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portions have been removed for spectrographic analysis and comparison with other bullets and bullet fragments.

Mr. SPECTER. Has that comparison been made with a whole bullet heretofore identified as Commission Exhibit 399 which in of her proceedings has been identified as the bullet from the Connally stretcher?

Mr. FRAZIER. Yes, sir; the comparison was made by comparing Exhibit 399 with a bullet fragment found in the front seat of the Presidential limousine and then comparing that fragment with these fragments from the rear seat of the automobile.

Mr. SPECTER. For identification purposes, has that fragment from the front seat been wheretofore identified during your prior testimony?

Mr. FRAZIER. Yes; it has. It bears Commission No. 567.

Mr. SPECTER. Now, what did the comparative examination then disclose as among Commission Exhibits 399, 567, and 840?

Mr. FRAZIER. That examination was performed by a spectrographer, John F. Gallagher, and I do not have the results of his examinations here, although I did ascertain that it was determined that the lead fragments were similar in composition.

Mr. SPECTER. So that they could have come from, so that the fragments designated 840 could have come from the same bullet as fragment designated 567?

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. Were the tests sufficient to indicate conclusively whether fragments 840 did come from the fragment designated as 567?

Mr. FRAZIER. No, sir.

Mr. SPECTER. Did you personally find any other fragments in the President's car during the course of your examination?

Mr. FRAZIER. No; I did not.

Mr. SPECTER. Now, where, according to information provided to you then, was the fragment designated Commission Exhibit 567 found?

Mr. FRAZIER. That was found by the Secret Service upon their examination of the limousine here in Washington when it first arrived from Dallas, and Commission No. 567 was delivered by Deputy Chief Paul Paterni and by a White House detail chief, Floyd M. Boring, to a liaison agent of the FBI, Orrin Bartlett, who delivered them to me in the laboratory at 11:50 p,m., on November 22, 1963.

Mr. SPECTER. Does that constitute the total chain of possession then from the finder with the Secret Service into your hands, as reflected on the records of the FBI?

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. Was there another fragment, was there any other fragment found in the front seat of the car?

Mr. FRAZIER. Yes. Alongside the right side of the front seat, Commission Exhibit No. 569, which is the base portion of the jacket of a bullet was found, and handled in identical manner to the Exhibit 567

Mr. DULLES. And the front seat is the seat which would be the driver's seat?

Mr. FRAZIER. Yes.

Mr. DULLES. And the Secret Service man on his right, I believe?

Mr. SPECTER. Mr. Kellerman.

Mr. DULLES. That was the seat from which this came?

Mr. FRAZIER. Commission Exhibit 567 was found on the seat right beside the driver, and Exhibit 569 was found on the floor beside the right side of the front seat.

Mr. SPECTER. The right side of the front seat, Mr. Dulles, as the prior testimony shows was occupied by Roy Kellerman and the driver was William Greer.

Mr. DULLES, Right, Thank you.

Mr. SPECTER. Would you state what the chain of possession was from the time of discovery of Exhibit 569 until the time it came into your possession, based on the records of the FBI, please,

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Service again, to Special Agent Orrin Bartlett of the FBI who delivered it to me at 11:50 p.m. on November 22, 1963.

Mr. SPECTER. Are the records which you have just referred to relating to the chain of possession of Exhibits 567 and 569 maintained by you in the normal course of your duties as an examiner of those items?

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. Mr. Frazier, is it possible for the fragments identified in Commission Exhibit 840 to have come from the whole bullet heretofore identified as Commission Exhibit 399?

Mr. FRAZIER. I would say that based on weight it would be highly improbable that that much weight could have come from the base of that bullet since its present weight is--its weight when I first received it was 158.6 grains.

Mr. SPECTER. Referring now to 399.

Mr. FRAZIER. Exhibit 399, and its original normal weight would be 160 to 161 grains, and those three metal fragments had a total of 2.1 grains as I recall--2.3 grains. So it is possible but not likely since there is only a very small part of the core of the bullet 399 missing.

Mr. SPECTER. Have you now described all of the bullet fragments which you found in the President's automobile?

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. Was it your job to analyze all of the bullets or bullet fragments which were found in the President's car?

Mr. FRAZIER. Yes; it was, except for the spectrographic analysis of the composition.

Mr. SPECTER. Have you now described all of the bullet fragments which were brought to you by anyone else and identified as having been found in the President's car?

Mr. FRAZIER. Yes, sir; not this morning but at previous times during my testimony I have; yes.

Mr. SPECTER. But then there is on the record now all of the identification of the metallic or bullet fragments found in connection with your examination of the President's car or which were examined by you after having been found by someone else?

Mr. FRAZIER. No, sir. There is one other, it is not a metal particle but it is a residue of metal on the inside of the windshield.

Mr. SPECTER. Aside from that residue of the windshield which I am going to come to now, have we placed on the record a description of all of the bullets or bullet fragments?

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. Now---

Mr. DULLES. Just one moment. You mean bullet fragments related to the car or bullet fragments found anywhere?

Mr. SPECTER. Related to the President's automobile.

Mr. FRAZIER. Yes; you have.

Mr. SPECTER. Did you have occasion then to examine the windshield of the Presidential limousine?

Mr. FRAZIER. Yes; I did.

Mr. SPECTER. What did that examination disclose?

Mr. FRAZIER. On the inside surface of the windshield there was a deposit of lead. This deposit was located when you look at the inside surface of the windshield, 13 1/2 inches down from the top, 23 inches from the left-hand side or driver's side of the windshield, and was immediately in front of a small pattern of star-shaped cracks which appeared in the outer layer of the laminated windshield.

Mr. DULLES. What do you mean by the "outer layer of the laminated windshield"?

Mr. FRAZIER. The windshield is composed of two layers with a very thin layer of plastic in between which bonds them together in the form of safety glass. The inside layer of the glass was not broken, but the outside layer immediately on the outside of the lead residue had a very small pattern of cracks and there was a very minute particle of glass missing from the outside surface.

Mr. DULLES. And the outside surface was the surface away from where the occupants were sitting?

Mr. FRAZIER. That is correct; yes.

Mr. DULLES. And the inside surface was the surface nearest the occupants?

Mr. FRAZIER. Yes.

Mr. SPECTER. What do those characteristics indicate as to which side of the windshield was struck?

Mr. FRAZIER. It indicates that it could only have been struck on the inside surface. It could not have been struck on the outside surface because of the manner in which the glass broke and further because of the lead residue on the inside surface. The cracks appear in the outer layer of the glass because the glass is bent outward at the time of impact which stretches the outer layer of the glass to the point where these small radial or wagon spoke-wagon wheel spoke-type cracks appear on the outer surface.

Mr. DULLES. So the pressure must have come from the inside and not from the outside against the glass?

Mr. FRAZIER. Yes, sir; that is correct.

Mr. DULLES. As far as the car is concerned from the back to the front?

Mr. FRAZIER. Yes, sir.

Mr. DULLES. Not from outside against the glass--from the front against the glass.

Mr. FRAZIER. That is right.

Mr. SPECTER. Was a comparison made of the lead residues on the inside of the windshield with any of the bullet fragments recovered about which you have heretofore testified?

Mr. FRAZIER. Yes. They were compared with the bullet fragment found on the front seat, which in turn was compared with Commission 399. The lead was found to be similar in composition. However, that examination in detail was made by a spectrographer, Special Agent John F. Gallagher.

Mr. SPECTER. Was that examination made in the regular course of examining procedures by the FBI?

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. And was that information made available to you through the normal conference procedures among FBI examiners?

Mr. FRAZIER. Yes, sir. He submitted his report to me and I prepared the formal report of the entire examination. Goldsher.

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. I now show you Commission Exhibit No. 350 which has heretofore been identified as a picture of the windshield of the Presidential limousine and I ask you if that is the crack about which you have just testified?

Mr. FRAZIER. Yes; it is. This Exhibit 350 is a photograph which I took on the 23d of November, showing a view from the front toward the rear of the Presidential in the glass and the lead residue.

Mr. SPECTER

Mr. SPECTER. Would you produce at this time the lead residue obtained by you from that inside surface, please? May it please the Commission, I would like to mark this as Commission Exhibit 841 and move for its admission into evidence at this time.

Mr. DULLES. It shall be admitted into evidence.

(Commission Exhibit No. 841 was marked for identification and received in evidence.)

Mr. DULLES, May I just ask a question of you, Mr. Specter, and possibly of the witness.

I assume that the windshield we are now discussing is the windshield that was exhibited to the Commission several weeks ago and which members of the Commission examined?

Mr. SPECTER. It was, Mr. Dulles, and we can establish that, of record, through another Commission Exhibit which is 351, which was the number given to the windshield and we have a

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Mr. FRAZIER. I don't recall whether they actually stated that. What they stated was that the car had immediately been flown to Washington and placed in this garage and kept under surveillance the entire time.

Mr. DULLES. Thank you.

Mr. SPECTER. Was a fragment of metal brought to you which was identified as coming from the wrist of Governor Connally?

Mr. FRAZIER. It was identified to me as having come from the arm of Governor Connally.

Mr. SPECTER. Will you produce that fragment at this time, please?

Mr. FRAZIER. This one does not have a Commission number as yet.

Mr. SPECTER. May it please the Commission, I would like to have this fragment marked as Commission Exhibit 842.

(Commission Exhibit No. 842 was marked for identification and received in evidence.)

Mr. SPECTER. Now, referring to a fragment heretofore marked as Q9 for FBI record purposes, and now marked as Commission Exhibit No. 842, will you describe that fragment for us, please?

Mr. FRAZIER. Yes, sir; this is a small fragment of metal which weighed one-half a grain when I first examined it in the laboratory. It is a piece of lead, and could have been a part of a bullet or a core of a bullet.

However, it lacks any physical characteristics which would permit stating whether or not it (actually originated from a bullet.

Mr. SPECTER. Are its physical characteristics consistent with having come from Commission Exhibit 399?

Mr. FRAZIER. Yes, sir; it could have.

Mr. SPECTER. Are they consistent with that fragment identified as Commission Exhibit No. 842, as having come from fragment identified as Commission Exhibit 567?

Mr. FRAZIER. Which is 567?

Mr. SPECTER 567 is the one which was found on the front seat.

Mr. FRAZIER. Yes, sir; it could have.

Mr. SPECTER. Were the characteristics of the fragment identified as Commission Exhibit 842 consistent with having come from the fragment heretofore identified as Commission Exhibit 569?

Mr. FRAZIER. Yes, sir.

Mr. SPECTER. Would you set forth from the records of the FBI, if you have those before you, the chain of possession of the fragment identified as Commission Exhibit 842, please?

Mr. FRAZIER. Commission Exhibit 842, that is the one from Governor Connally's arm, was delivered to me in the FBI laboratory on November 23, 1963, by Special Agent Vincent E. Drain of the Dallas Office of the FBI, who stated he had secured this item from Capt. Will Fritz of the Dallas Police Department.

I do not know where Captain Fritz obtained it.

Mr. SPECTER. Referring back for just a moment to the coat identified as that worn by Governor Connally, Mr. Frazier, was there any observable angle of elevation or declination from the back side of the Governor's coat to the front side of the Governor's coat?

Mr. FRAZIER. Yes, sir; there was, approximately a 35-degree downward angle.

Mr. SPECTER. Measuring from----

Mr. FRAZIER. That is---

Mr. SPECTER. Back to front or front to back?

Mr. FRAZIER. From back towards the front.

Mr. SPECTER. How about the same question as to the Governor's shirt?

Mr. FRAZIER. I would say it was approximately the same angle or slightly less. I think we measured approximately 30 degrees.

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Mr. SPECTER. Was that from the front to back or from the back to front of the Governor's shirt?

Mr. FRAZIER. That would be from the back towards the front. Downward from back towards the front.

Mr. SPECTER. Mr. Dulles, those questions complete the ones which we have to ask, sir.

Mr. Frazier, one additional question: Do you have any knowledge through any source whatsoever of any bullets or bullet fragments found anywhere in the vicinity of the assassination other than those which you have already testified to, which were in the car, or the whole bullet from the Connally stretcher or the fragments from Governor Connally's wrist?

Mr. FRAZIER. No, sir; I have never heard of any nor have any been submitted to me.

Mr. SPECTER. During the regular processing of the FBI examination in this case, would all such bullets or bullet fragments be brought to you for examination in accordance with your assignment to this matter generally?

Mr. FRAZIER. Yes; they would.

Mr. SPECTER. Were any metallic fragments brought to you which were purported to have been found in the head of President Kennedy?

Mr. DULLES. Or body?

Mr. SPECTER. Or body of President Kennedy?

Mr. FRAZIER. Yes; they were.

On November 23, 1963, at 1:45 a.m., the two metal fragments in this container were delivered to me in the FBI laboratory by Special Agent James W. Sibert, and Special Agent Francis O'Neill of the Baltimore office of the FBI who stated they had obtained these in the autopsy room at the Naval Hospital near Washington, D.C., where they were present when they were removed from the head of President Kennedy.

Mr. SPECTER. Is there any specification as to the portion of the President's head from which they were removed?

Mr. FRAZIER. No, sir; they told me that there had been numerous particles in the head but only these two had been removed, the others being very small.

Mr. SPECTER. May it please the Commission I would like to have those marked and admitted into evidence as Commission Exhibit No. 843.

Mr. DULLES. It shall be so marked and admitted under those numbers.

(Commission Exhibit No. 843 was marked for identification and received in evidence.)

Mr. SPECTER. In the event we have not already had 842 admitted into evidence, I move, Mr. Dulles, for the admission into evidence of 842 which was the fragment from Governor Connally's arm.

Mr. DULLES. That shall be admitted.

Mr. SPECTER. Moving back to 843 will you describe those fragments indicating their weight and general composition?

Mr. FRAZIER. These fragments consisted of two pieces of lead, one weighed 1.65 grains. The other weighed .15 grain. They were examined spectrographically so their present weight would be somewhat less since a very small amount would be needed for spectrographic analysis.

Mr. SPECTER. Was a comparison made between or among these two fragments with the other metal from the bullets heretofore identified as Commission Exhibits 399, 567, 569, 840, and 842?

Mr. FRAZIER. Yes; they were.

Mr. SPECTER. What did that examination disclose?

Mr. FRAZIER. Possibly my numbers do not agree with those you have. These two particles from the President's head were compared with the lead of Exhibit 842.

Mr. SPECTER. Which is the fragment from the arm of Governor Connally?

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Mr. FRAZIER. Yes, sir; they were compared with the lead scraping from the inside of the windshield.

Mr. SPECTER. Which is Exhibit 841.

Mr. FRAZIER. And with the three lead fragments found on the rear floorboard carpet of the limousine.

Mr. SPECTER. Which is Exhibit 840.

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Mr. FRAZIER. And they were found to be similar in metallic composition.

Mr. SPECTER. Can you state with any more certainty----

Mr. FRAZIER. Excuse me, one thing. These, as a group, were compared with the bullet fragment, Commission Exhibit 567, which was found on the front seat of the automobile, which also was found to be similar in metallic composition.

Mr. SPECTER. Is it possible to state with any more certainty whether or not any of those fragments came from the same bullet?

Mr. FRAZIER. Not definitely, no; only that they are of similar lead composition.

Mr. SPECTER. Have you now described fully all of the relevant characteristics of the fragments identified as Commission Exhibit 843?

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