Figure 2. (a) The contact of a steel ball $B$ held in disk $D$ with flat end of steel roller $R$ held in base plate $F$. (b) Diagram of apparatus. Normal load is provided by $W$. Static shear forces are applied by strings $T$ and static displacements measured by microscope $M$. Oscillating shear forces are applied by torsional vibration of the disk $I$ and the displacements measured by the pick-up $P$ and amplifier $A$. 


Figure 5. Static hysteresis loops. These results show that the major component of the displacement is elastic. On reversing the load a closed symmetrical loop is traced out in which $x(-\bar{S}) = -x(\bar{S})$. $D = 0.375$ in.; $N = 13.9$ Lb.
Figure 9. Non-dimensional correlation of the results of the damping tests. The full curve represents Mindlin's theoretical relationship given by equation (3) taking $\mu_s = 0.5$. The values indicated $\Phi$ were obtained from static hysteresis loops.

Fig. 3. Apparatus for measuring the energy dissipation at the contact of a sphere and a plane under the action of an oscillating oblique force
Fig. 4. Results of energy dissipation measurements at various angles of obliquity.
Fig. 5. Fretting damage after 10 000 cycles at a constant amplitude $P^* = 0.4N_0$.