



Fig. 1. Schematic diagram of impact configuration showing impactor and target assemblies.

Shorting of one of these pins is also used to trigger the current supply to the foil before impact. The target assembly consisting of the silver-sapphire sandwich, current and voltage cables and the copper shielding can are held in the target ring with epoxy plastic. Sample housing and launching tube volumes are evacuated to about  $10^{-3}$  torr. Details of the projectile launching facility have been published previously (Fowles et al., 1970).<sup>1</sup>

#### D. Sample Characterization and Preparation

Sample preparation was a multistep process involving mechanical polishing, cutting to desired shape, thickness measurement, microscope examination, annealing, resistance ratio measurements, and target assembly.

The silver foils used in the initial experiments came from Material Research Corporation (MRC). They were cold-rolled into 2.5 cm wide strip from high purity (5N) silver stock. Microscope examination showed surface ridges and valleys due to the rolling process. Since valley to peak variation was about 5  $\mu\text{m}$  on each side, it was necessary to polish the 25  $\mu\text{m}$  foils to about 15  $\mu\text{m}$  thickness. Additional cold-rolled foils (specified as 3N purity) were obtained from The Wilkinson Company (W3N). After specimen preparation the W3N silver purity as measured by residual resistance was higher than the MRC silver purity. The W3N, as received, surfaces were much smoother than

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<sup>1</sup>The author is grateful to P. Bellamy for his operation of the high-velocity impact facility and to J. Guptill for technical support work in fabrication of needed components.