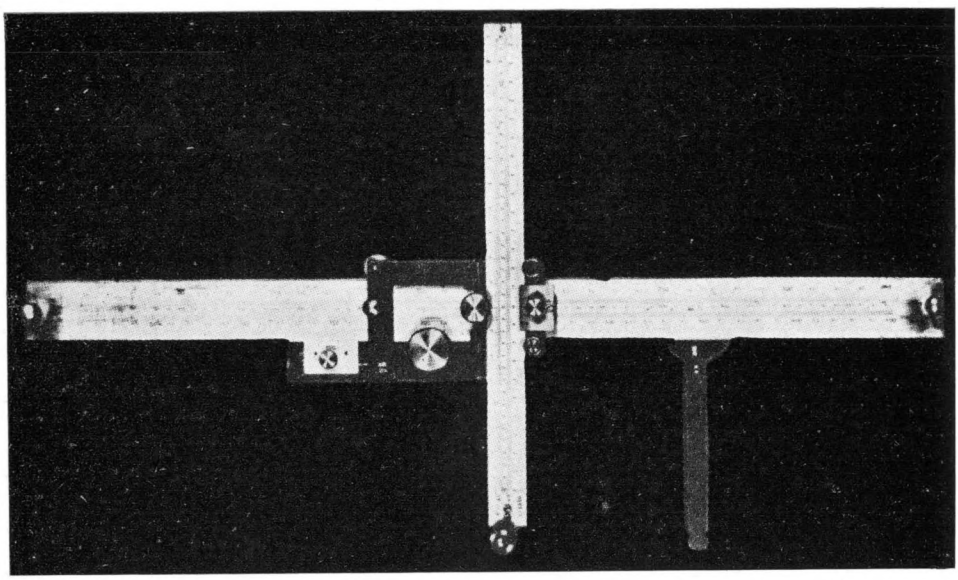

Coordinatograph for plotting abscissae and ordinates.

SMALL COORDINATOGRAPH

Extract from an article entitled *Instruments for Accurate Plotting*, by Serge A. EMERY, Professional Civil Engineer, published in *Surveying and Mapping*, Quarterly Journal of the American Congress on Surveying and Mapping, Washington, Vol. X, No. 2, April-June 1950, pages 131 to 134.

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The *Small Coordinatograph* shown on the figure is an instrument made of metal which is composed of a large, heavy ruler, divided for three different scales; a small, lighter ruler, which is also divided for the same three scales as the larger ruler, with an attachment on one end in which a pricker or a special magnifying glass can be placed; a movable frame which has two verniers—one for the large and one for the small ruler ; and a removable arm which is used only to put the instrument in the proper (parallel to measurement line) position. On the end of this arm there is a circle on which a black cross is marked, so constructed that it is the same distance from the large ruler as is the pricker when the zero of the small ruler coincides with the zero of its vernier.

The large ruler is used for plotting plus stations or co-ordinates of abscissas. The small ruler is perpendicular to the large ruler and is used for plotting perpendicular offsets or co-ordinates of ordinates.

Plotting with the Small Coordinatograph, in scales usually used, can be done with a precision of 0.1 foot.

A hundred to one hundred fifty points per hour can be accurately plotted with this instrument.

Plus stations or abscissae and perpendicular offsets or ordinates for points which have been previously plotted can be read from maps or plans with the precision previously mentioned. This is possible by using the magnifying glass, in which there is a black cross, instead of the pricker.

The use of this instrument is especially recommended when many points need to be accurately plotted or measured on plans or maps.

PLOTTING PROCEDURE

The instrument must first be placed in the proper position. The zeros of the large and small rulers must coincide with the zeros of their verniers and the point of the pricker must be on the beginning point of the traverse or measurement line. The intersection of the black cross of the removable arm must be exactly on the line. As the instrument is now in the proper position, the arm may be removed and plotting begun.

1. To plot the first point move the entire frame left or right by means of the largest screw until the zero of the vernier reaches, on the scale of the large ruler, the desired reading of plus station or abscissa.

2. Move the small ruler up or down by its screw until the desired reading for the perpendicular offset or ordinate is reached. Mark this desired point with the pricker.

Proceed in this manner to plot all desired points. The screws for both rulers are constructed in such a way that precise movement is obtained.