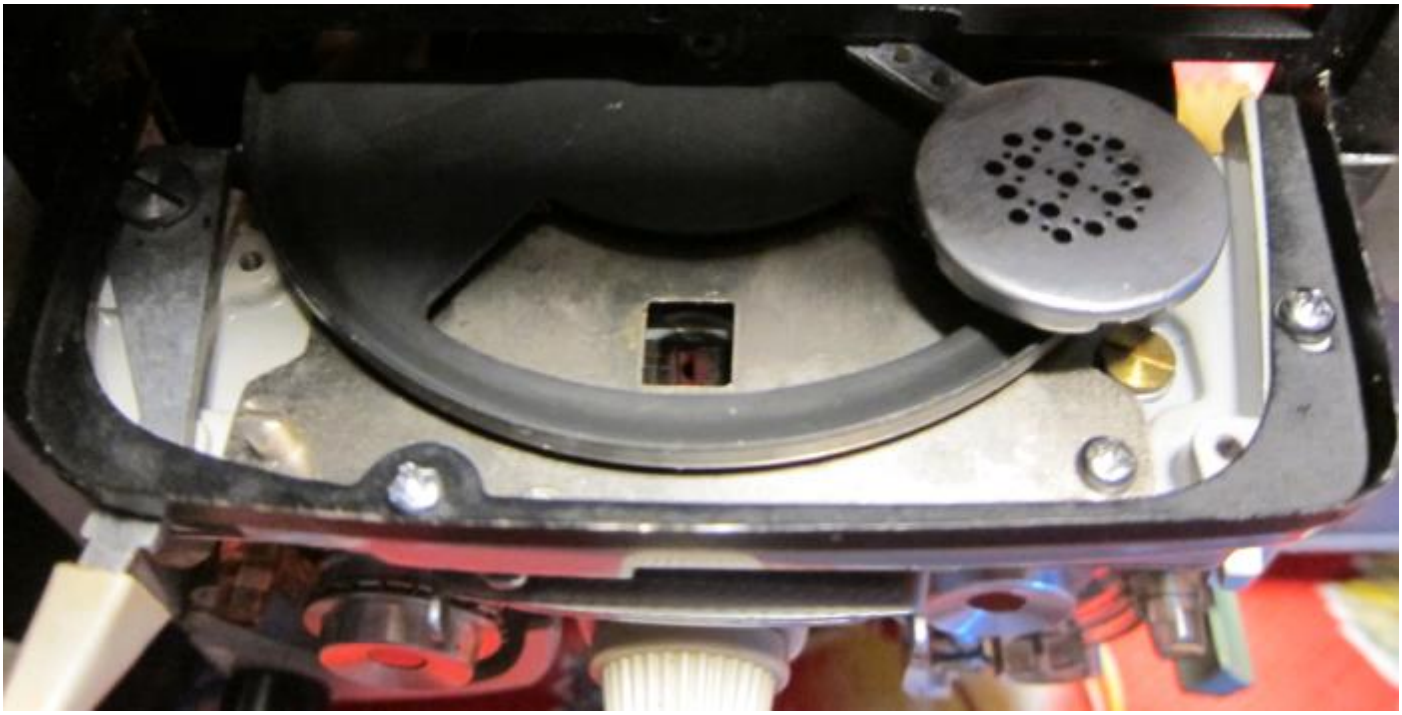
Okay, with that shopping list out of the way, let's open this baby up!

To even get to this thing, you'll need to remove the back cover from the projector, and remove the front hinged lamp-access cover, as well as unscrew the lamp bracket so you'll be able to get your fingers and various tools into position. Of course get a little box to put all the screws into as you do this. And use a magnetic screwdriver, it'll save you a lot of hassle trying to shake dropped screws out of the guts of the projector.



Elmo FP-C with lamp access cover removed and lamp bracket screws removed, for easier access to internals.

With the projector rotated lens-barrel-down on your work table, you now have access to the two screws that hold the shiny metal access plate to the rear of the projector gate. You'll need to unscrew these both to remove the plate so you can get to the 8mm mask. The left/bottom side screw is flat head, the right/top side is Phillips, for reasons only Elmo knows. But use a magnetic screwdriver to extract both of these.

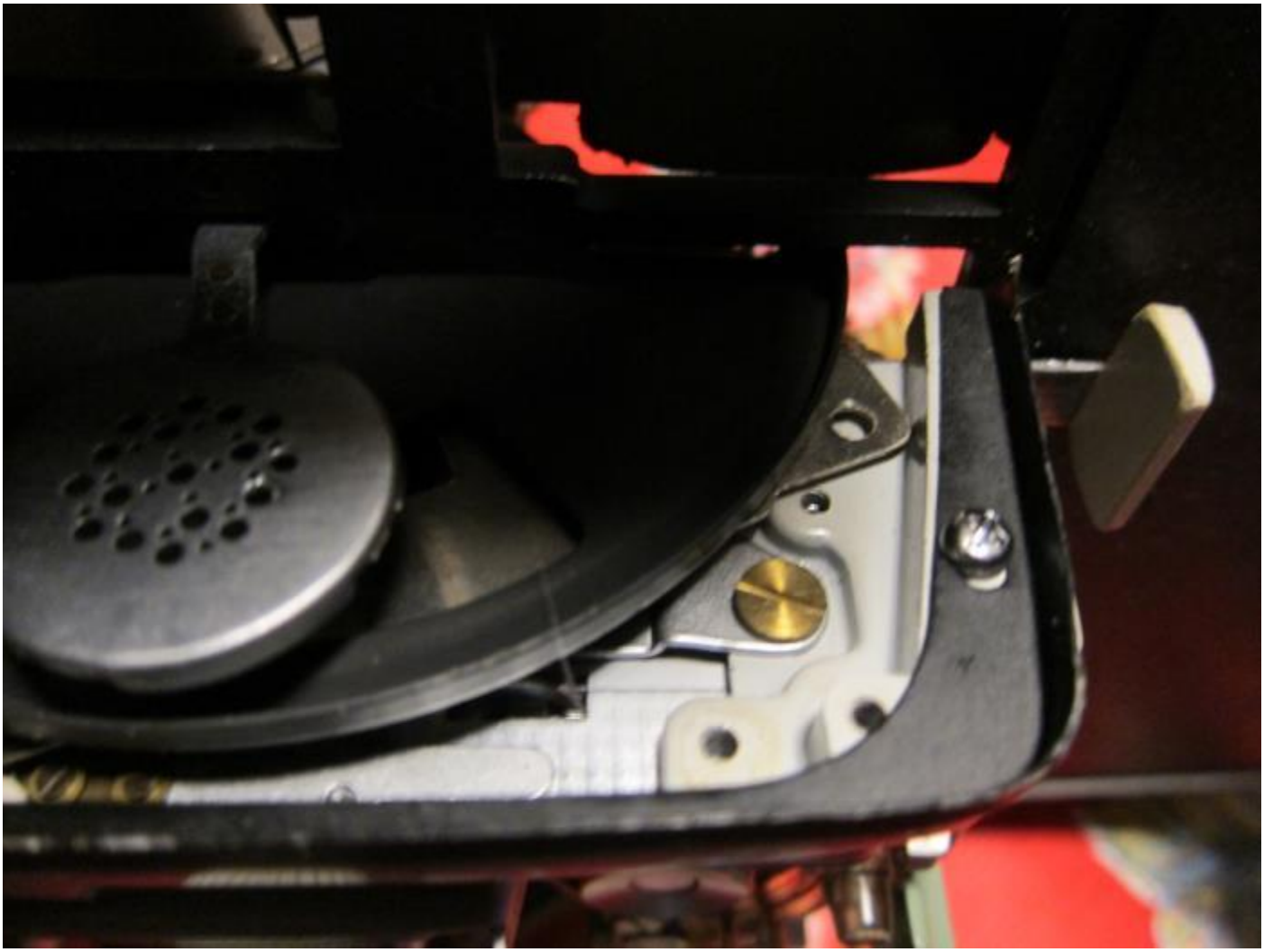


Projector shutter, claw, and film gate access cover removal

With the two screws removed you'll now be able to remove this metal cover plate from the rear of the shutter/gate area. But go slowly, this is a bit of tricky manoeuvre.

Cover plate screws removed

With the projector still flat on the table, use your fingers or a screwdriver to GENTLY slide this plate up and to the right (looking down from this angle) so that it begins to emerge from the rear of the projector, which is why we needed to remove the back cover earlier. You'll start with the projector on the table as you move the cover plate like this –



Cover plate being moved out of path

Now comes the tricky part -- you'll need to slide and rotate this cover plate CAREFULLY from the "front" side, as you simultaneously use your other hand to grab it from the back of the projector, as seen here (somewhat). This plate WILL come out, but it's a very close fit with all the mechanics in the way -- you may need to rotate the projector back to its upright position and GENTLY shake it so the plate moves to where you can get your fingers on it. You'll need to do this more by feel than anything else, but it will come EASILY or not at all -- if you feel something binding, do NOT push. Stop and check very carefully that you're not caught under a lever or something. Again it's a matter more of gently jockeying than anything else. Take your time. It'll come out. DON'T FORCE IT! NO TOOLS! FINGERS ONLY!

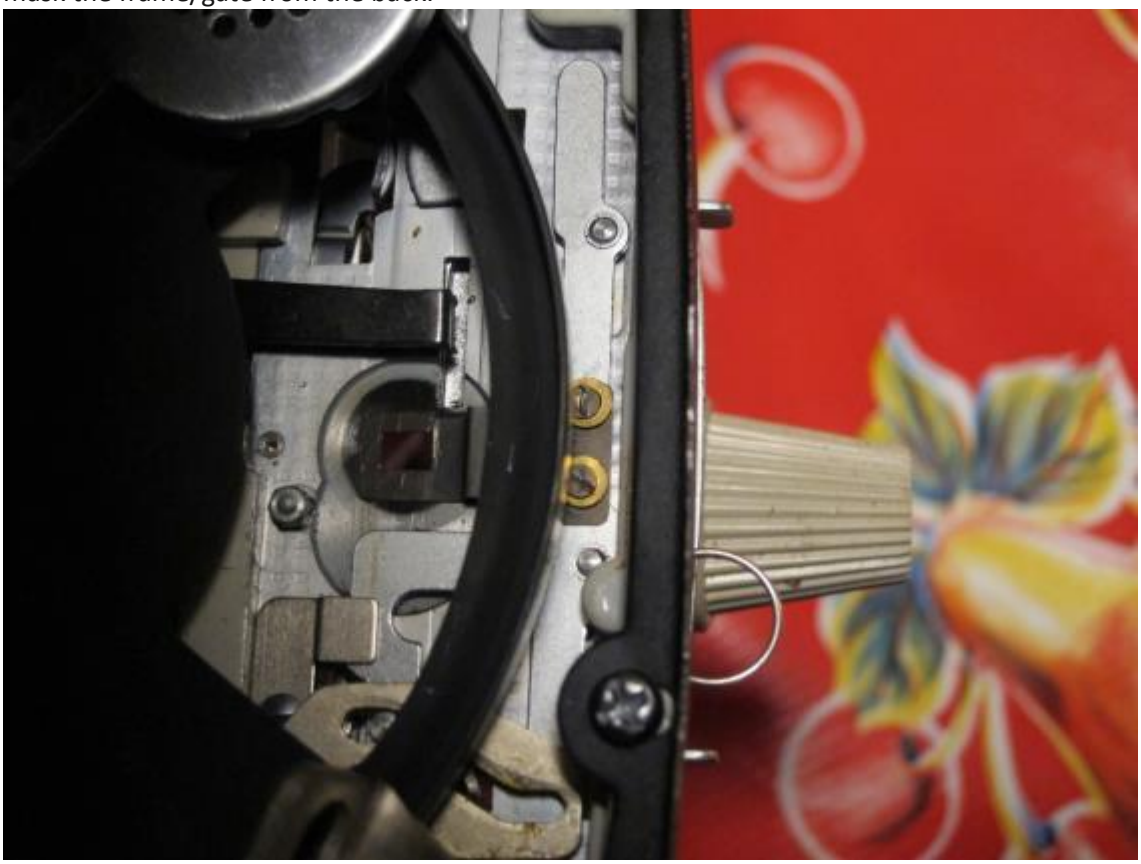
Success!! Take a break, you deserve it.

Cover plate removed!

Okay, now with that mother out of the way, we can finally see our goal -- The 8mm gate plate, that flat black piece of spring steel, attached to a movable bracket by two screws. Notice it's in the "open" or Super8 position, moved out of the way so it's not "masking" the frame/gate for viewing Super 8mm film.

8mm gate in "open" position

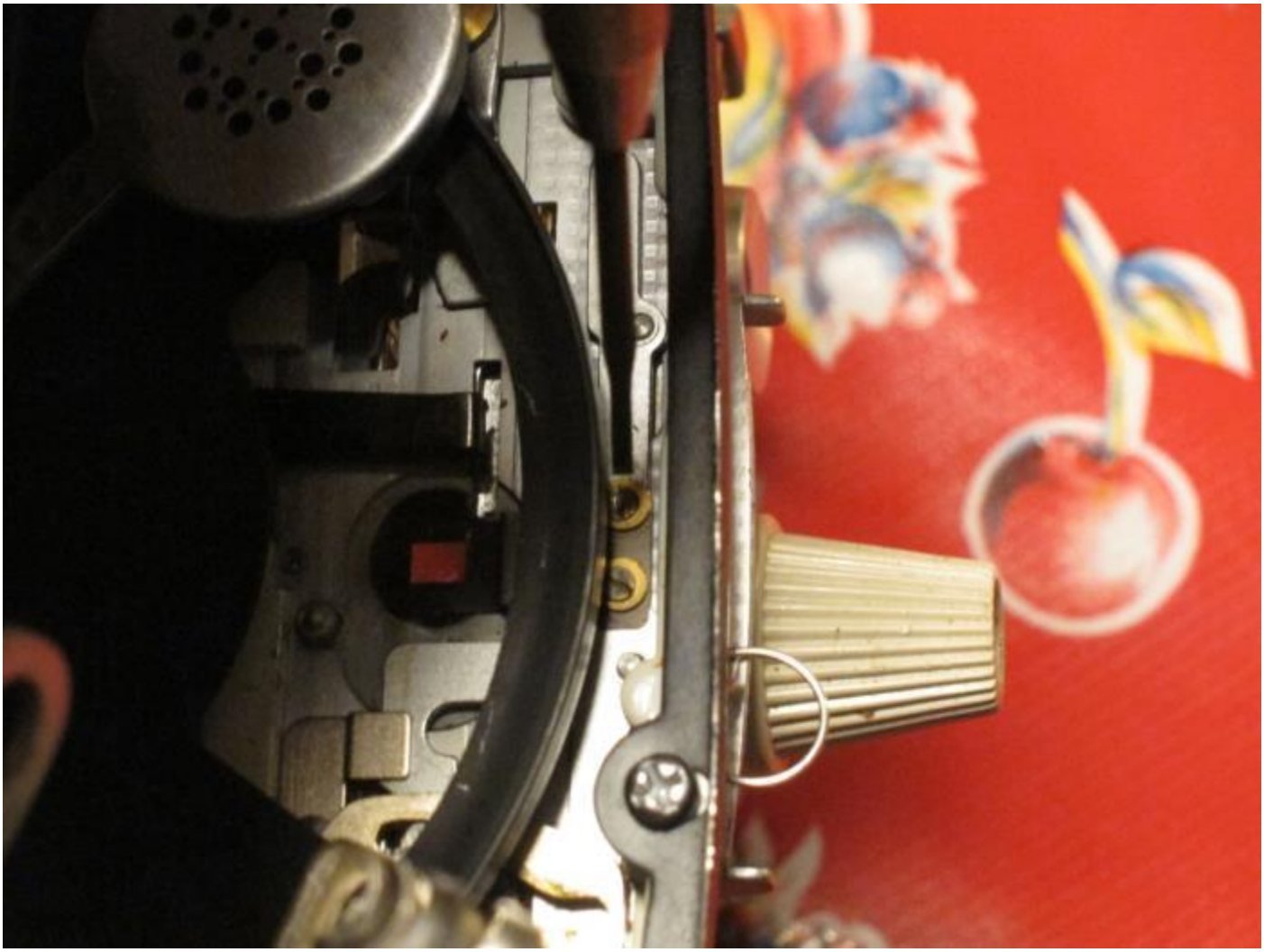
Here's with the 8mm gate/mask "closed," the projector in standard 8mm mode and the 8mm aperture moved up to mask the frame/gate from the back.



8mm aperture in "closed" position

In principle it's very simple: The 8mm aperture/mask is a small piece of (spring?) steel, bent and cut in a very particular way, that is moved in and out of position via a connecting arm that moves when you change the sprockets from 8mm/S8mm. But due to its position and the path of the film through the gate, a lot of crud can accumulate in and around this piece over the years, especially if you don't clean your film(s) before each use. And if it gets bent and doesn't "seal" properly against the aperture, it'll cause fringing and other annoying visual distractions in the projected image.

To remove this aperture, you need to remove those little screws. Yes, it can be done, without dismantling the projector any further. Yes, it's a total pain. Proceed at your own risk, but really, it can be done. Just go slow. Slow slow SLOW!



8mm aperture attachment screws

TO BE CONTINUED because I hit the character limit for posts...