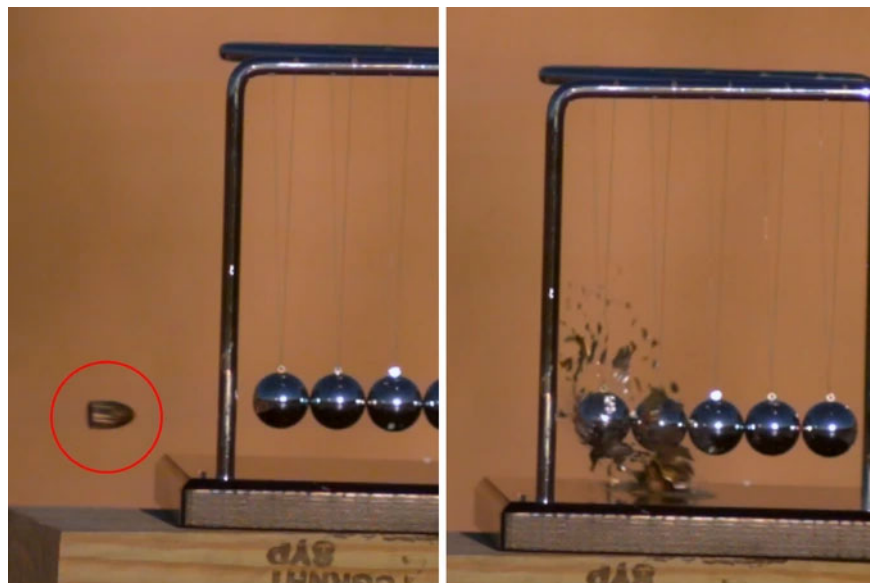


Close-up of bullet shattering when fired at 'fragile' pendulum system

YouTube channel The Slowmo Guys has posted a video of a 9mm pistol bullet being fired directly into a Newtonian pendulum system sitting on a table. The video was recorded using a Phantom TMX 7510 high-speed camera.



What do you think the outcome of this experiment will be? Will the bullet or the fragile balls win? Will the balls be able to withstand the force of the bullet or will they shatter or fly away?



As a result, the bullet shattered when it hit the seemingly fragile pendulum system, and the pendulum system with the impacted balls did not even move for a moment.

Newton's pendulum was created by French scientist Edme Mariotte in the 17th century to demonstrate the laws of conservation of momentum and conservation of energy through swinging spheres, mounted on a stand.

According to the explanation, when the bullet is launched, it simultaneously creates a reaction force of the same magnitude, but in the opposite direction (according to Newton's Third Law). It is this force that causes the bullet to shatter immediately after the collision.

Meanwhile, the impacted ball remains stationary because its momentum is transferred to the other balls.

(You can watch from 9:40 to see the slow motion of the bullet hitting the pendulum).

*Note: This test is very dangerous, and viewers should not perform it at home.

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