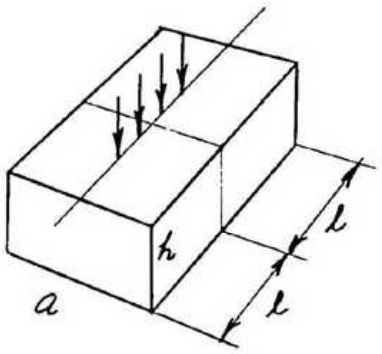
F.) BAR OF RECTANGULAR CROSS SECTION.

F.1) Rectangular Cross Section.



The geometric factor has been derived by Uhlir (f) (g) and Hansen (d). Hansen's results are given in the form:

$$\varrho = G \frac{V}{I}, \qquad G = \frac{2\pi s}{F}, \qquad F = F(\frac{a}{s}, \frac{h}{s}, \frac{l}{s}) \tag{17}$$

The values of F for an infinitely long bar are shown at page 33.

Bar of finite length $2l$

An examination of the results of Uhlir (f) (g) shows that when measuring on a semi-infinite plane sample at a distance L from the edge, the dependence of G on variation in L is the greater, the thinner the sample. This can also be seen by comparing the factor $D_1(\frac{L}{s})$, section C.1 with the factor $D_3(\frac{L}{s})$ section E.3, and factor $D_2(\frac{L}{s})$ section C.2 with factor $D_4(\frac{L}{s})$ section E.5.

When the bar becomes finite, the deviation of G from $2\pi s/F$ will be greatest in the cases when $a \ll h$ or $h \ll a$ (see also(d) pp. 99-100). In estimating the deviation, an upper limit is obtained from the factor $D_3(\frac{L}{s})$ in section E.3, doubling the deviation from unity, when this is small.

From this we conclude, that when

$2l \geqslant 13s$, then $0{,}97 \cdot \frac{2\pi s}{F} \leqq G \leqq \frac{2\pi s}{F}$

for all values of a and h. $2l \leqq 13s$ means, that the current