



**Motive Power:
You Can Do It!**

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Potomac Division, MER, NMRA**

**BEFORE WE BEGIN, I WANT YOU TO ASK YOURSELVES
SOME QUESTIONS.**

WHY ARE YOU INTERESTED IN MOTIVE POWER?



IS IT SOMETHING YOU REALLY WANT OR NEED?



OR

DO YOU JUST WANT TO TEST YOUR SKILLS?



OR

**ARE YOU INTERESTED IN GETTING THE AP MOTIVE
POWER CERTIFICATE?**

WHAT DO YOU WANT TO KNOW TO REACH YOUR GOAL?



HERE'S WHAT I CAN DO TODAY



**I CAN TELL YOU HOW I GOT MY MOTIVE POWER CERTIFICATE
AND I CAN SHOW YOU MY MERIT AWARD MODELS AND HOW I
BUILT THEM**

I CAN TELL YOU THE AP REQUIREMENTS

AND OFFER SOME ADVICE...SO LET ME BEGIN WITH THIS...



1ST TIP:

DON'T BE INTIMIDATED BY
WHAT YOU SEE NEXT



**YOU DON'T NEED TO BUILD ONE OF
THESE**



OR ONE OF THESE





Motive Power Requirements

- **You have to build three engines that earn Merit Award scores**
- **One must be scratchbuilt (motors, gears, wheels and trucks, couplers and lights are excluded)**
- **They have to run on track under their own power**
- **These can be steam, diesel, traction or any self-propelled vehicle**
- **“Critters,” Speeders and Railbuses are popular choices**



WELL MAYBE NOT THIS ONE

Where to Begin?

- **My initial experience tinkering with Motive Power involved an MDC Roundhouse Climax. This was well before I even thought about going for my MMR or the Motive Power certificate.**

Roundhouse Climax on Bachmann 44-ton chassis

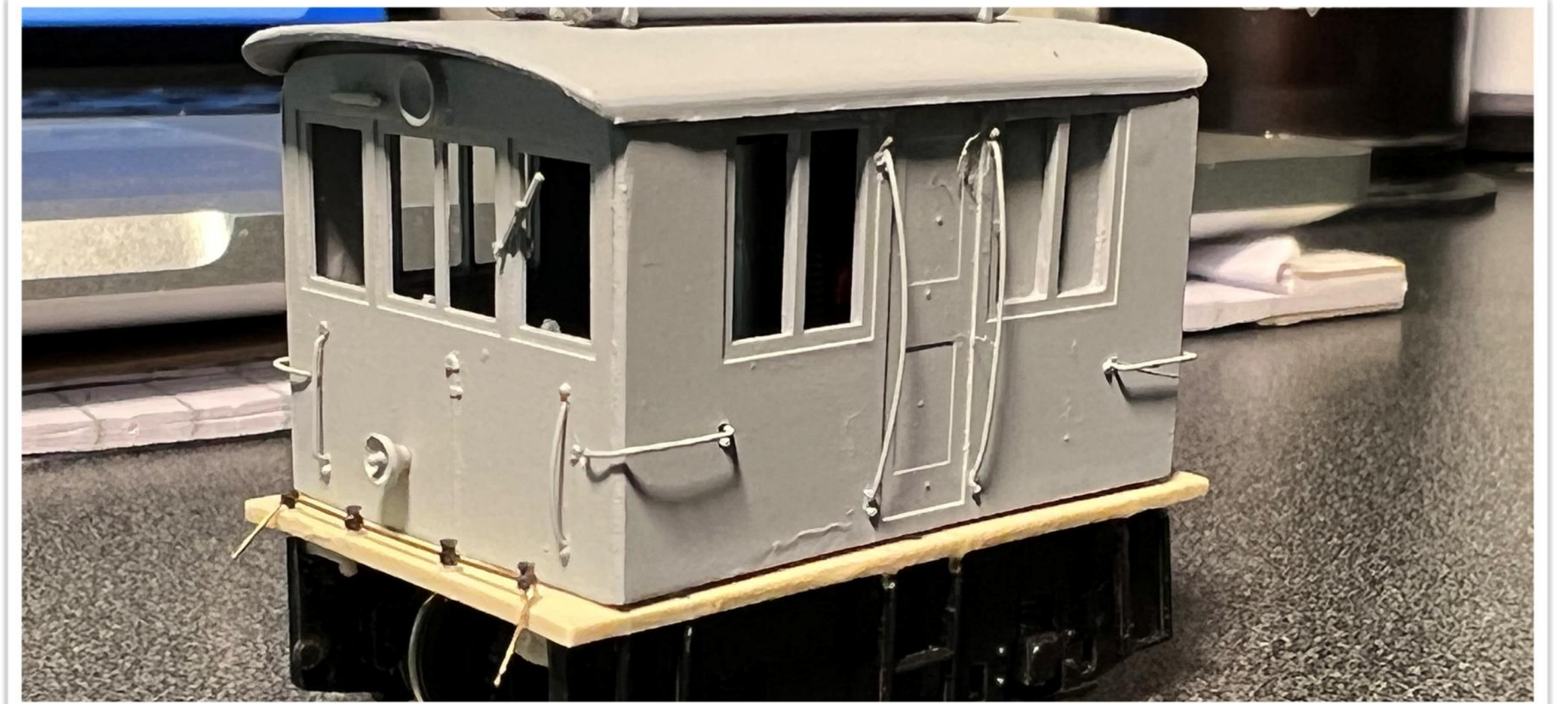
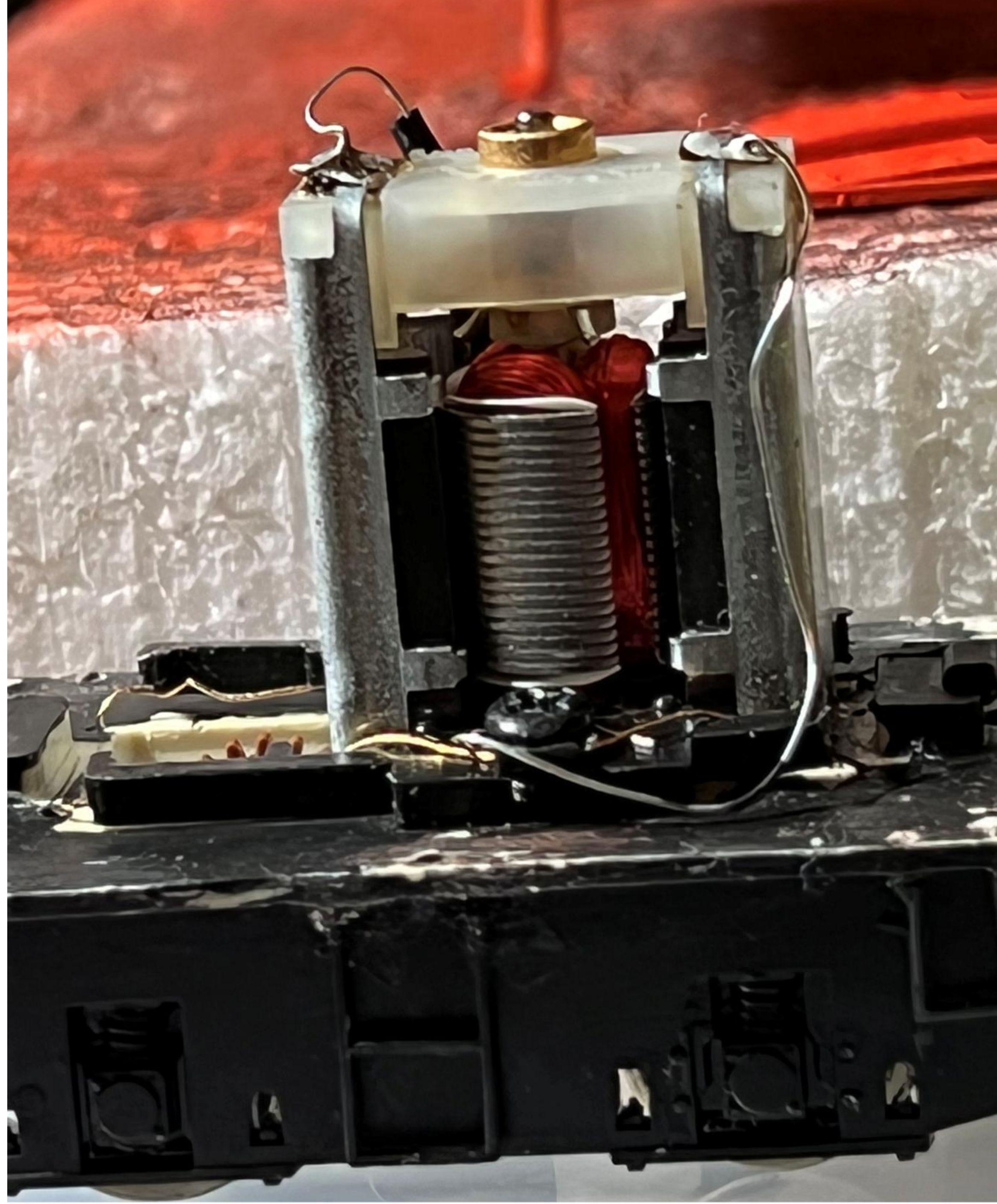


Then What?

- **I got my Cars, Prototype Models, Structures, Scenery, Civil Engineering, Author and Volunteer and MMR #685 in 2021.**
- **I like the AP program because with each certificate I gained new skills and knowledge.**
- **I decided my modeling experience needed to add Motive Power.**

**•GE 23 Ton Box Cab
Diesel Electric Loco
from San Juan
Details (Grandt Line)**





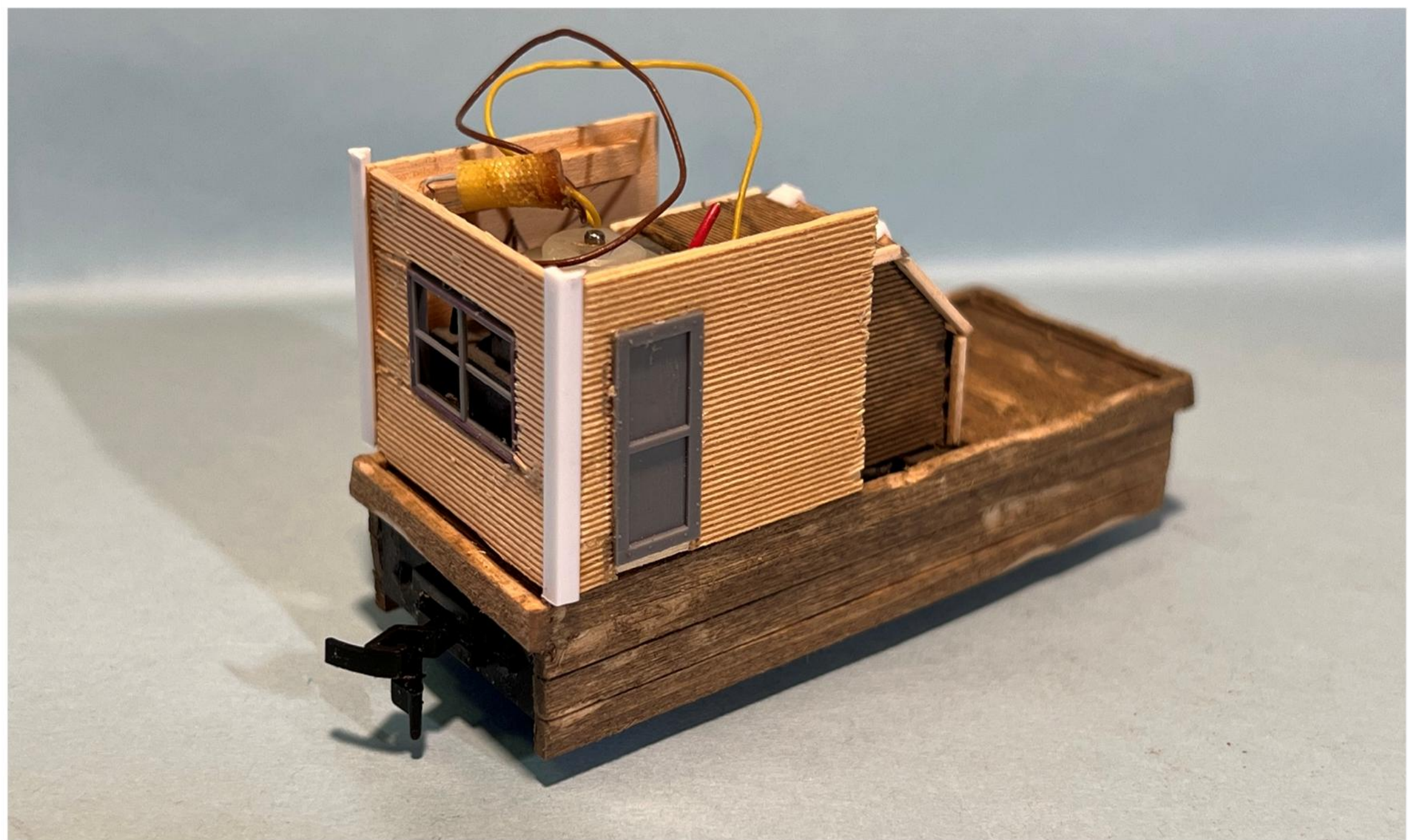
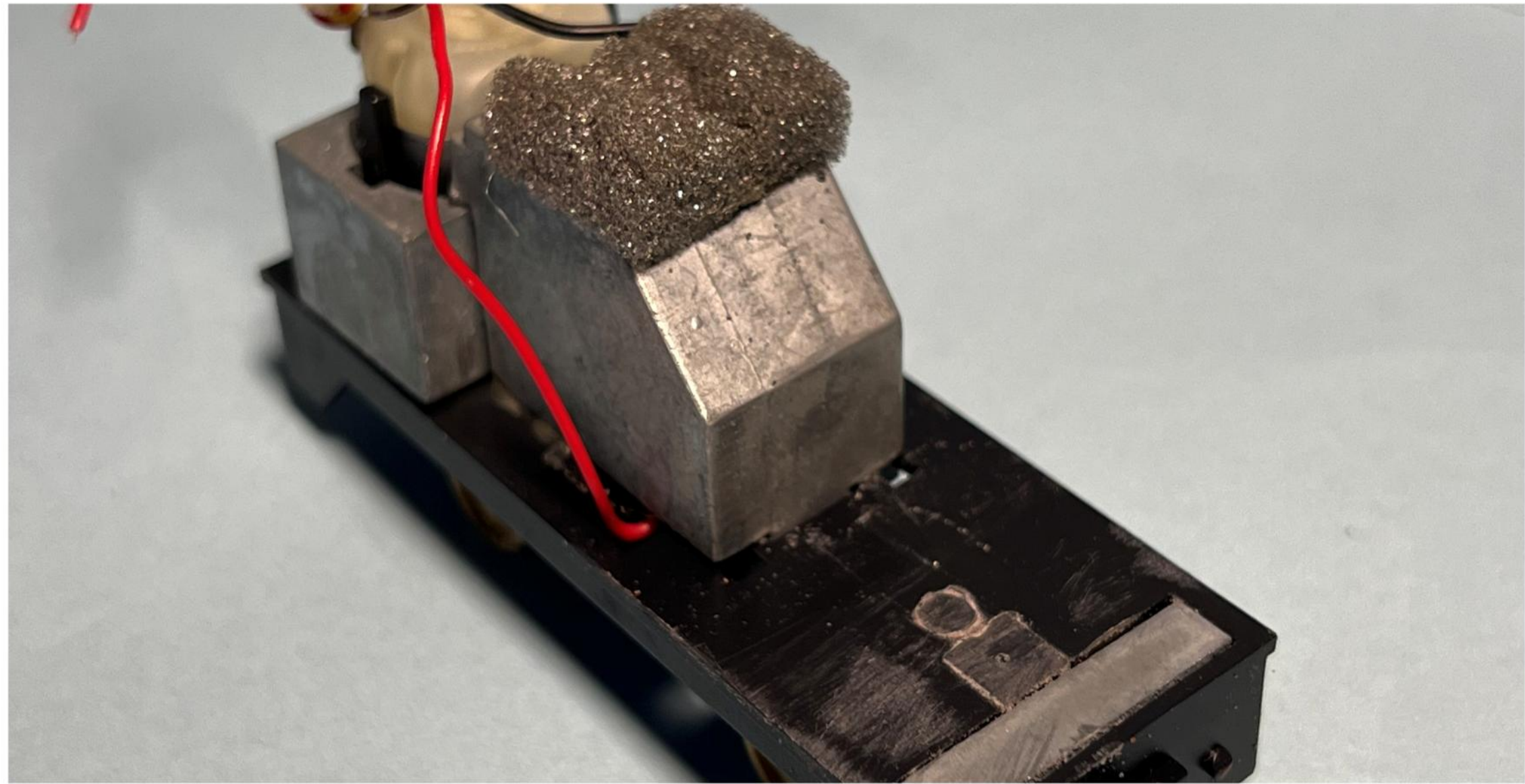


Simple DC power



Getting Serious

- **While the GE 23-Tonner was fun to build and boosted my confidence, I needed to exercise some creativity. (And I was advised by the evaluators there was little I could do with it to achieve a Merit score.)**
- **So I started The Critter, November 2022**











The Critter received a Merit Award.

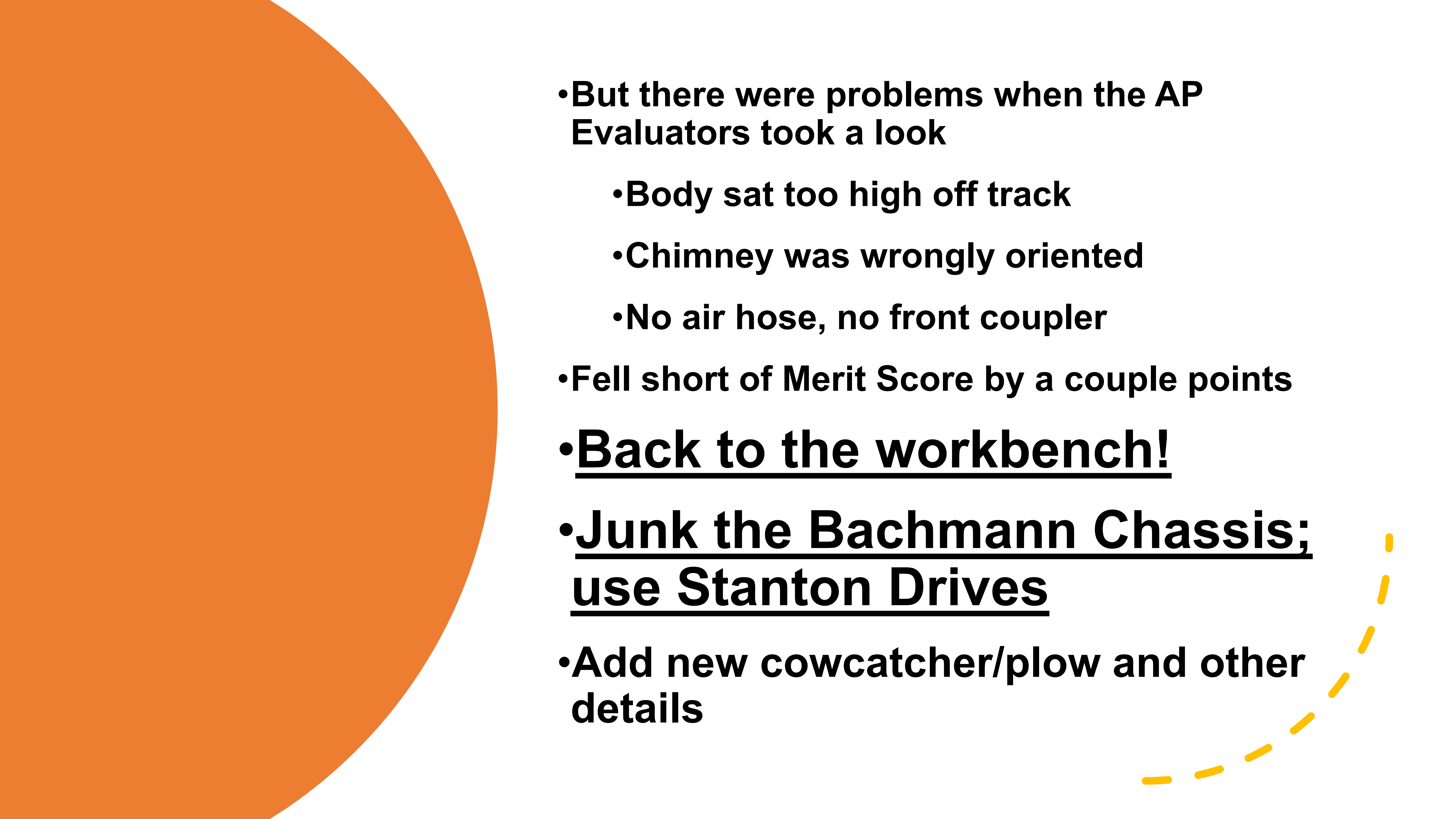
**Next up: Conowingo Models
Boxbug Doodlebug powered by
Bachmann 44-ton chassis (DC
power)**

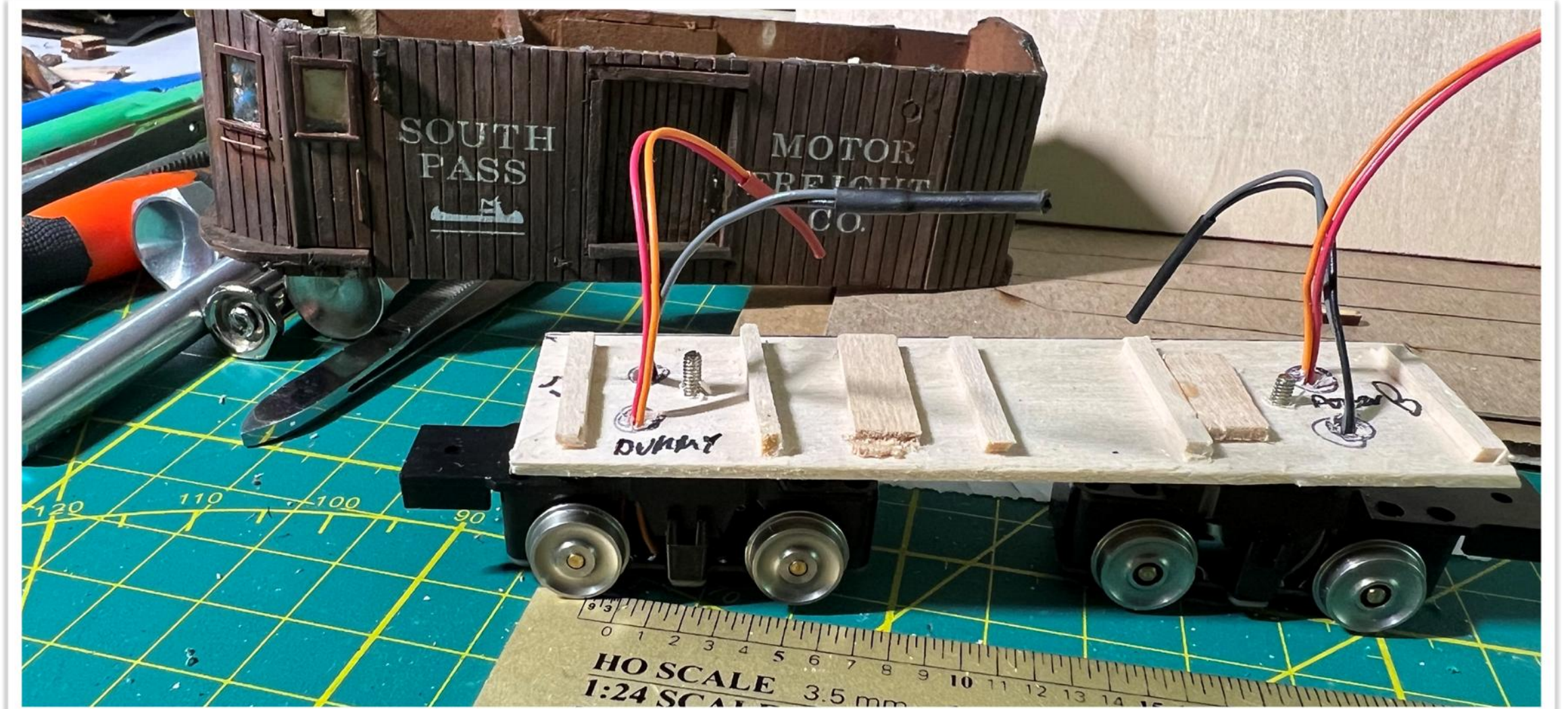


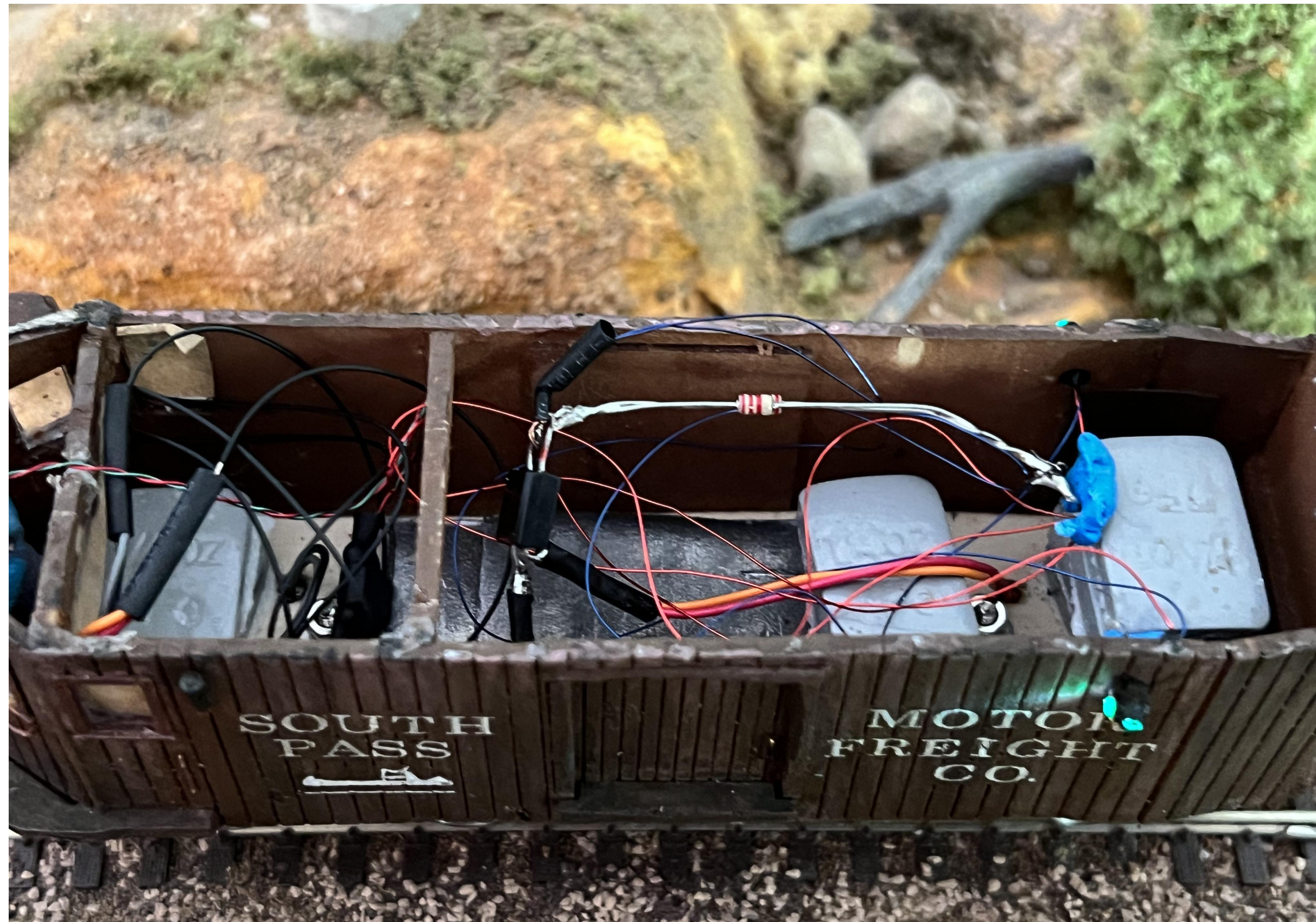






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- But there were problems when the AP Evaluators took a look
 - Body sat too high off track
 - Chimney was wrongly oriented
 - No air hose, no front coupler
 - Fell short of Merit Score by a couple points
 - Back to the workbench!
 - Junk the Bachmann Chassis; use Stanton Drives
 - Add new cowcatcher/plow and other details







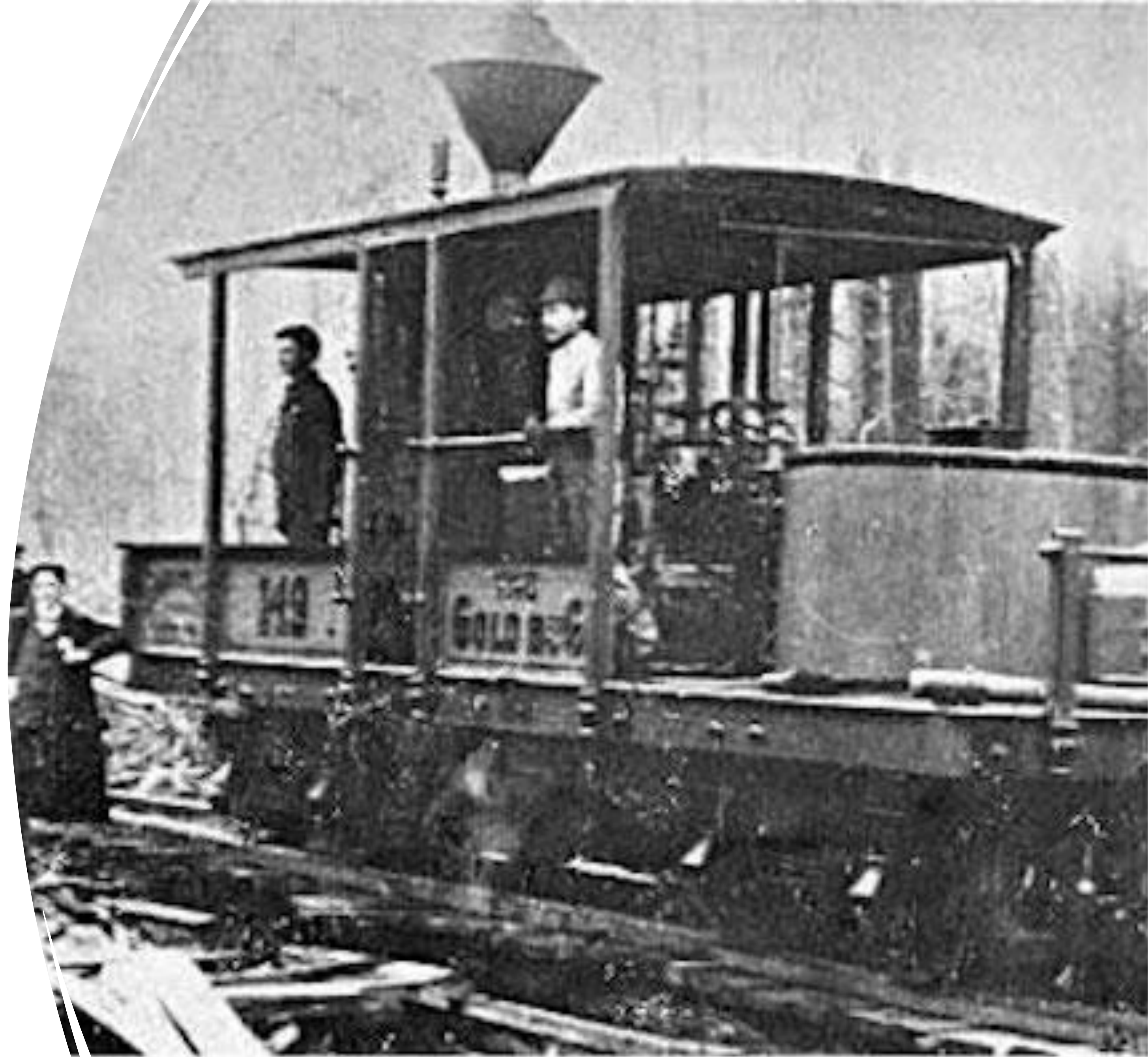


- **Success the 2nd time...Merit Award #2**
- **Now to the scratchbuild...and I had an itch: make a vertical boiler old-timer**

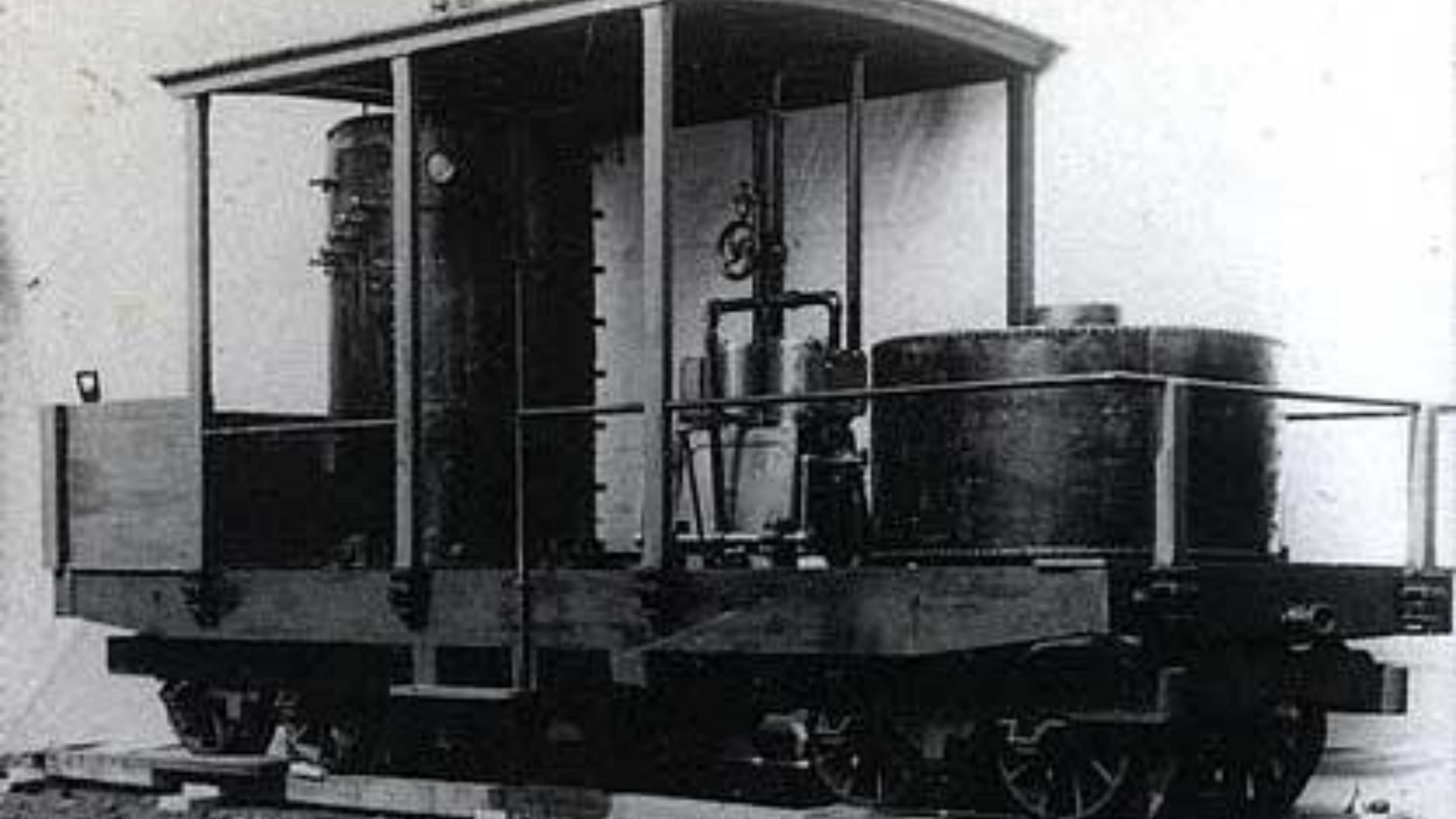
- ***Class “A” Vertical-Boiler Logging Locomotive.***
This 12-ton locomotive with vertical boiler was manufactured by Climax around 1889.

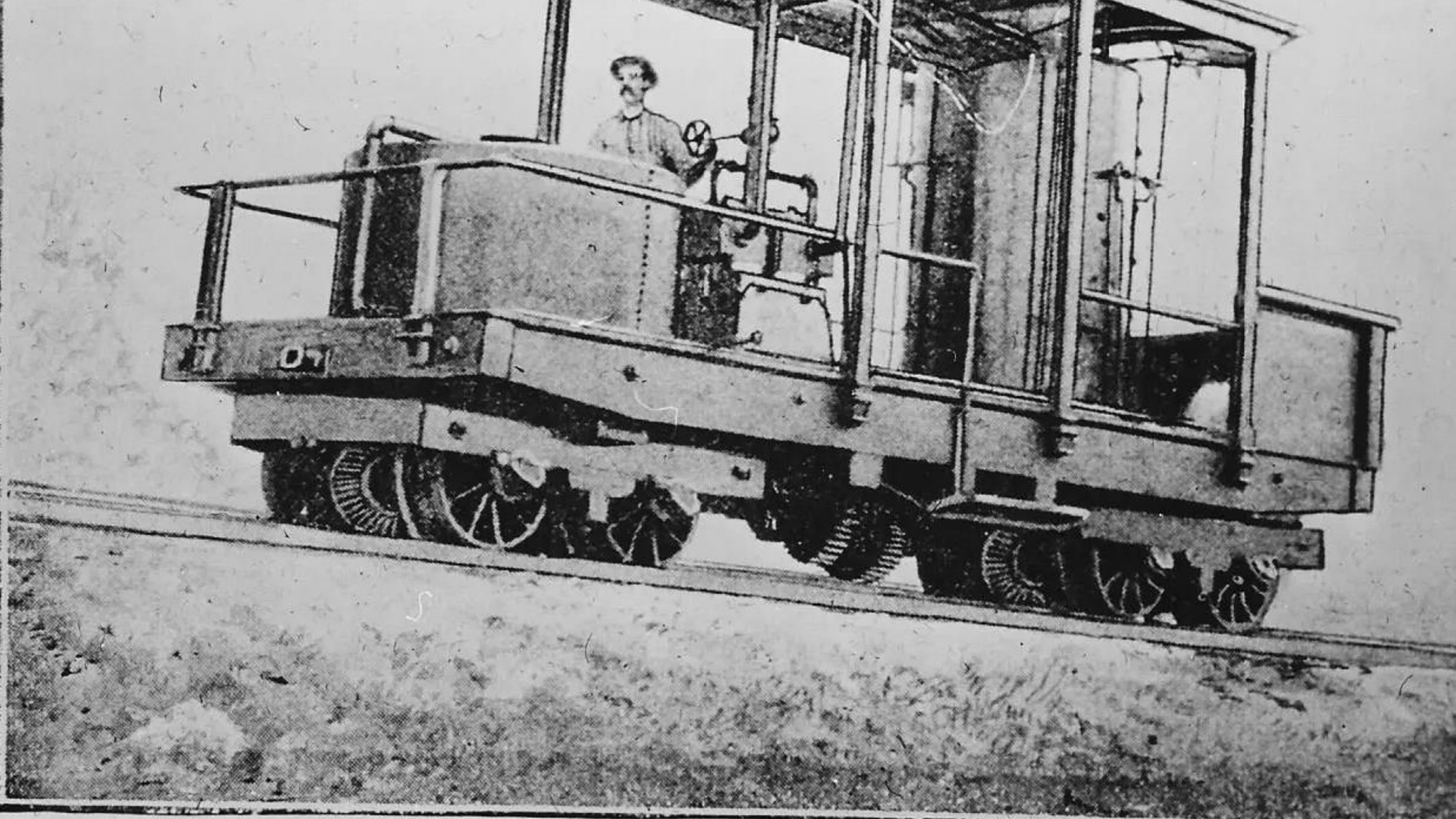
Many Prototypes

This one was
called “The Gold
Bug”

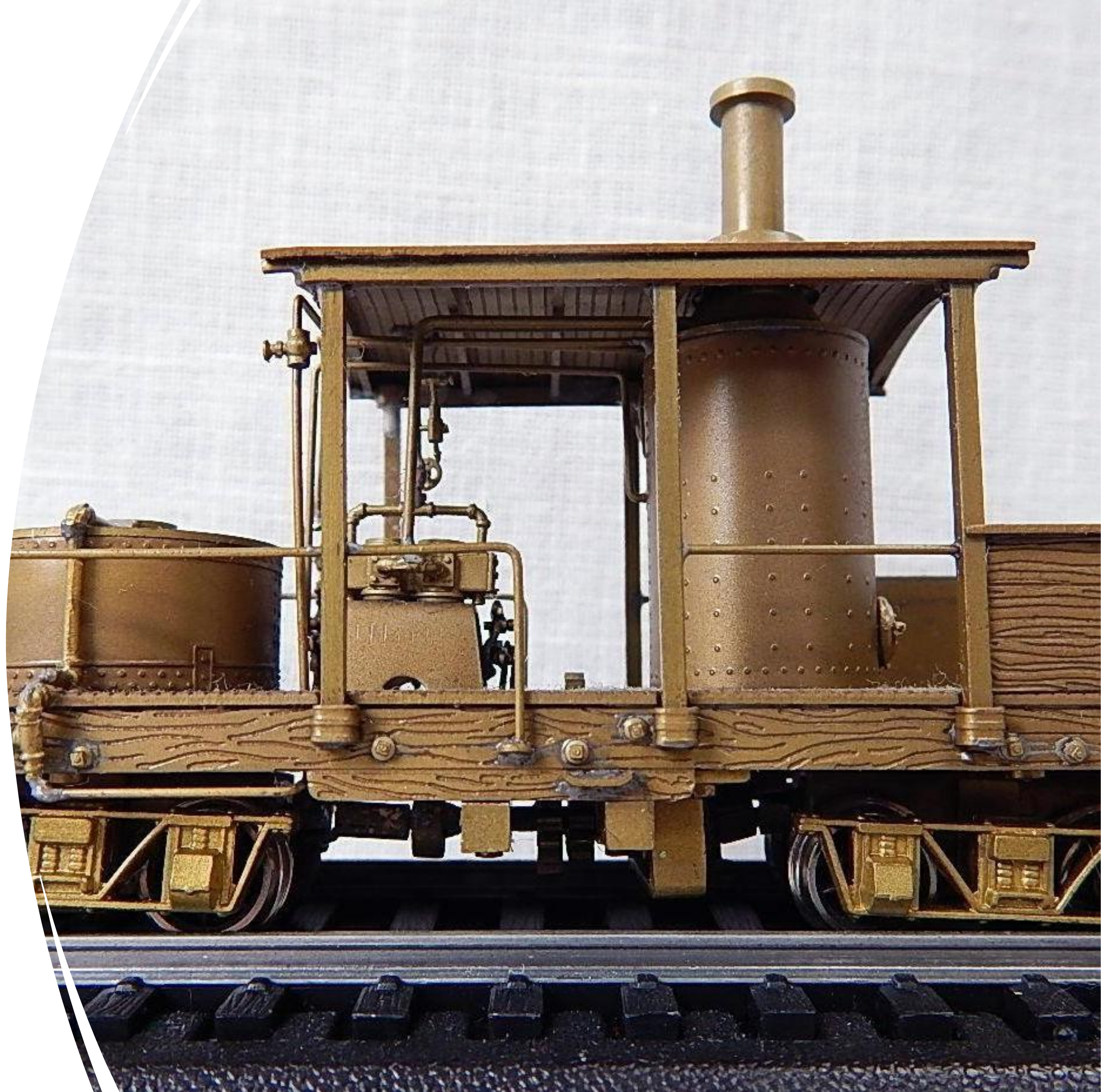


Walter Casler Collection





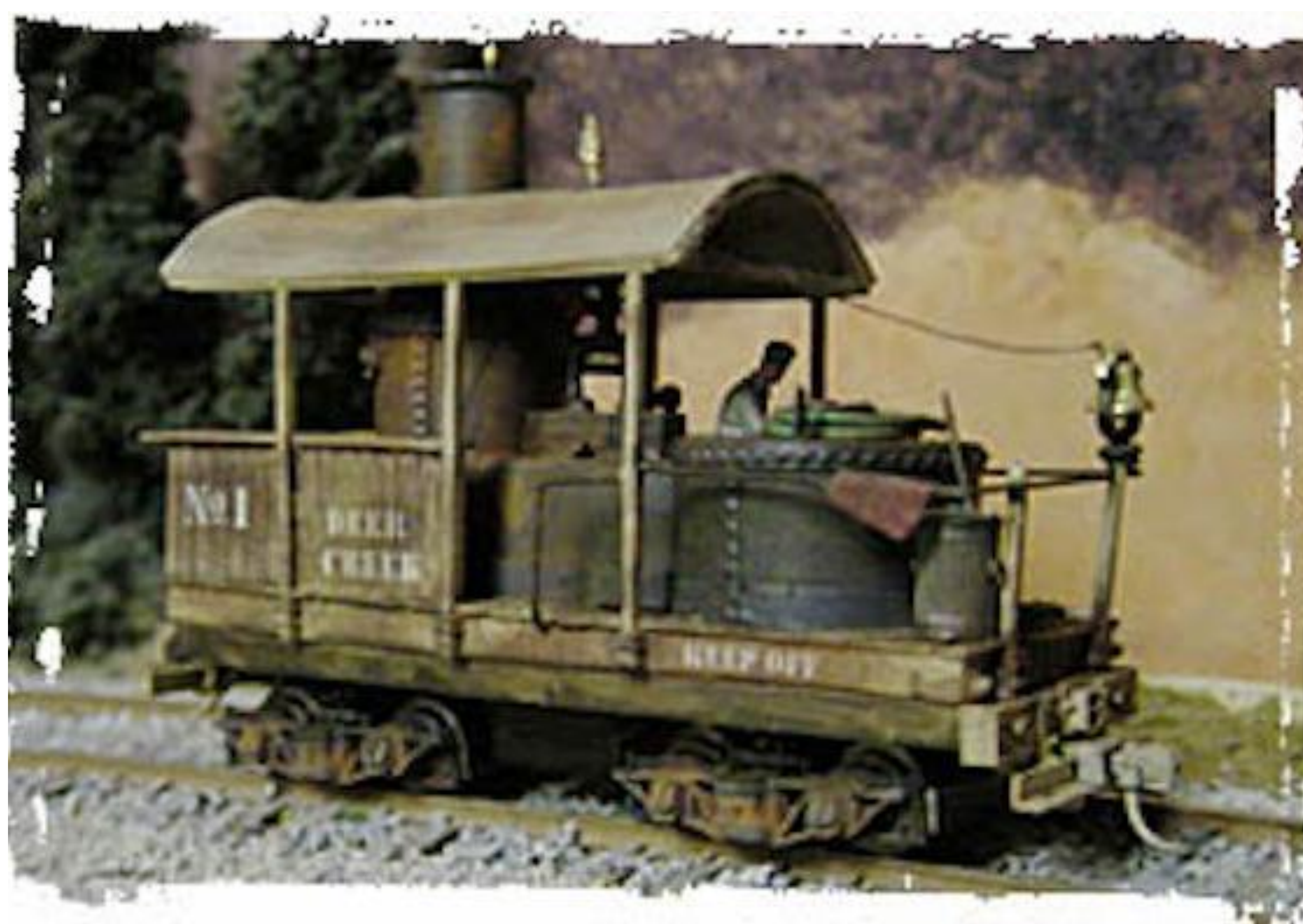
**And a few
models: this
one made by
NWSL in 1976
in HO and
HOn3**



• This is a
Westside model
made in 1973



- Both are long out of production and rarely on the market
- So modelers tend to make their own....

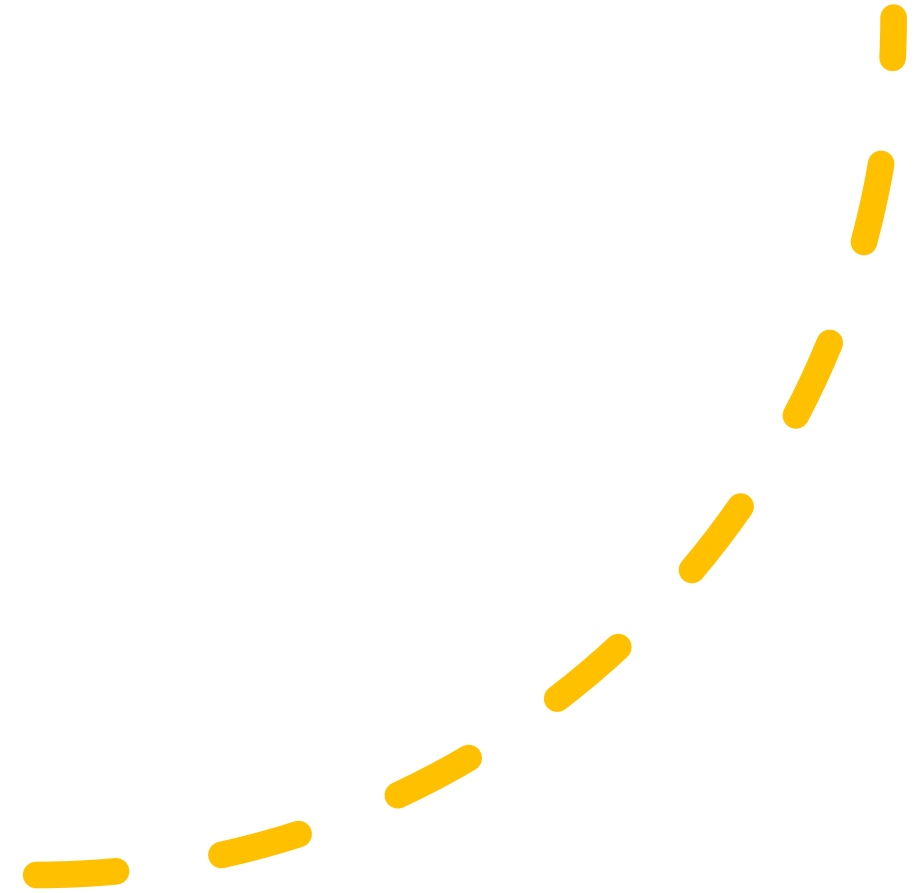






•This one is a 3D printed kit made by Jelly Models of Japan requiring a Kato power chassis



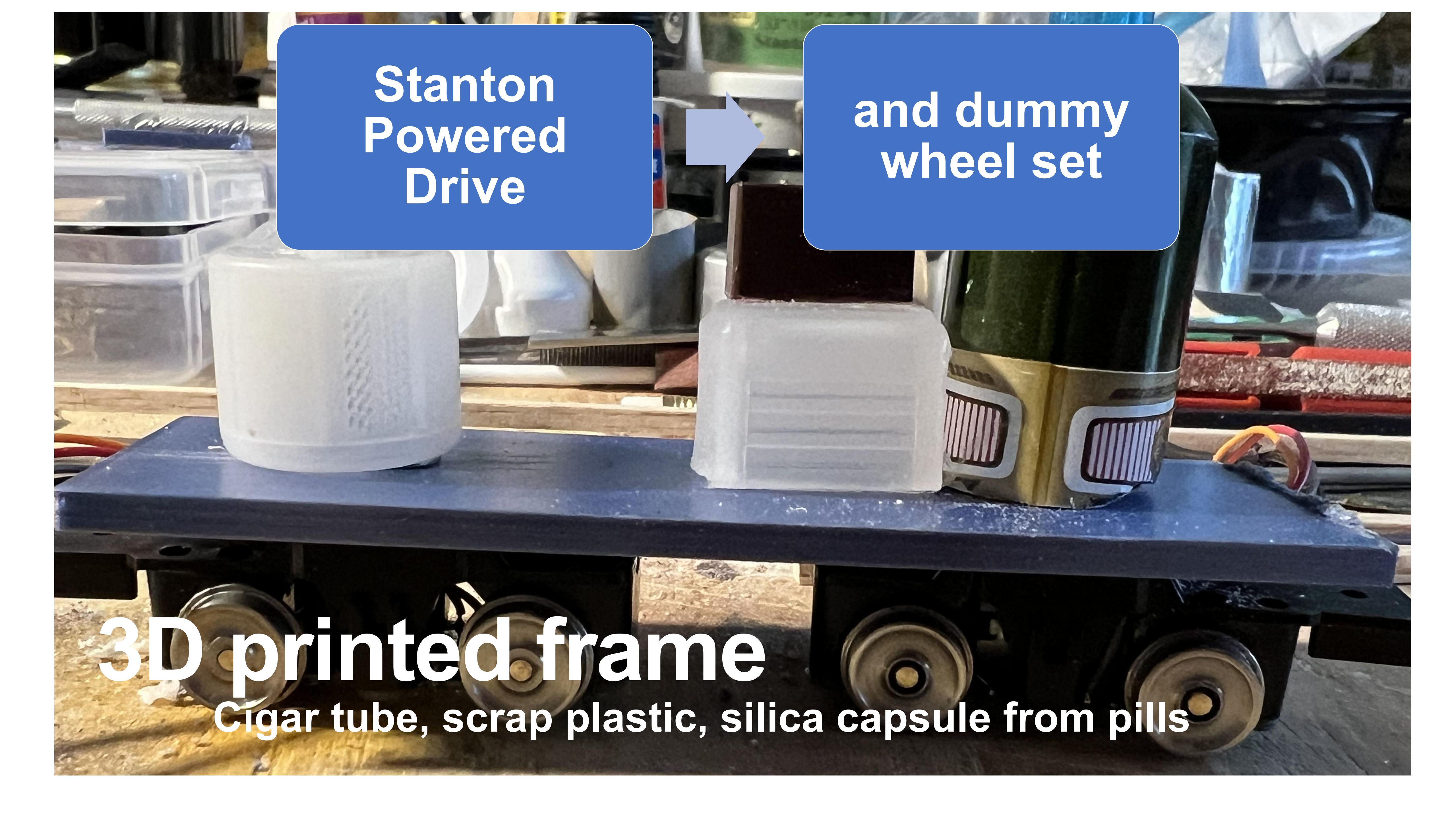
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- So how did I approach this?
- 

Discarded first idea

Bowser Motor Drive

Motor and Drive too high





**Stanton
Powered
Drive**

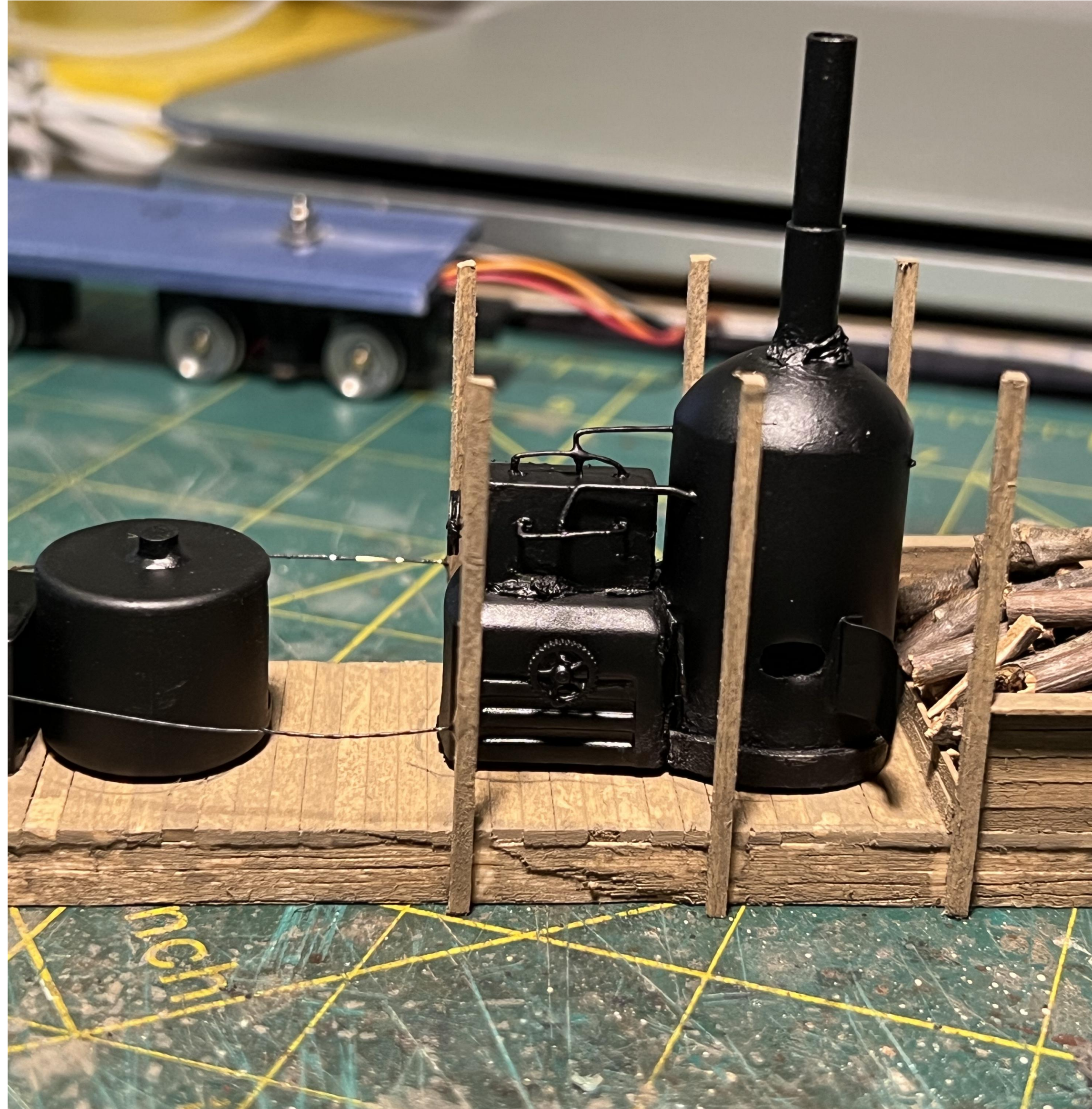
**and dummy
wheel set**

3D printed frame

Cigar tube, scrap plastic, silica capsule from pills

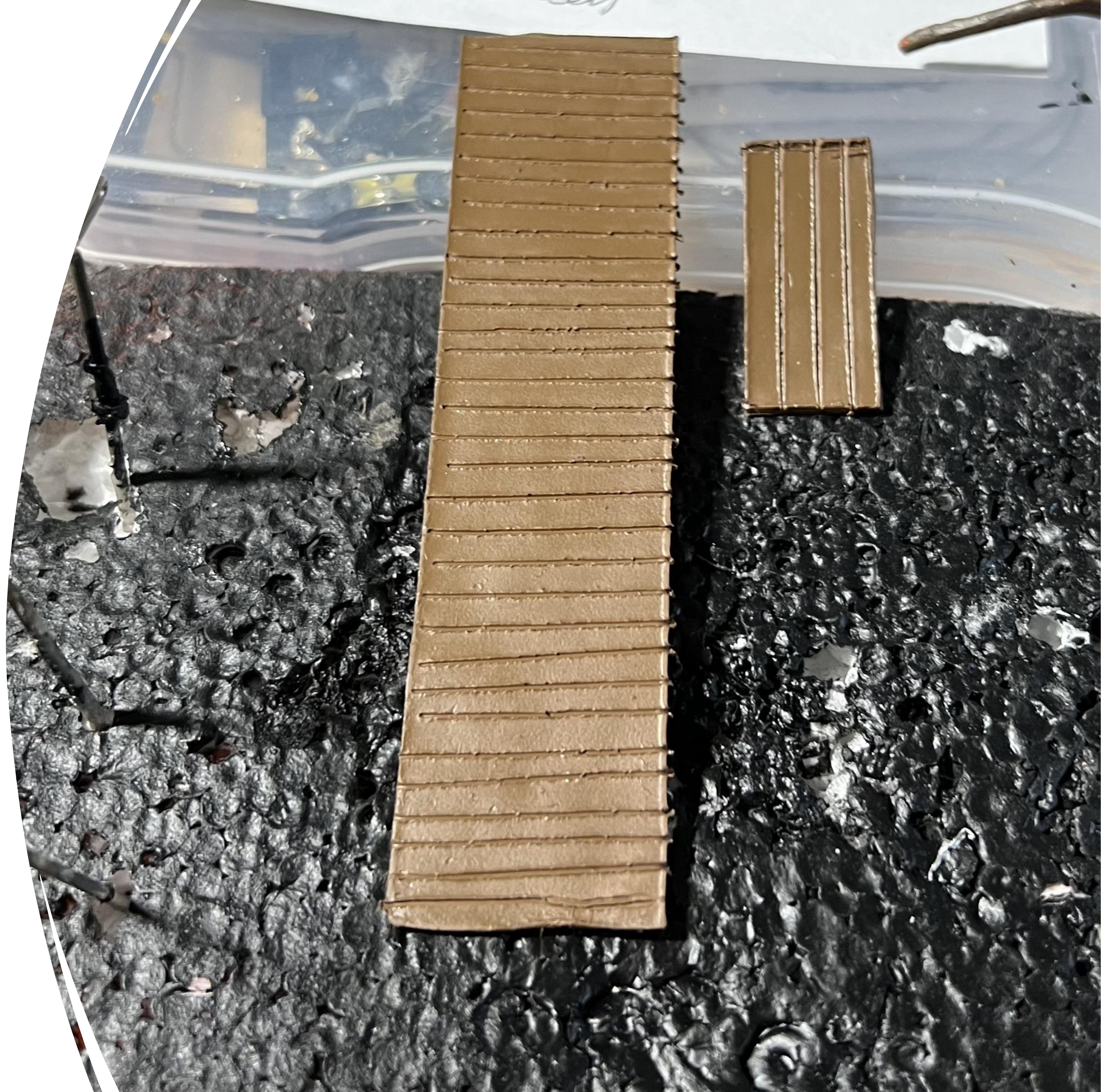


**But I dumped the
3D and went with
plain stripwood**

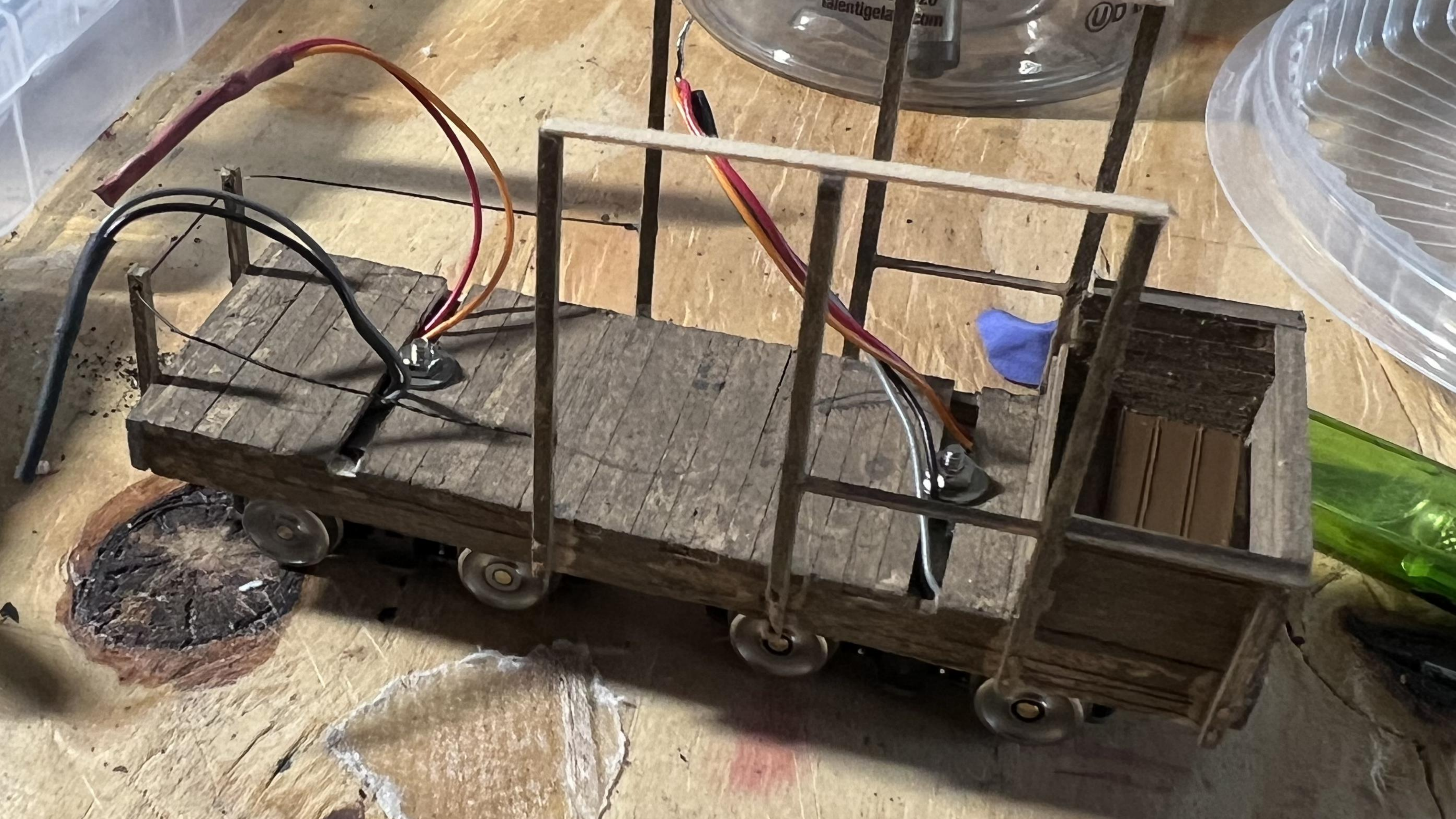


Lead weights

- **1/32 sheet lead from RotoMetals**
- **one under entire length of frame, scribed**
- **smaller piece to sit in wood bin**





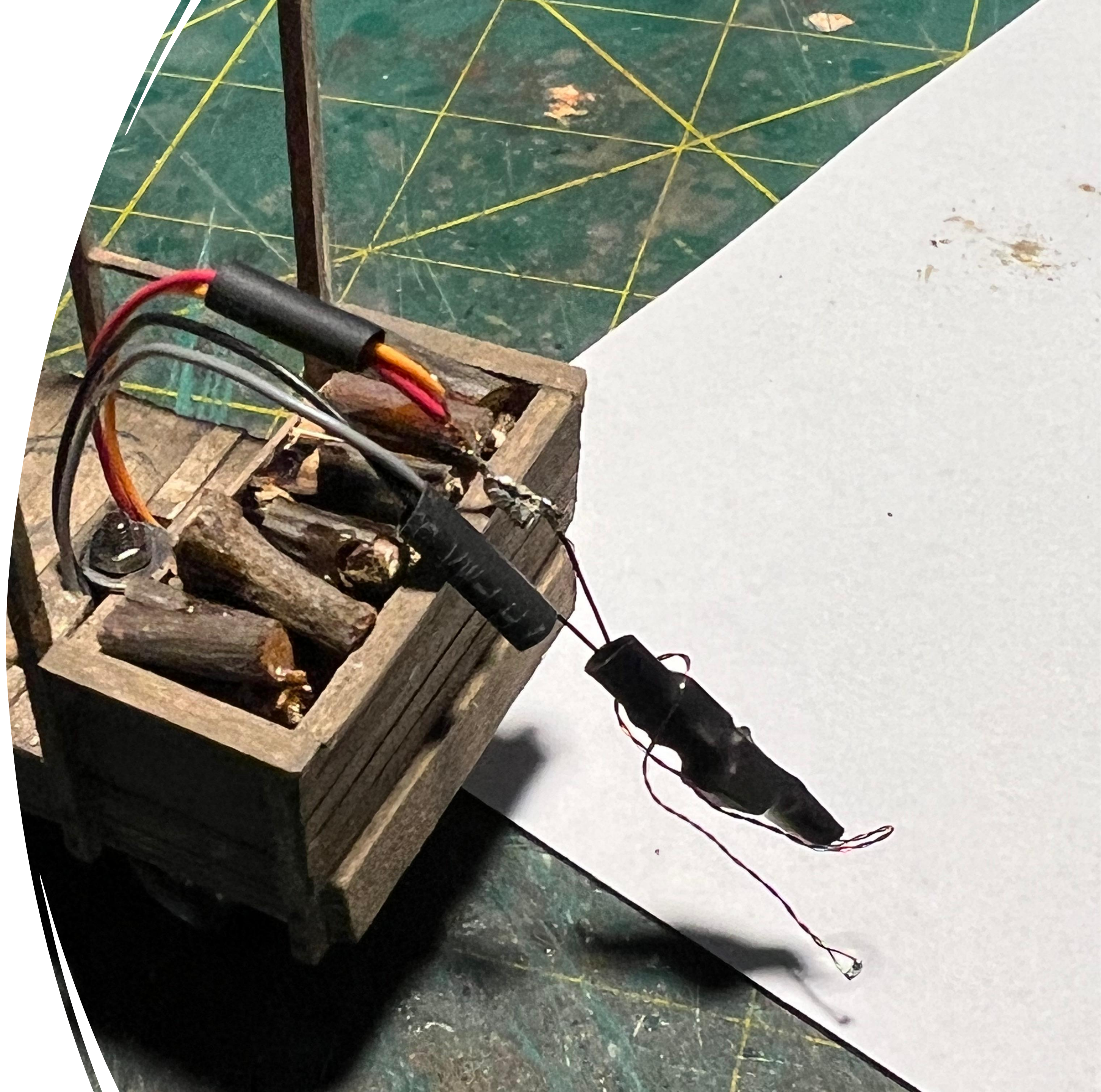


Adding firewood

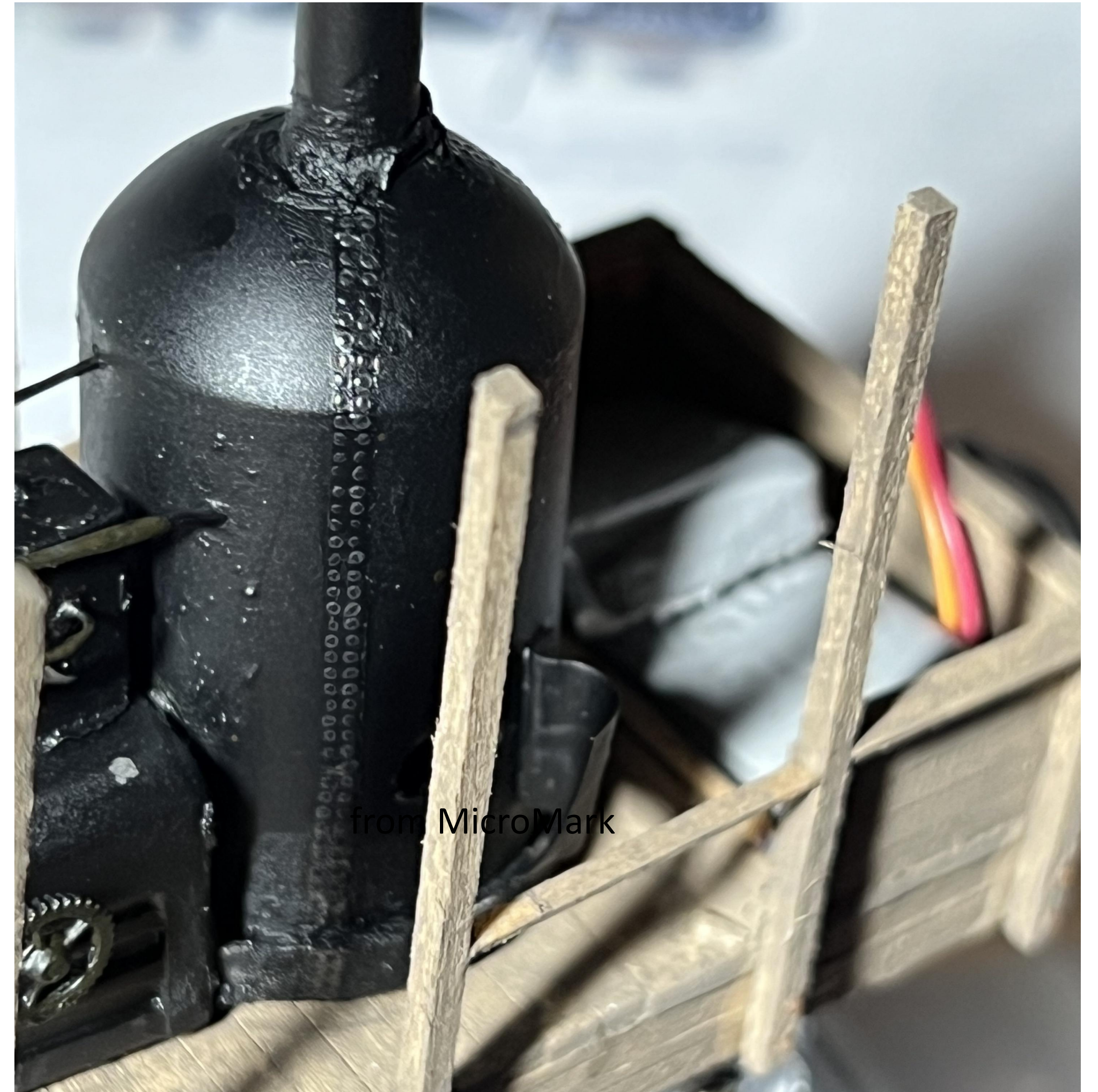


Adding the flickering red LED to go inside boiler

- Evans Designs



Raised Rivet Decals



from MicroMark

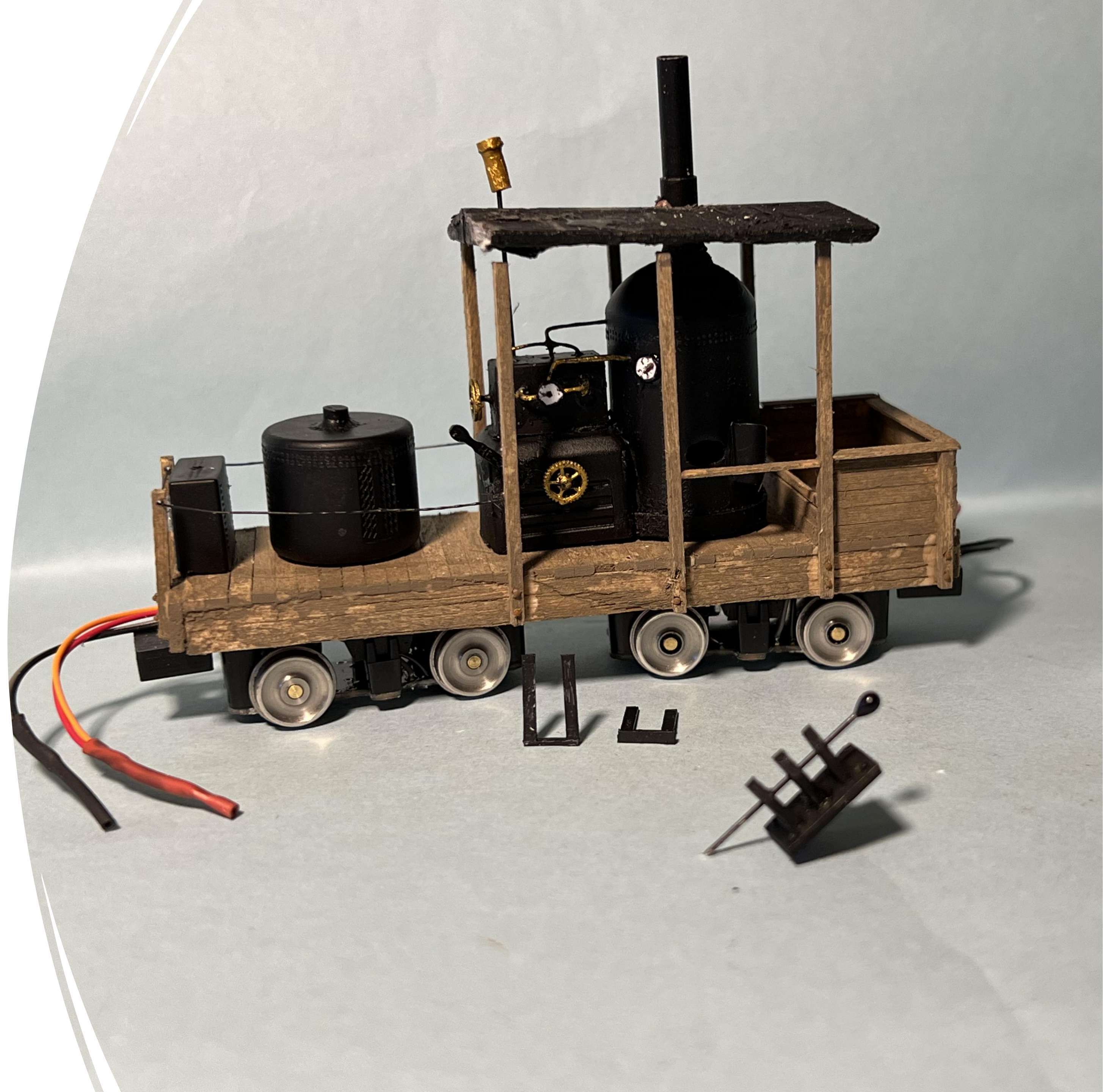
Boiler Details





More details

- The smokestack: 2 icing pipes
- Link-and-Pin coupler plates
- Sidesteps and whistle
- Headlight box later removed



Lots of NBWs and HBWs



**Hose and
pipes made
of solder,
Chain hung
from
handrail**







NWSL
copyright, 2010

F1

SD-1210-v2

Montana
USA

SD OM1

NWSL
copyright, 2010

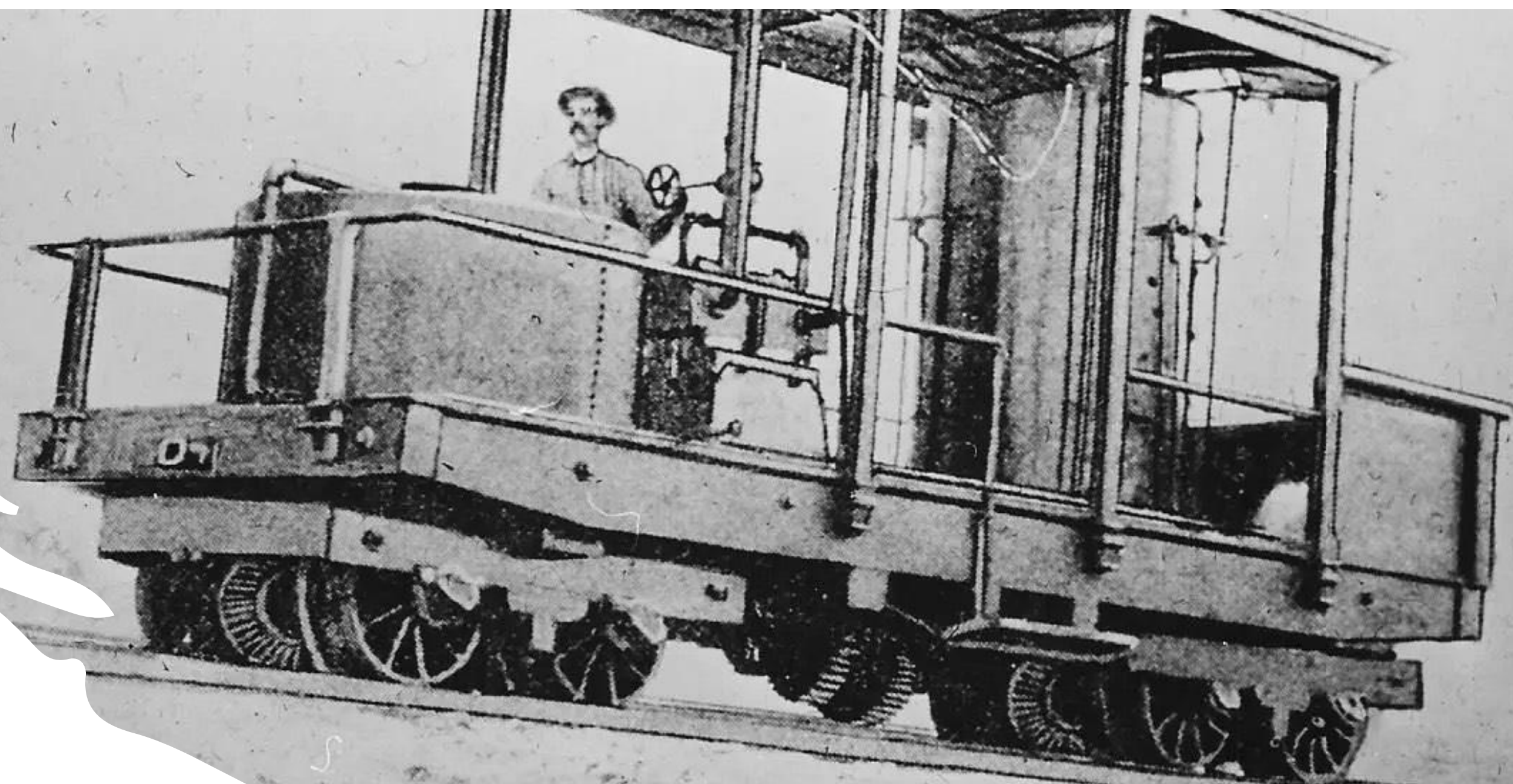
F1

SD-1210-v2

Montana
USA

SD OM2

•The lower image is from the Pennsylvania Lumber Museum and I decided to make my model's sideframes like the ones on that vertical boiler engine.







**As a final
touch:
Deer skull
from
Miniprints**



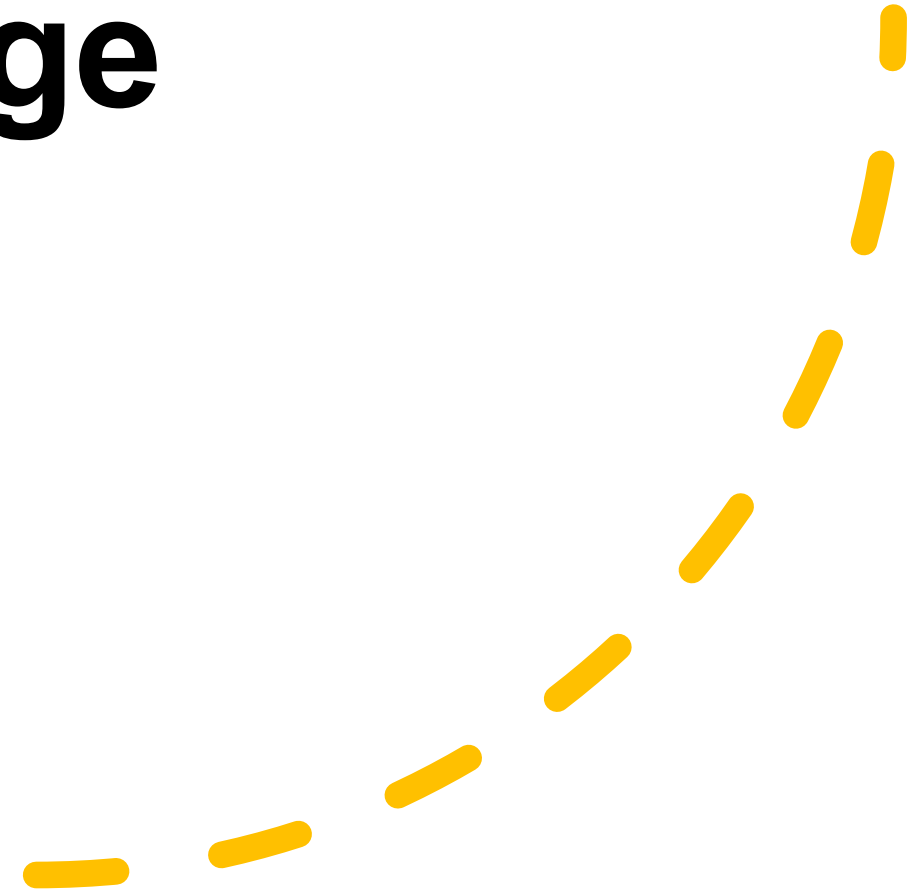
Taking a Chance...

- I made a last minute decision to take the Vertical Boiler Engine to the MER Convention in Altoona and entered it in the contest room.

First Place Steam

Alex Belida - Vertical boiler engine



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- **The AP program is a process for building your skills**
 - **Motive Power is a challenge but read the requirements: 3 engines, one must be fully scratchbuilt, all must be superdetailed**
 - **Kit built or kit-bashed locos are OK if superdetailed**
 - **Mine are all simple DC; Upgrading to DCC is the next challenge**
 - **You never stop learning**
 - **Take your time**
 - **Have fun!**
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My motive power projects

Four engines

GE 23-ton, Vertical boiler, Conowingo "Boxbug," and "the Critter"



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- Thanks for Listening
 - Any Questions?

