

### Cartridges Fired in Oswald's Rifle

Three empty cartridge cases were found near the window from which the shots were fired on the sixth floor of the building. These cartridge cases were examined by the FBI Laboratory, and it was determined that all three had been fired in the rifle owned by Oswald. (Exhibit 22)

Immediately after President Kennedy and Governor Connally were admitted to Parkland Memorial Hospital, a bullet was found on one of the stretchers. Medical examination of the President's body revealed that one of the bullets had entered just below his shoulder to the right of the spinal column at an angle of 45 to 60 degrees downward, that there was no point of exit, and that the bullet was not in the body. An examination of this bullet by the FBI Laboratory determined that it had been fired from the rifle owned by Oswald. (Exhibit 23)

Bullet fragments found in the automobile in which President Kennedy was riding were examined in the FBI Laboratory. It was definitely established, from markings on two of the fragments, that they had been fired from the rifle owned by Oswald. (Exhibit 24)

### Palm Print on Rifle

Dallas police lifted a latent impression off the underside of the gun barrel near the end of the foregrip of the rifle recovered on the

## FEDERAL BUREAU OF INVESTIGATION

EXHIBIT 2

Date 11/29/63

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SA JOHN JOE HOWLETT, U. S. Secret Service, Dallas, advised that with the aid of a surveyor and through the use of 8 millimeter movie films depicting President JOHN F. KENNEDY being struck by assassin's bullets on November 22, 1963, HOWLETT was able to ascertain that the distance from the window ledge of the farthest window to the east in the sixth floor of the Texas School Book Depository Building, 411 Elm Street, to where the President was struck the first time in the neck was approximately 170 feet. He stated this distance would be accurate within two or three feet. The distance from the same window ledge to the spot where President KENNEDY was struck in the head by the assassin's bullet was approximately 260 feet. Mr. HOWLETT stated that Secret Service Agents, using the 8 millimeter film had been unable to ascertain the exact location where Governor JOHN B. CONNALLY was struck.

SA HOWLETT advised that it had been ascertained from the movies that President KENNEDY was struck with the first and third shots fired by the assassin, while Gov. CONNALLY was struck with the second shot. SA HOWLETT stated the window referred to above was the one from which the shots were fired and faces south.

on 11/29/63 at Dallas, Texas File # Dallas 89-43  
by Special Agents ROBERT M. BARRETT and IVAN D. LEE/sl 117 Date dictated 11/29/63

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corner of Main and Houston Streets.

12. What was the aiming pattern of the assassin's target?

The target was moving away in a relatively straight direction. Shot one was fired from a gun probably braced for a steady shot sighted-in on a predetermined point on the parkway just clear of tree foliage. Linear measurements made on the scale model indicate that shots two and three were fired at a target slowly moving away in a direction slightly downward and to the right of the point where shot one struck the President.

- a. SHOT ONE hit the target from a distance of 167 feet, measured downward along a 23-degree angle from the horizontal.
- b. SHOT TWO hit the target from a distance of 262 feet, measured downward along an 18-degree angle from the horizontal. The target moved forward 96 feet in 4.4 seconds at 15 mph

(22 fps) or 5.5 seconds, at 12 mph (17.6 fps). Line of sight change from shot one: 5 degrees upward, 4 degrees to the right.

- c. SHOT THREE hit the target from a distance of 307 feet, measured downward along a 15-degree angle from the horizontal. The target moved forward 45 feet in 2.0 seconds at 15 mph (22 fps) or 2.5 seconds at 12 mph (17.6 fps). Line of sight change from shot two: 3 degrees upward, 1.5 degrees to the right.
- d. ELAPSED TIME to hit targets two and three after hitting target one: 6.4 seconds at 15 mph (22 fps) or 8.0 seconds at 12 mph (17.6 fps).
- e. CHANGE OF AIMING PATTERN from shot one to shot three: 8 degrees upward, 5.5 degrees to the right.