normal without making mechanical contact with it. The image of an illuminated grating of special construction is formed on the surface to be observed, and the light reflected from this surface then forms an image of equal size on a second, exactly similar, grating. The disposition of the second image relative to the second grating depends upon the position of the probe relative to the plane surface_____.

Displacements may be measured with a standard deviation of 2.8×10^{-5} in. Device is apparently for static deflections but appears to have promise for dynamic conditions.

2106 Barret P
MEASUREMENT OF SMALL DISPLACEMENTS OF A PLANE SURFACE WITH A SEMI-VIRTUAL SLIT MODULATOR (French)
Journal de Physique et le Radium, Paris
June 1956, Vol. 17, No. 6, p. 29.

This method is suitable for measuring the displacement of a polished or plated surface. A metal plate such as a razor blade is mounted parallel to and about 0.01 mm away from the surface observation of the slit at grazing incidence shows a real and a virtual (reflected) edge. Variations in the magnitude of this "semi-virtual slit" are used to modulate a beam of light falling on a photocell for recording static or dynamic displacements of the surface.
(Author's abstract)

2107 Kirby P L
APPARATUS FOR THE MEASUREMENT OF TIME OF IMPACT
British Journal of Applied Physics
1956, Vol. 7, pp. 227-228.

An apparatus is described for measuring the time of impact of a ball impacting on a plane surface. A direct connection to the ball is not necessary. The plane surface forms one surface of a capacitor. The other capacitor electrode is a ring at about 5 mm above the plane surface. The ball drops through the ring which changes the capacitance. While the ball is in contact with the surface, the capacitance is unchanged and therefore a measure of the time of impact.

2108 Krafft J M
WEIGH BAR APPARATUS FOR MEASURING FORCES RESISTING BALLISTIC PENETRATION
Review of Scientific Instruments
1955, Vol. 26, pp. 539-542.

2109 Dineff J, Carson J A and Charters A C
PISTON-TYPE STRAIN GAGE FOR MEASURING PRESSURES IN INTERIOR BALLISTICS RESEARCH
Review of Scientific Instruments
1955, Vol. 26, pp. 879-883.

2110 Dapoigny J, Kieffer J and Vodar B
SHOCK WAVES IN A DENSE MEDIUM. II EXPERIMENTAL METHODS AND SOME RESULTS OF MEASUREMENTS MADE BY THE METHOD OF ULTRA RAPID RADIOGRAPHY
J. Rech. Cent. Nat. Rech. Sci.
1955, Vol. 6, pp. 260-270.

2111 Muster D F and Volterra E G
USE OF A ROTATING DRUM CAMERA FOR RECORDING IMPACT LOADING DEFORMATIONS
Journal of the Society of Motion Picture and Television Engineers
1952, Vol. 59, pp. 44-48.

2112 Mintrop H
MEASUREMENTS OF LARGE IMPACT FORCES (German)
Schweizer Archiv für Angewandte Wissenschaff and Technik, Zurich,
1950, Vol. 16, pp. 119-124.

Author's method of measurement of impact forces is based on Hertz classical equations, concerning the contact between elastic solid bodies. In order to verify their validity and utility for this purpose, extensive static and dynamic tests were made, where the contact areas between spheres and plane solid surfaces were measured and the corresponding forces observed and computed. Balls were dropped on plane surfaces, and new methods, one of them involving the use of high-speed films, were used to measure the time of impact and the diameter of the circular contact surface _____. (Author's abstract)

2113 MacLaren D D, Taylor I J and Beedle L S
A MECHANICAL DEFLECTION GAGE--AN INSTRUMENT FOR MEASURING DISPLACEMENT UNDER IMPACT
Proceedings Society for Experimental Stress Analysis
Vol. 10, No. 1, pp. 135-142.

2114 Taylor I J
SOME RECENT DEVELOPMENTS OF THE MECHANICAL DEFLECTION GAGE
Proceedings Society for Experimental Stress Analysis
Vol. 10, No. 1, pp. 142-146.