

A PULL SCALE WAGON FOR YOUR RAILWAY

by Peter F Davis

Have you ever watched your locomotive pulling a rake of vans or coaches and wondered what the actual load was? Well I was curious and put together the necessary bits to measure these loads. In the photo, by the dial on the front of the tube wagon, my Project is moving along, pulling $\frac{3}{8}$ pounds of weight (15 wagons/vans and a 6 wheel brake). Here I'll show you my design, if you are interested, and would like to alter one of your vans or wagons; you can adapt it to your situation. Maybe make improvements too. I won't go into great detail, it is very simple and you may have it figured out by glancing at the drawings.

I have numbered the parts (as I just didn't know what to name some of them).

Here is my list of materials to go with the drawings.

- 1 of 0.045 brass. (Hook) Holes for the cotter pins are located at assembly.
- 1 of $1\frac{3}{4} \times \frac{3}{8} \times \frac{1}{32}$ brass.
- 1 of $1\frac{3}{4} \times \frac{3}{8} \times \frac{1}{16}$ brass angle with $\frac{3}{16}$ removed from one side.
- 2 of $\frac{5}{8} \times 1 \times \frac{1}{32}$ brass.
- 1 of $\frac{1}{8}$ brass rod.
- 1 of 0.010 brass. (Dial face) Hole to clear #7. Graduate after assembly.
- 1 of $\frac{1}{8}$ ID brass tubing with 0.010 brass pointer soft soldered on.

Also needed;

1 $\times$ short length of heavy thread and 1 $\times$ small tension spring to take up slack.

3 $\times$ cotter pins.

2 $\times$ compression springs (13/64 od $\times$ $\frac{1}{2}$ long $\times$ 0.018 wire $\times$ about 7 turns). I think mine were former springs for Tenmille 3 link coupler hooks.

The wagon I used was a home - built 25' tube wagon with 15' wheelbase. The frame is made from $\frac{3}{16} \times \frac{3}{8}$ wood with 4 and 2 super glued in place. The dial is glued to the side. You will have to alter things to suit the wagon you choose.

Calibration and graduation: To graduate the dial I used pennies hung from the hook in an old sock! A pound of U.S. pennies varies with wear, but I found 174 to the pound. That's about 44 to the $\frac{1}{4}$ pound. To graduate in $\frac{1}{4}$ pound increments as I did, hold the wagon with the hook toward the floor, hang the empty sock from the hook and rotate the pointer to zero on the dial. Then add 44 pennies to the sock and mark your dial, add 44 more and mark again and so forth until you have filled the dial. Remove the sock and weights and reset the pointer to zero. Paint the marks on and add the numerals and there you have it. Other possibilities could be metric or scale pounds or tons. Of course, folks in other countries

finding themselves with a shortage of U.S. pennies will have to resort to their local coins.

