A

MU

m

m

b

b

m

V

M

m

The two small spheres each of mass m are connected by a cord of length 2b(measured to the center of the spheres) and are initially at rest on a smooth horizontal surface. A projectile of mass M and velocity V perpendicular to the cord hits the cord in the middle causing a deflection A from the vertical as shown in the second figure. Determine the velocity V of M as the angle A approaches 90 degrees (the spheres near contact) Also find the angular velocity of A (dA/dt) for this condition.