

## THE OSWALD FRAME: THREE CARTRIDGE CASES

by Richard Bernabei

### Introduction

John F. Kennedy, President of the United States, was shot and killed on Dealey Plaza in Dallas, Texas. The assassination occurred at 12:30 p.m. on November 22, 1963.

At 1:12 p.m., in the course of a general search of the Texas School Book Depository building, which was located behind the President when he was fired upon, Dallas police officers discovered three spent cartridge cases lying near a half-open window on the sixth floor of the building. The cartridge cases were designed for firing 6.5 mm bullets in Mannlicher-Carcano rifles. (WR 79)\*

At 1:22 p.m., after further searching, police found on the sixth floor a Mannlicher-Carcano rifle tucked inconspicuously among surrounding cardboard cartons. (WR 79)

Conducted chiefly by FBI firearms identification expert Robert A. Frazier, examination of the three cartridge cases disclosed that they had been fired in the Mannlicher-Carcano rifle to the exclusion of all other weapons. (WR 85)

Moreover, the official investigators determined that several months before the assassination the rifle had been purchased by Lee Harvey Oswald. (WR 118)

Late in November, 1963, President Kennedy's successor appointed a President's Commission, the so-called Warren Commission, and by executive order he directed the Commission "to evaluate all the facts and circumstances surrounding the assassination...and to report its findings and conclusions." (WR ix)

Issued in September, 1964, the Report of the Commission concludes that Lee Harvey Oswald alone killed the President in the course of firing three shots with the Mannlicher-Carcano rifle from the location at the sixth floor window of the Texas School Book Depository. Referring specifically to the number of shots that were fired, the Report says (WR 110):

The most convincing evidence...was provided by the presence on the sixth floor of three spent cartridge cases which were demonstrated to have been fired by the same rifle that fired the bullet which caused the wounds.

\* "WR" signifies "Warren Report", the Report of the President's Commission on the Assassination of President John F. Kennedy (U.S. Government Printing Office, 1964); the numerals signify page numbers.

Fierce controversy surrounds almost every issue that bears on the assassination of the President. To my readers I offer sincere apology because limitations of space compell me to disregard all but one issue and the matters that are directly related to it, the evidence of the three cartridge cases.

As justification for such a circumscribed procedure, I offer two assurances: that the issue in question is enormously important, for it bears heavily not only on a fundamental aspect of the assassination itself, but also on the character of the government's investigation of the assassination; and that the issue is completely settled, beyond any doubt. It is secure even from the cavil of those who still cherish the notion that the government cannot be grossly wrong about a national catastrophe of such magnitude as the assassination of a President--flagrant error, you see, implies flagrant intent to err.

Moreover, the conclusive settlement of this issue denies refuge in the specious plea, "So what?". The evidence implies that Lee Harvey Oswald is innocent of murdering the President. More than that, it leads unambiguously to the conclusion that Oswald was deliberately framed, framed not merely by accomplices in the assassination itself, but also by the very investigators who allege that Oswald alone is guilty.

None of the three cartridge cases was used for the assassination of the President. The three cartridge cases cannot have been used to kill the President; they cannot have been used even to kill a rabbit.

In each instance, before the assassination occurred, the bullet was manually pulled from the loaded cartridge, and the empty cartridge case was inserted into the chamber of the rifle and fired. The three cases were deposited near the sixth floor window. They had never been used to fire bullets.

The explicit description of what happened to the cartridge cases depends chiefly on two phenomena: the presence of certain conspicuous dents on the sides of the cartridge cases; and the absence of certain microscopic marks from the brass bases of the cartridge cases. Each phenomenon by itself, without reference to the other, conclusively establishes that none of the three cartridge cases was used for the assassination of the President.

#### The dents\*

The three cartridge cases are part of the evidence of the Warren Commission. They bear the designations Commission Exhibit (CE) 543, CE 544, and CE 545.

\* Readers who are not familiar with terms that apply to ammunition should consult Appendix 1: Nomenclature (Ammunition).



For reasons which are best known by those who conducted the official investigation and issued the Warren Report (reasons which others may ponder in the light of what follows), the most important physical features of the three cartridge cases are referred to nowhere in the official documents of the Warren Commission-- not in the Warren Report itself, not in the 26 volumes of published evidence, not in the vast quantity of unpublished documents that rest in the National Archives, not among the reports that are still classified "Top Secret"-- nowhere.

The Commission presents three close-up photographs of the cartridge cases (17 H 241)\*, but the photographs do not reveal the dents, either because the photographs themselves are of such poor quality that hardly more than the outline of each cartridge case is discernible, or because the dents were turned in a direction away from the camera's eye. It is not possible to determine which of those circumstances apply, or indeed whether both apply.

The cartridge cases were first described and depicted by Josiah Thompson in his book Six Seconds in Dallas (Geis, 1967), pp. 144f. I rely on Thompson for his description of the cartridge cases and for his conclusion regarding the significance of the dent on CE 543. If you consult Thompson beyond that, read him with extreme caution, for he gravely misinterprets the significance of other phenomena.

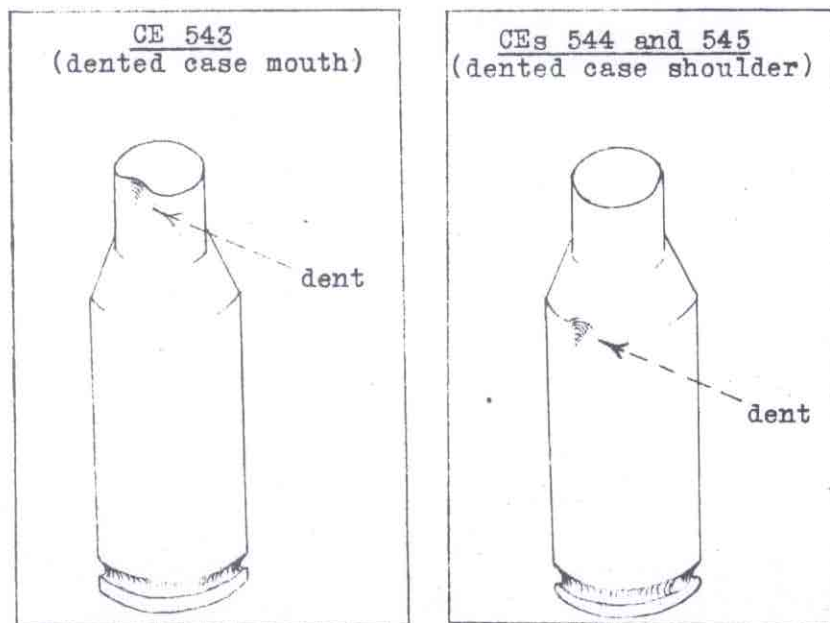
The limitations of this medium of reproduction cause me to provide the reader only with drawings. Be assured, however, that the drawings represent with sufficient accuracy the physical objects which they depict.

CE 543 is dented at the brass mouth of the cartridge case. The dent is roughly triangular in shape, and measures about 3 mm at its maximum length. One point of the triangular dent is located on the neck of the case. The other two points are located on the case mouth. The dent noticeably disrupts the normally circular shape of the case mouth.

CEs 544 and 545 are similar to one another in all essential respects. Each bears a dent on the shoulder of the cartridge case. It is a dimple of roughly triangular shape, and measures about 3 mm at its maximum length. One point of the triangular dimple is located on the side of the case. The other two points are located on the case shoulder; the edge of the dimple between these two points is roughly parallel to the circumference of the case shoulder.

\* "H" signifies "Hearings", the term applied to the 26 volumes of published evidence. The numeral before "H" signifies the volume; the numeral after "H" signifies the page in the cited volume.

The detonated primers in the bases of the cartridge cases bear microscopic markings which establish that the three cases were fired by no other weapon than the Mannlicher-Carcano rifle which Dallas police found on the sixth floor of the Depository building.



The dent on each cartridge case seems small in comparison with the overall surface of the case on which it occurs, but in terms of its significance each dent is vast, cavernous. Unless the damage occurs after firing, the presence of any such dents anywhere on the cylindrical walls of a cartridge case-- any cartridge case-- is positive proof that the case was empty, without bullet and powder, when its primer was blasted. The three cartridge cases were empty when their primers were fired, and the dents occurred before firing.

When a bulletted cartridge is locked into a rifle chamber and the cartridge fired, gasses that are released by the burning of propellant powder expand with fierce intensity and exert enormous pressure in all directions. At the instant when a bullet begins its travel under the massive impulse of that pressure, the brass of the cartridge case is pressed outward tightly-- very, very tightly-- against the cylindrical steel walls of the rifle chamber. There it sticks until the bullet escapes the barrel and the pressure drops. The resilient brass then relaxes its tight "grip" on the chamber walls.



After firing, the cartridge case does not resume its original shape; invariably it retains the shape of the chamber in which it was fired.

If a cartridge case contains no bullet and no powder when its primer is detonated (that is, if an empty cartridge case is fired in a rifle), then insignificantly slight pressure is produced, for it is the resistance of the bullet that allows pressure to build. Minute pressure is exerted on the brass cartridge case; invariably the case retains its original shape; it does not yield its dimple.

The pressure that is produced by the firing of a bulletted 6.5 mm Mannlicher-Carcano cartridge is about 37,000 pounds per square inch\*, more than enough-- far, far more than enough-- completely to remove the dimple from the shoulder of cartridge case CE 544 and, similarly, from the shoulder of its mate, CE 545. In fact, several physical tests with a Mannlicher-Carcano rifle and cartridges invariably caused shoulder dimples to be blasted out and all evidence of their existence to be obliterated completely. Not a trace remained.

Tests were hardly necessary, for they merely illustrate a well-known ballistic phenomenon called "fire-forming". It is not a phenomenon that is peculiar to the Mannlicher-Carcano, for it occurs in all firearms whenever they fire bulletted cartridges with dented cases. The evidence that derives from the experience of fire-forming is clear and unassailable: it is not possible for shoulder dimples to survive the shooting of the bulletted cartridges on which they occur. CEs 544 and 545 cannot have fired bullets, for a loaded cartridge case must yield its dents, must assume precisely the shape of the chamber in which it was fired.

Fire-forming exemplifies an unequivocal, inviolate ballistic principle, an elementary principle which applies equally to the large caliber magnum cartridges and to the minuscule .22 Short rimfire.

The same principle applies, of course, also to the dent in the case mouth of CE 543. If a bullet were fired from CE 543, the case mouth would assume precisely the circular shape of the steel chamber in which it was fired.

Besides, an additional feature by itself substantiates that there was no bullet in CE 543 when its primer was detonated. A cylindrical bullet of 6.5 mm diameter cannot fit into a deformed case mouth whose minimum diameter is less than 6.5 mm-- round peg, "square" hole.

Evidence that the three cartridge cases were dented before firing derives partly from the elimination of possible means whereby they might have been dented after firing. Chiefly, however, the evidence derives from the discovery, through experimentation, that the dents were caused by the mechanism of the rifle in the course of efforts to thrust the cases into the rifle chamber.

\* W.H.B. Smith and J.E. Smith, The Book of Rifles (1963), p. 309.



There is no reason to suppose that the cartridge cases received their dents after they came into the possession of the police who found them or of the investigators who examined them, The testimony of those who handled the cases indicates that they were treated with care and safeguarded from damage.

After experimentation Josiah Thompson rejected the possibility that the dent on the case mouth of CE 543 occurred when the case allegedly was ejected from the rifle and struck the wooden floor or cardboard cartons near the Depository window. Simulating conditions which existed near the window when the cases were discovered, Thompson tossed empty cartridge cases hundreds of times and invariably failed to produce dents. The sharpness of the dent on CE 543 and its small size indicate that it was not stepped on.

The presence of identical dents at the same location on the shoulders of CEs 544 and 545 precludes the possibility that the shoulder dents were caused by random accident; these dents must be associated with an activity that takes place with recurring regularity.

The shoulder dents cannot be associated with any defect of the rifle chamber, for in that instance CE 543 would have incurred a similar dent on the case shoulder. CE 543 is not dented on the case shoulder, nor are there any dents on the shoulders of two cartridge cases (both in CE 557) which were test-fired in the Mannlicher-Carcano for purposes of comparison.

*subject to verification by observation*

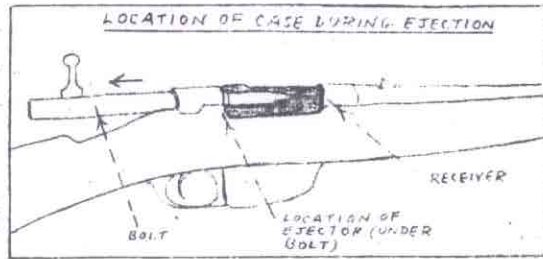
In size and shape the dent on the case mouth of CE 543 is obviously similar to the dents on CEs 544 and 545, a similarity which implies that the same activity caused all three dents. However, the location of the dent at the case mouth of CE 543 clearly indicates that it was handled differently from the two cases with dented shoulders.

Basically there are two mechanical activities of the rifle which entail motion that is forceful enough to dent brass cartridge cases: the introduction of the case into the rifle chamber; and the ejection of the case from the rifle.

None of the dents can have occurred during the extraction of the case from the chamber or when the case was ejected from the rifle. During extraction the bolt draws the case directly backward out of the rifle chamber, and the case encounters no obstruction. When the bolt is drawn swiftly back to its rearmost position, the ejector deals a sharp blow to the base of the cartridge case and thereby tosses it directly to the right, away from the rifle. The ejecting mechanism of the Mannlicher-Carcano rifle cannot function until the bolt is drawn completely back, for the bolt covers the ejector until that point. The ejector is affixed to an immovable part of the rifle just beneath the bolt, and it cannot be activated prematurely. When the ejector strikes a case, the case is fully clear of the re-

\* There was a fully loaded cartridge (CE 141) chambered in the rifle when it was discovered in the Depository. CE 141 also bears a dent in the case shoulder, although it is less pronounced than the dents on CEs 544 and 545 (Thompson, op. cit., p. 144).

ceiver, the only part of the rifle that might conceivably dent it. The mouth of the cartridge case is about 30 mm behind the receiver when sideways ejection occurs.



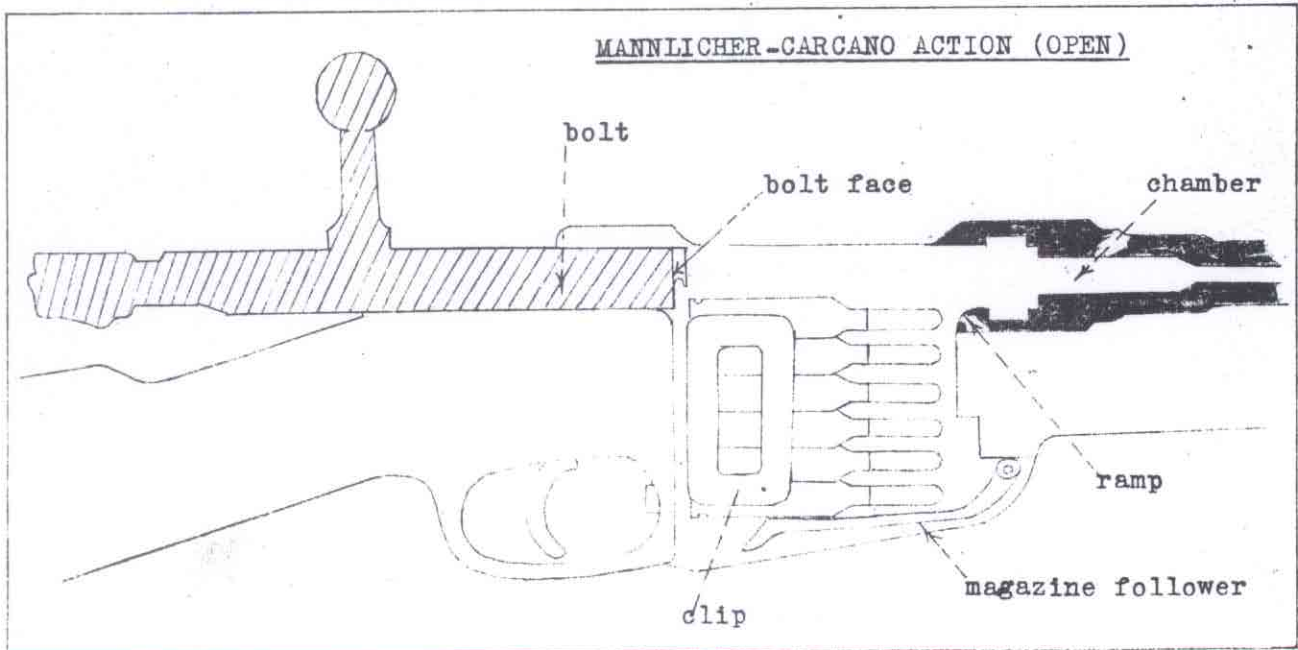
Observation of a cross-section drawing of the Mannlicher-Carcano action suggests what caused the dents. Viewing the action in motion corroborates what the drawing indicates. Physical tests with a Mannlicher-Carcano rifle and cartridges conclusively establish that the cartridge cases were dented while the cases were being thrust from the rifle clip.

*Subject to verification by physical test*

The normal process for introducing cartridges into the chamber of a Mannlicher-Carcano rifle requires that bulletted cartridges be loaded one above the other in a clip and the clip subsequently inserted into the magazine of the rifle. When thrust forward from an "open" position, the bolt of the rifle drives the topmost cartridge out of the clip and into the rifle chamber.

In front of the cartridge as it leaves the clip is a steel ramp which guides the nose of the bulletted cartridge upward and forward into the rifle chamber. It is this ramp which caused the dents.

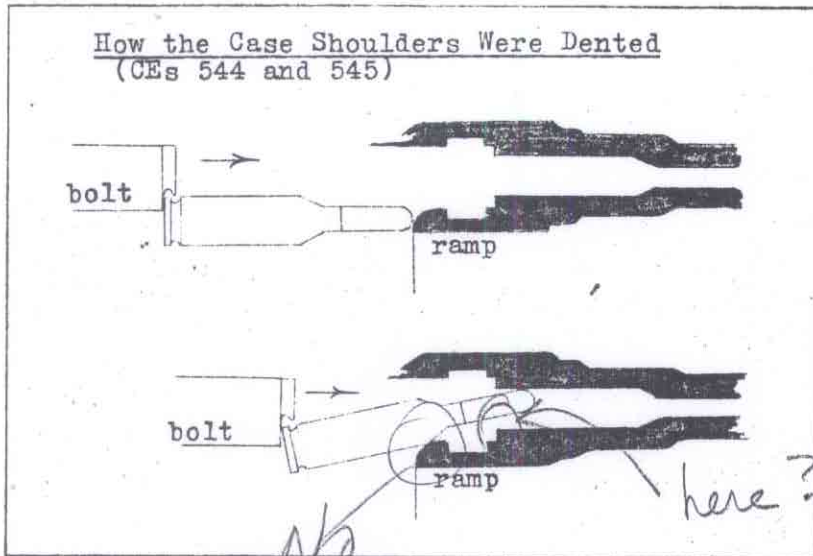
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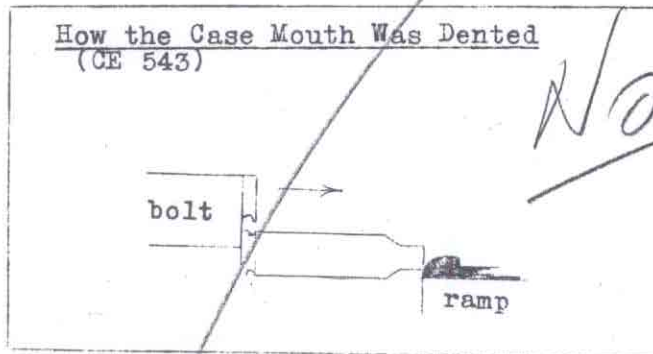


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CEs 544 and 545 were chambered as bulletted cartridges in accordance with this process: As the bolt thrusts the cartridge forward and out of the clip, the nose of the bullet strikes the ramp. The cartridge then tilts, and the bolt continues its forward thrust on the tilted cartridge. The nose of the bullet bumps the upper wall of the chamber and forces the nose down at the instant when the shoulder of the brass case strikes the steel ramp. The vehement pressure of that blow dents the case shoulder.



CE 543 was inserted into the clip not as a bulletted cartridge, but as an empty cartridge case. Under such a condition, when the bolt thrusts the cartridge case forward and out of the clip, the case does not tilt, for no bullet follows the guiding influence of the ramp. Instead, the brass case mouth is driven directly into the steel ramp. The force of the collision dents the case mouth.



TO BE CONTINUED