An apparatus for applying reagents to paper chromatograms*

For the years I have worked with paper chromatograms I have attempted to apply the coloring agent evenly over the surface of the paper. I have been dissatisfied with all methods attempted until the construction of the apparatus described here (Fig. 1).

A 20 in. length of 2 in. diameter stainless steel tubing was cut lengthwise, and two quarters were opened out and flattened forming the trough and flanges, T. The upright ends, E, were milled from 1/2 in. steel and soldered to the trough. Two

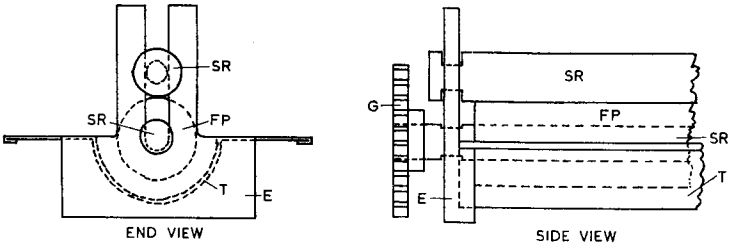

Fig. 1.

rollers were made, SR, one from 3/4 in. stainless steel bar stock, the other from 1/2 in. Lengths of 1 1/4 in. diameter foam plastic "Plasti-Paint-Rollers", FP, were forced over the 1/2 in. diameter bottom roller. The bottom roller dips into the trough of reagent, holding up a constant amount of reagent in the tiny pockets of the foam. The weight of the top steel roller compresses the foam slightly squeezing out a constant amount of reagent on the chromatogram. Each 18 × 22 in. chromatogram uses about 40 c.c. of ninhydrin reagent.

The bottom roller is driven by a reduction gear, G, and a small electric motor. The upper roller is driven by friction from the lower roller. The gearing is such that it takes but 30 sec. to run an 18 × 22 in. paper chromatogram through. This means that four chromatograms can be run in 2 min instead of the usual 15 to 20 min by hand spraying. This reduces the interval between the initial spraying and heating of a group of chromatograms, thus reducing the evaporation of an alcoholic coloring agent on the chromatogram to a minimum.

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