

THE NEW POIVILLIERS SOM STEREOTOPOGRAPHS TYPE B

by

Mr. Poivilliers.

No spectacular change has been brought into the Poivilliers SOM Stereotopograph type B.

This lack of important changes is due to the only fact that, these machines giving full satisfaction to users for nearly fourteen years, it has not appeared necessary to bring modifications into optical and mechanical parts, with the sole purpose of "Making something new".

However slight improvements have been brought to meet entirely the needs created by new technics:

1. Some countries — among them the U.S.A. — having standardised cameras, focal lengths and photo sizes, the machine has been so modified as to permit the plotting of such photographs. Special plotting cameras have been designed.
2. The importance of the precise formation of the model becoming greater with the development of traverse methods, and the appreciation of transversal parallax correction having to be made from uneasy points of identification, the transformation of this transversal parallax into stereoscopic parallax has been made easier.

The corresponding image rotation, which was operated by a pin, is now controlled by a knob. This results in a gain of time when changing from one mode of sight into another.

3. Millimetric distances are read in a meter placed below eye level, for the operator's convenience.
4. Carriages "x" and "y" may be disengaged.
5. The length of the rods has been increased, and the friction rollers set about the front part of the carriages, thus enabling to increase the distance and, as a consequence the plotting scale.

In particular, as regards cadastral surveys, that improvement permits a diminution in the coefficient of amplitude in the co-ordinatograph.

6. The co-ordinatograph compounds two adjustable styles, which render easier the joining up of drafts.

The styles are electrically lifted. A stereoscope, set side apart, is fixed on the co-ordinatograph. It enables an easier drawing of a fair copy as well as the checking of the survey.

THE COMPILATION INSTRUMENT USING RECTIFIED PANORAMIC (OBLIQUE) PHOTOGRAPHS

The apparatus was constructed by the Société d'Optique et de Mécanique de Haute Précision (SOM) based on the designs made by Geographic Engineer Masson d'Authume.

It had been conceived in connection with the rectification instruments

for oblique trimetrogon photographs presented in a report at the Congress at The Hague, that pairs of rectified oblique photographs could be used stereoscopically. He supplied the basic ideas that accuracy is a function of the accuracy of performing rectification of the obliques to a horizontal plane: in practice, it gives a correct planimetric rectification as far as the principal point of the oblique photograph and an altimetric rectification giving in a sense the relief valid locally with a correct equidistance of horizontal sections.

The same report gives first the geometric principles that guided the construction of the apparatus; it discusses how these geometric principles were used in practice, in particular how the stereoscopic relief effect of elevated objects was exaggerated four times.

It told also of the apparatus for viewing the photographs and concludes in indicating with interest what the instrument can offer for the rapid compilation of a provisional survey at 1/100,000, for example, in regions where the coverage with vertical photographs is insufficient to use ordinary mapping methods.

USE OF THE KELSH PLOTTER

by

Harry T. Kelsh, Photogrammetric Engineer.

The advantages and limitations of the Kelsh type of double projection plotters and a resume of the applications of the instrument by various governmental and commercial organizations.

All types of plotting instruments used in compiling maps from aerial photographs are designed to furnish a means of setting up a three dimensional model representing a portion of the earth's surface, using as data the overlapping part of two successive aerial photographs and means for graphically recording any desired data appearing in the model.

Since all plotters are designed for the same general purpose, then, within the limits set by our needs, or within the limits set by the quality of the data we must use, comparative economic evaluation of the results is more important than comparison of types of instruments based on personal preference. Such economic evaluation necessarily must take into consideration the original cost, the complexity of the instrument, for certain uses its portability, and relative operator training time necessary to permit the securing of satisfactory results.

There is no question as to the excellent degree of accuracy attainable with well constructed plotters of the optical train type in the hands of skilled and experienced operators. But to date, the good features have been accompanied by considerable complexity of design, lack of portability, and considerable cost. Operator training time is usually conceded to be longer than on projection type instruments.

The double projection type plotter is much more simple in construction. It can be made reasonably portable. It is easier to use, and it is much less costly to manufacture. It is not as flexible in operation in that ordinarily it does not