

P R O C E E D I N G S

1  
2 MS. GERTNER: Your Honor, we move to file a late  
3 motion to sequester, and there's no objection by the  
4 Government as long as Tom Shay's mother and the two case  
5 agents are left out of the witness sequestration order.

6 THE COURT: The motion is allowed. Counsel shall  
7 monitor it.

8 MR. KELLY: Thank you, your Honor.

9 THE COURT: Not the motion, but the presence.

10 [Whereupon, the jury entered the courtroom.]

11 Thomas H. Waskom, resumed

12 Direct Examination by Mr. Libby

13 THE COURT: May I see Mr. Kelly, and Ms. Gertner for  
14 a moment. I don't need the record.

15 (Pause.)

16 THE COURT: Mr. Waskom, we're not going to swear you  
17 again today but you are still under oath.

18 THE WITNESS: Yes, your Honor.

19 THE COURT: You may proceed.

20 MR. LIBBY: If the Court please, the Government has  
21 just a couple more minutes to finish up with Mr. Waskom.

22 THE COURT: What do you mean? You said yesterday  
23 that you were done.

24 MR. LIBBY: Your Honor, that's correct. I thought I  
25 was.

1           THE COURT: Members of the jury, do you remember  
2 earlier in the trial once, counsel said that they had finished  
3 the direct examination, and I told Ms. Gertner to start, and  
4 everybody thought we were going to have recess, and then we  
5 had a recess after her first question. Once the other side  
6 starts then the one who just finished can't have second  
7 thoughts. I made a mistake yesterday in not making her ask  
8 that one question.

9           (Laughter.)

10          MR. LIBBY: I understand the Court's interest in  
11 concluding at 1 o'clock on the dot. I tried to that, and  
12 found after the fact Mr. Waskom wants to clarify one matter.

13          May Mr. Waskom come down please.

14          THE COURT: He may. One moment, please.

15          Q     Directing your attention to Government's Exhibit 9 F,  
16 have you had another opportunity to look at this photograph?

17          A     Yes, I have.

18          Q     Do you recall yesterday we were talking about the  
19 so-called seat of the blast crater.

20          A     That is correct.

21          Q     And I understand this is an overhead shot. Would you  
22 point out to the jury, please, where that seat of the blast  
23 took place on this photograph?

24          A     Okay. The seat of the blast, the seat of the blast is  
25 right here.

1 THE COURT: You need to move back because all of them  
2 can't, and tilt it a little bit forward.

3 MR. LIBBY: Perhaps we can do it in two stages, your  
4 Honor.

5 THE COURT: Just make sure where you stand, and  
6 observe whether the jurors can see.

7 A Right in this location. It's very difficult to see,  
8 especially looking straight down from the top because what,  
9 what the crater is, is a small depression. And from a  
10 straight down photograph, it is hard to tell there is a  
11 depression there. But this is the location right here.

12 Q Can you describe for the jury, please, with perhaps  
13 reference to other things in the photograph, the size and  
14 depth of the crater.

15 A Okay. The crater itself was two to three inches deep.  
16 It was approximately four inches across, and eight to ten  
17 inches in length. A reference part for this would be the buck  
18 knife that's up here in the top portion of the picture, and  
19 also part of a watch band and a watch. You can kind of use  
20 that to gauge a little bit the size of what we're looking at.

21 MR. KELLY: Thank you, Mr. Waskom.

22 If I may, he can resume the seat, and I'll publish it  
23 to the jury.

24 (Pause.)

25 MR. LIBBY: If I may the Government would like to

1 publish Government's Exhibit 4, a black mock device, and the  
2 plexiglas mock device which is I believe is 18. It is.

3 Q Finally, Mr. Waskom, with respect to, with respect to the  
4 weight of the device, have you reached any conclusions with  
5 respect to the weight of the device, Mr. Waskom?

6 A Yes, I have. I weighed the majority of the components  
7 myself, I had one of the components weighed by someone else.  
8 The weight of the device, including everything that, that it  
9 contained plus the outer container plus the magnets was  
10 between six pounds and six and a half pounds. The variation  
11 can depend on the, actually unwrapping of the dynamite sticks  
12 and rewrapping in a separate material.

13 Q And how much of that weight is attributed to dynamite  
14 material, explosive material?

15 A Well, we're saying there were two to three sticks of  
16 dynamite in the device. A normal stick of device is one half  
17 pound. Taken out of its container and you take the paper  
18 wrapper away, you don't lose a lot of weight, the weight is in  
19 the dynamite itself. Dynamite, once its unwrapped, will  
20 typically look like a brownish oatmeal, it's a sticky  
21 moldable, it sticks to your fingers when you get it on your  
22 hands. It's a moldable material so it can be molded into any  
23 shape one really desired to have it in.

24 MR. LIBBY: Thank you, Mr. Waskom.

25 At this point the Government has no further questions

1 of this witness at this time but reserves its rights to recall  
2 Mr. Waskom.

3 THE COURT: What do you mean, to recall him or  
4 redirect?

5 MR. LIBBY: Recall him later for other matters we've  
6 discussed.

7 THE COURT: I don't know what you're talking about,  
8 but that's all right.

9 Cross-examination by Ms. Gertner

10 Q Mr. Waskom, did you testify that you arrived on the scene  
11 as part of the National Response Team?

12 A That is correct, ma'am.

13 Q As part of the National Response Team?

14 A That is correct.

15 Q And did you have occasion to talk to Thomas Shay, Sr.

16 A Yes, I did.

17 Q And so you learned part of what you knew or what you  
18 reconstructed about this box through your conversations with  
19 Thomas Shay, Sr.

20 A That was one of the sources of information, yes.

21 Q And what were the other sources of information?

22 A I also talked to the two law enforcement officers that  
23 were on the scene first who got an initial look at the device  
24 before it functioned.

25 Q And did you get from Thomas Shay, Sr. two magnets that he

1 had placed on the porch of his home that had not been in the  
2 blast?

3 A I did not receive those myself but I was aware of them.

4 Q And did you see them at any point in the reconstruction?

5 A When you're saying the "reconstruction," did I see them  
6 on the scene?

7 Q Yes.

8 A Yes, I did.

9 Q Did you see them at any point in Ms. Wallace's  
10 laboratory?

11 A Well, I saw the materials that were sent to the lab. I  
12 do not know by looking at the group of magnets, I do not know  
13 which two magnets were those two magnets.

14 Q But it would be important, would it not, to examine those  
15 magnets which had not been at or near the blast; isn't that  
16 right in terms of the reconstruction?

17 A Not necessarily important, no. As far as my portion of  
18 reconstructing the device, whether two of the magnets had been  
19 actually in the blast compared to, say, ten or the rest, being  
20 in the blast, would not affect my opinion as to how the device  
21 was constructed.

22 Q Your role was really just to focus on how the device is  
23 constructed and how the blast occurred; is that right?

24 A Not totally, no. My role --

25 Q I'm sorry, go on.

1 A My role is to, if possible, reconstruct the device. To  
2 give information to the team as far as what to expect in the  
3 investigation. A good example would be if a team member  
4 locates a certain small fragment in a certain area, and talks  
5 to me and tells me what he's found, or takes me over and shows  
6 me what he's found, then I can determine what other components  
7 they might find in that area because components go in certain  
8 directions depending on where the explosive is at.

9 Q You had heard Mr. Shay, Sr. indicate to the police  
10 officers that they had taken two of the magnets or found two  
11 of the magnets of the device and had put them in his pocket or  
12 put them on his porch, or something like that; is that right?

13 A That's correct.

14 Q And so, wouldn't it have been of any significance to you  
15 as to how those -- strike that.

16 Your job is trying to reconstruct how the device  
17 appeared; isn't that right?

18 A That is one of the jobs I had, yes.

19 Q So it would be an important piece of data to try to find  
20 out a magnet that, to try to find out what the component looks  
21 like before the blast; isn't that right, sir?

22 A Yes, that is correct.

23 Q In the course of your discussions with Ms. Wallace or  
24 with any of the other technicians, did anyone make a  
25 comparison between the magnets that Thomas Shay, Sr., had in

1 his pocket and the other magnets that had gone through the  
2 blast so far as you knew?

3 A So far as I know, no. No one did that.

4 Q The -- did you participate in any of the searches in the  
5 area, that is the search of the garage of 39 Eastbourne and  
6 the search the house of 39 Eastbourne?

7 A Yes, ma'am.

8 Q Did you participate in any of the searches at any other  
9 location, the home and places frequented by Alfred Trenkler?

10 A No, ma'am, I did not.

11 Q Did you participate in any search at all of Mr. Shay,  
12 Sr.'s place of business, namely the Rolling Ranch garage?

13 A No, I did not.

14 Q Now, the device, as you've reconstructed it, is a simple  
15 device, isn't it; the circuitry is rather simple?

16 A It's simple in one sense but compared to the majority of  
17 bombings in the United States, it is fairly complicated.

18 Q Well, with respect to the firing circuit isn't it fair to  
19 say that's essentially like a flashlight circuit only instead  
20 of having the bulbs for the flashlights, just look at the  
21 firing circuit you have the blasting caps?

22 A It would be fair in one sense. There are some  
23 differences. The differences being the number of batteries in  
24 the system. Another difference being you would have to  
25 compare it to two flash bulbs in series because we have two

1 detonators.

2 Q The number of batteries, with respect to your testimony  
3 yesterday, you said that there were, was it four 9-volt  
4 batteries --

5 A Five 9-volt batteries.

6 Q -- that were an attached to the detonators?

7 A Yes, ma'am.

8 Q Indeed that was way too much; isn't that right?

9 A That was much more energy than was needed.

10 Q In fact, you said that all you needed for the blasting  
11 caps was 1.5 volts?

12 A That's an approximate.

13 Q Had there been only -- how many batteries would that be?

14 A Well, it would depend on the type of battery, if you had  
15 an AA, C cell -- flashlight batteries those are all 1.5 volts.

16 Q And that would affect the weight the device if someone  
17 had put in just the right number of batteries, to detonate the  
18 blasting caps, to put in essentially a smaller number  
19 batteries rather than the five the device would be somewhat  
20 lighter?

21 A If you change the components, yes, you would change the  
22 weight.

23 Q The device perhaps could have been somewhat smaller if  
24 there had been fewer 9-volt batteries; is that right?

25 A It would be possible, yes.

1 Q But essentially then, aside from the notion that there  
2 are two bulbs, i.e. two blasting caps, this is essentially a  
3 flashlight circuit, right?

4 A The firing circuit itself contains the same components  
5 that a flashlight could contain by having power source being  
6 batteries, a switch on and off on a flashlight, and a bulb in  
7 place of a detonator with the exception of this having two  
8 detonators.

9 Q Okay. And then the receiving circuit, involved, did it  
10 not, a toy remote control device?

11 A That's true, toy, hobby type, remote control receiver  
12 system.

13 Q And the person who made the bomb didn't really do much  
14 with the toy receiver except to replace the batteries?

15 A When you say "didn't do much" as far as changing the  
16 wiring, no, he used original system. There is some thought as  
17 to why he would use a system like this.

18 Q Well, he doesn't open up the system and reconfigure the  
19 wires or anything like that?

20 A No, ma'am, he does not open the Futaba system itself  
21 other than change the horn on the movable arm.

22 Q Which as you said, the, the horn of the Servo comes in  
23 different sizes; is that right?

24 A Yes, ma'am. It comes in six different variations.

25 Q So, he selected a different Servo horn and he changed the

1 batteries; is that correct?

2 A That is correct.

3 Q And with respect to the -- by the way, you never found  
4 the transmitters; isn't that right?

5 A No, ma'am.

6 Q So, essentially these are two circuits: One is like a  
7 flashlight circuit except in series, and the second one is a  
8 toy remote control device with new batteries?

9 A In a sense that is correct, and you used the term "except  
10 in series," the flashlight is a series circuit, also.

11 Q Okay. Now, with respect to the toggle switch, Radio  
12 Shack and other manufacturers produce microswitches; do they  
13 not?

14 A Radio Shack does not produce any switch. They do  
15 purchase switches.

16 Q And the switches they purchased, there are switches that  
17 are considerably smaller than the toggle switch size that was  
18 used in this device; isn't that right?

19 A That is totally correct, yes.

20 Q Describe to the jury, if you will, since I can't, what a  
21 microswitch is?

22 A A microswitch is, is a small push button type switch.  
23 Typically, it can come in three different variations, as far  
24 as the push button portion. It can work on the push button  
25 itself, much similar to the button on your refrigerator door

1 that turns the light on inside. When it's pressed in it's in  
2 one position, and when it's let out it's in another position.  
3 They also have levers that will come across, they're fastened  
4 to the housing and they come across the top of this little  
5 button so it gives it leverage. It takes much less pressure  
6 at that point to function the little push button. Typically,  
7 it's an on/off switch, although most commonly it is found in  
8 the United States with three terminals. You decide how you  
9 want it to be wired. You can wire it so when you push the  
10 button, you turn the light on. Or you can wire it so when you  
11 push the button you turn the light off. And that's achieved  
12 by having three contacts and you decide which two you prefer  
13 to use.

14 Q You said a moment ago that in fact, a microswitch would  
15 have taken less pressure to turn on and off; is that right?

16 A That's true, less pressure and it's much more common.

17 Q It's a much more common device; is that right?

18 A It's a much, it's a much more common switch in this type  
19 of a device.

20 Q Okay. So the choice of the regular -- strike that.

21 There's also a miniature toggle switch, isn't there?

22 A Yes, they make toggle switches in a variety of sizes.  
23 That's correct.

24 Q So the choice of a toggle switch of this size is the  
25 choice of a component that will take more pressure to turn as

1 oppose to a component that will take less pressure to turn?

2 A That's true, with the thought that the Servo motor has  
3 all the power it needs to trigger either of the two switches.  
4 A toggle switch on a firing system is much more safe for the  
5 builder than a microswitch because of the fact that a  
6 microswitch needs so very little pressure to get it to flip  
7 from one side to the other. And the fact that the microswitch  
8 typically has three contacts so the person building an item  
9 that would turn on a light or fire two detonators would be,  
10 would have to be very conscious of what contacts he would hook  
11 to.

12 Q But in your experience, you find a microswitch more  
13 typically in these kinds of circuits?

14 A That is correct.

15 Q And in fact, sir, you're aware that there was a, that the  
16 dynamite was wrapped in a magazine?

17 A Yes, I am aware of that.

18 Q And the piece of the magazine was called International  
19 Muscle Magazine?

20 A I have read the name, but I couldn't pull it off the top  
21 of my head. It was a muscle magazine page.

22 Q Did you ever, did you know or did you explore whether or  
23 not there are books that are publicized at the end of  
24 International Muscle Magazine?

25 A No, that I have not done.

1 Q Well, for example, have you ever heard of Paladin Press?

2 A I definitely have.

3 Q Tell the jury what Paladin Press is?

4 A Paladin Press is a publishing company, I believe, to be  
5 headquartered in Texas, that produce manuals on sale to the  
6 public for a variety of things. If a person wants to know how  
7 to repair a gun or if a person wants to know how to convert  
8 one type of a gun into another type, like a semi-automatic  
9 into a machine gun; if a person wants to know how to build an  
10 explosive device, how to make homemade explosives, that's what  
11 Paladin Press produces.

12 Q And it produces, for example, you're familiar with a  
13 manual called EOD Improvised Explosives Manual?

14 A I have heard of that book, yes.

15 Q Directing your attention -- well, strike that. In any of  
16 these manuals, do these manuals tell people how to build  
17 bombs?

18 A Yes, ma'am, they do.

19 Q For example, would they give a description of how to put  
20 it together?

21 A Oftentimes they will give a description as well as maybe  
22 diagrams of how to build devices.

23 Q And these are publicly available, are they not?

24 A That is correct.

25 Q And they are publicly advertised; is that right, there's

1 nothing illegal about the book?

2 A To my knowledge, there is nothing illegal at all about  
3 the book, ma'am.

4 Q I'm going to show you, I'm going to show you page 49 in  
5 the book called improvised explosives manual, and ask if the  
6 circuit reflected there is similar to or the same as the  
7 circuit here?

8 A The circuit reflected in the diagram is similar to, it's  
9 not exactly the same as the circuit that's reflected on this  
10 display.

11 Q It puts in a microswitch that's not as opposed to a Radio  
12 Shack toggle switch?

13 A Yes, ma'am, instead of the firing switch being a toggle  
14 switch in this situation, the firing switch is microswitch.

15 Q What are the other differences?

16 A The other differences are, instead of having two battery  
17 packs in --

18 Q Here and here?

19 A -- in the display, we have a set of batteries for the  
20 firing system and a set of batteries for the receiver or  
21 remote control system. In the display in the book they only  
22 use the one set of batteries and that being the batteries for  
23 the remote control system. They put power into both circuits  
24 from one set of batteries.

25 Q And apart from that, the design is the same; is it not?

1 A Apart from that, the design appears to be the same, yes.

2 Q Thank you.

3 If an individual put in a microswitch and they put  
4 only 1.5 volts, the device would have been lighter and  
5 smaller; is that right?

6 A If a person changed components which components having  
7 different weights, yes, it would change. If they switched to  
8 a microswitch and only one power source, one battery for the  
9 firing side, or one battery to run the whole system, yes, it  
10 would have been lighter.

11 Q In fact, in this manual, they even suggest using toy  
12 remote control devices like a model, remote controls for  
13 automatic aircraft, automobiles and boats?

14 A That's correct. That's what the Futaba systems are  
15 remote control systems for model airplanes, boats, and cars.

16 Q Do you see remote control systems, for example, in  
17 securities devices as well in a house?

18 A You could have remote control systems in, in securities  
19 devices. You could have a signal that would automatically  
20 lock a certain door if you wished. You can have signals that  
21 are automatically arm a security system things of that nature.

22 Q Now, with respect to this device, I believe you testified  
23 that the transmitter, the person holding the transmitter in  
24 order to detonate this had to be a relatively short distance  
25 away; isn't that right?

1 A Well, I didn't say relatively short, I don't believe.  
2 The factory that builds the Futaba system, says that their  
3 system will work up to a mile away, line of site. In other  
4 words, the transmitter physically being able to see the  
5 receiver if it could at that distance. If you --

6 Q I'm sorry.

7 A If you get into an area where you have residential houses  
8 or in an area like here downtown, that distance would be cut  
9 down quite a lot because the buildings that would help  
10 restrict the signal. So, depending on the area you were in,  
11 you might have to move in much closer than that mile limit,  
12 yes.

13 Q Now, there are, there are other remote control bombs that  
14 can be detonated for example, by turning on the ignition of a  
15 car, right?

16 A Yes, ma'am.

17 Q And those, would require the bomber to be close to the  
18 scene of the crime?

19 A That is correct.

20 Q And aren't there also bombs that can be detonated even  
21 from just the pressure of sitting in the passenger seat or the  
22 pressure of sitting in the driver's seat?

23 A Yes, ma'am.

24 Q And there are even bombs that can be detonated when you  
25 hit a particular speed; isn't that right?

1 A Yes, ma'am, but there are different, there are different  
2 reasons for different types of bombs.

3 Q That's right. And with respect to, are there also bombs  
4 that are on a timer where the bomber doesn't have to be close;  
5 isn't that right?

6 A That is correct.

7 Q So this is a bomb that required the bomber to be  
8 particularly close to the scene of the crime, relative to  
9 those other kinds of bombs?

10 A Yes, and the reason is with a remote control system, a  
11 bomber is typically after a specific target. He's not trying  
12 to blowup a car with a remote control bomb. He can put a pipe  
13 bomb with a time fuse to do that. He's after a specific  
14 target at a specific moment.

15 Q Right. And -- strike that.

16 Did you have any information when you went to the  
17 scene about how long this device was supposedly on the Shay,  
18 Sr. car?

19 A No, ma'am.

20 Q Well, did you hear, for example, that Shay, Sr. believed  
21 that he had found this bomb at 12 o'clock on Sunday, October  
22 27th, and it detonated roughly the same time on October 28th?

23 A Yes, I did receive information that at the time the  
24 device was originally found, it was much later in time,  
25 several hours later in time before people from law enforcement

1 actually got the information and responded to the scene.

2 Q Well, did you hear, the, the number 24 hours between the  
3 time Shay, Sr. found the bomb and the time it detonated?

4 A No, I did not hear the number of 24.

5 Q Did you do any experiments or did you -- strike that.

6 Did you do any experiments as to how long the  
7 batteries in the Futaba receiver would have lasted if the  
8 device had been on at noon on October 27th?

9 A Well, I can't say that I did an experiment on this  
10 particular system. I can say I've got a son that I can runs  
11 batteries down on his all the time.

12 Q Okay. So you don't really have any information as to  
13 whether or not if the, if the batteries, particularly the  
14 batteries in the receiver had been on, that little slide  
15 switch had not been switched off, the batteries would have  
16 been on from midday October 27th, whether or not there would  
17 have been any, for want a better word, juice on October 28th  
18 at midday?

19 A I do not have tested information on that fact, no.

20 Q Does anybody in your employ do that experiment to see  
21 whether or not there would be enough juice to explode a bomb  
22 24 hours later?

23 A Oh, it could be done, I myself could do it. I have not  
24 done it, and to my knowledge none of the other enforcement  
25 officers have done it.

1 Q You said that there was a slide switch on the, in the  
2 reconstruction that you did, you put the slide switch on the  
3 outside of the box; isn't that right?

4 A Yes, ma'am, on reconstruction I cut a small hole in the  
5 box to allow the selector on the slide switch to have access  
6 from the outside.

7 Q You're doing that, are you not, out of logic as opposed  
8 to out of fact?

9 A That is correct.

10 Q You're saying logically the maker of this bomb would want  
11 to have a means of carrying it around without it detonating in  
12 his face, right?

13 A That is correct.

14 Q And you can't from what you reconstructed the circuit  
15 determine -- strike that.

16 What is a safety, can you explain to the jury what a  
17 safety is?

18 A Well, a safety is typically an on and off switch that  
19 gives a person positive control of when power will flow or  
20 won't flow. In a bombing type situation, a safety is  
21 something that is put in to protect the bomb builder.

22 Q And do you usually find the slide switch on the receiver  
23 circuit to be a safety?

24 A No. Not normal.

25 Q Typically, you would find the safety on the firing

1 circuit, isn't that right?

2 A That is correct.

3 Q Because, for obvious reasons, you want to cut off the  
4 power to the firing circuit to minimize the chance of an  
5 accident?

6 A That would be true.

7 Q So this person doesn't put a safety on the firing circuit  
8 at all, right? There's nothing that you can reconstruct?

9 A There were no other switches or items that could be  
10 thought to be safeties recovered, to my knowledge.

11 Q So the only thing essentially that would function as a  
12 safety is the slide switch which you believed must have been  
13 on the outside?

14 A The only thing that could function as a safety would be  
15 the slide switch controlling power to the remote control  
16 system and to my thoughts, the only logical place to have that  
17 slide switch would be so that access could be obtained from  
18 the outside.

19 Q There was no physical evidence that informed where you  
20 put that slide switch?

21 A There is no, no evidence whatsoever as to where in the  
22 device that slide switch was located.

23 Q Did you put the slide switch on the outside because you  
24 wanted to answer the question how it could be that Thomas  
25 Shay, Sr., walked around with this device for 24 hours or was

1 near this device for 24 hours and it didn't explode?

2 A No, ma'am. That didn't, didn't affect my train of  
3 thought at all. The slide switch would typically be for the  
4 builder's protection. So he could carry it around and also so  
5 that the power source providing power for the remote control  
6 system would stay in as good a position or as good a condition  
7 as possible.

8 The power being switched on to the remote control  
9 system puts whoever is in the vicinity of the device in some  
10 danger, that's true. However, it's not unusual -- and as a  
11 matter of fact, in my constructing of some of the, the  
12 exemplars and materials, I've left it on, I've carried it  
13 around, I moved things back and forth -- I've never had a  
14 problem of the circuit doing something that it wasn't supposed  
15 to do, although I'm not saying that it is not possible.

16 Q So you have a slide switch both to save the batteries, so  
17 they wouldn't run down?

18 A Yes.

19 Q And to keep yourself from being blown up?

20 A That could be two functions, yes, ma'am.

21 Q And you believe that it was on the outside where the  
22 bomber could flip the switch to make sure that the batteries  
23 wouldn't run down and he wouldn't be blown up?

24 A I believe that the small lever was accessible from the  
25 outside, I don't think the entire switch was on the outside.

1 Q Did you have occasion to talk to or read Officer Foley's  
2 account of what he saw moments before the blast?

3 A On the day before Officer Foley got out of the hospital  
4 or the day that he was supposed to have gotten out of the  
5 hospital, I talked to Mr. Foley.

6 Q And you knew then that he said that he could see, somehow  
7 see the inner work -- he could see the Servo arm, for example,  
8 while he was looking at the bomb from the outside?

9 A I know that Officer Foley told me at the hospital that a  
10 comment was made -- and I don't have the exact wording -- a  
11 comment was made to the effect that looks like a Servo and  
12 it's moving.

13 Q And what significance does that have to you?

14 A The significance to me is two things. One, in order for  
15 him to see that, he would have had to have had visual access  
16 to the inside of the smaller box. The second thing that  
17 indicates to me, also being a bomb tech, Mr. Foley knew what  
18 was going to happen when that Servo moved. It's a bomb tech  
19 knows exactly what that's for. And when he saw it move, he  
20 knew what was coming.

21 Q So, did that help inform your view that how, then the box  
22 was not self-contained, and that there was something that you  
23 could see from the outside, somehow the box was open in some  
24 way?

25 A My thoughts on that were thinking over possibilities.

1 The possibilities were we had been given information that the  
2 device had been underneath the vehicle. We checked out that  
3 information and from what we discovered we believed that to be  
4 true. We were also given information that the device was  
5 picked up and carried and either placed or very shortly tossed  
6 to one location, and then later on picked up again, carried to  
7 another location towards the rear of the residence, and either  
8 placed or very shortly tossed a second time, which led us to  
9 the belief that possibly in this movement, and in the stresses  
10 that this device had come under that it could have broken  
11 portions of the wood covering away.

12 Q When you reconstructed this device, did you show it to  
13 Tom Shay, Sr.?

14 A No, ma'am.

15 Q Did you know whether anyone under your supervision showed  
16 it to Tom Shay, Sr., and asked him is this it, is this what it  
17 looked like?

18 A The device I reconstructed was, for the most part, at the  
19 National Laboratory in Rockville, Maryland. When I would come  
20 up to talk to other investigators, and when I thought that the  
21 device might assist in understanding what had occurred, I  
22 brought the device with me. When I left I took the device  
23 back with me.

24 Q I see.

25 A So my understanding is Mr. Shay at no time saw it,

1       although I cannot say that he did not see it.

2       Q       Your job, one of your responsibilities as you said a  
3       moment ago was to check out how it could be or to try to  
4       figure how it could have been that this device could have been  
5       tossed against the, to the side of the driveway and picked up  
6       and tossed somewhere else again and what that might have been  
7       done to the device; isn't that right?

8       A       That's correct.

9       Q       You tried to reconstruct the device in the light of what  
10      you have heard, where it has been, and what it has done,  
11      right?

12     A       That is correct.

13     Q       But the one piece that you did not reconstruct was to  
14     figure out how it could come to pass that the device could  
15     have been on from 12 o'clock on Sunday until 12 o'clock on  
16     Monday without running the batteries down, that reconstruction  
17     you didn't do?

18     A       I'm not sure that I understand the question exactly  
19     right. I did not do a test to see how long the batteries  
20     would last if that's what was your question was?

21     Q       Yes. And you didn't -- well strike that.

22                 In the course of your experience, have you seen,  
23     you've seen different kinds of devices, configured different  
24     ways on the outside; isn't that right?

25     A       Yes, ma'am.

1 Q You heard that this device, which was relatively simple  
2 on the inside, in fact looked almost machine made or seamless  
3 on the outside, did you hear words to that effect?

4 A Well, that is two separate statements, ma'am. I will not  
5 say that this device is relatively simple on the inside.

6 Q Okay.

7 A I will say that the second part, that on more than one  
8 occasion, I heard that the appearance of the device was that  
9 of a 2 by 6 piece of wood, 2 by 6 piece of wood.

10 Q That you mean it looked, it didn't look like a box that  
11 someone had, didn't look like a hollow box that someone had  
12 put together; isn't that right?

13 A That is correct. It was not relayed to me as initially  
14 looking like a box, but more like a solid piece of wood which  
15 told me it must have been very well constructed.

16 Q Did you hear the word that it was seamless, you couldn't  
17 even tell where the seams were on the box?

18 A I, I don't know that I heard the terminology "seamless."  
19 But when someone says like a 2 by 6 and myself knowing that a  
20 2 by 6 does not have seams that would be a reasonable thought.

21 Q So did you direct anyone or -- strike that.

22 From your work did you sort of draw a picture the  
23 bomber in any way, try to tell people, well, if someone who  
24 knows how to use a toy receiver, it is someone who knows how,  
25 you know, to put a together a flashlight circuit, did you try

1 to come up with a picture of who the person must have been?

2 A Not a picture of the person, we do come up with thoughts  
3 of what knowledge a person must have. They must have certain  
4 knowledge of electrical circuits. They must have certain  
5 knowledge of explosive materials. But to, to draw a picture  
6 saying the person looks like this, no.

7 Q But this person not only needed to know about the things  
8 you described, but also knew how to do finish work?

9 A I would say the person that built this device was very  
10 painstaking. In my reconstruction of the device, the device  
11 was glued together, quarter inch pieces much plywood, glued  
12 together and also nailed with two penny nails. I had a  
13 tremendous problem trying to get two penny nails into a one  
14 quarter inch of plywood without it splitting open. The person  
15 was very careful about how he did it and what he did.

16 Q And careful with respect to in particular to the outside  
17 of the bomb?

18 A Well, I would say careful as in respect to the outside,  
19 also, because of the fact that he, he painted the device flat  
20 black, which tells me the device was intended to be hidden.  
21 If he didn't want to hide the device then he wouldn't try to  
22 camouflage it, if camouflage would be the right word.

23 Q This was spray painted?

24 A According to the chemist report it is black spray paint,  
25 yes.

1 Q You mentioned in your examination that the detonators  
2 were wired in series?

3 A Yes, ma'am, I did say that.

4 Q And in your experience, isn't it the case that the U.S.  
5 military manual, one U.S. military manual suggests wiring  
6 detonators in series?

7 A To my knowledge, the majority of all manuals in the  
8 United States covering explosives suggest wiring explosives  
9 circuits in series.

10 Q And is there also a suggestion of two blasting caps in  
11 the United States military manuals?

12 A In the United States military manual, yes. Dual priming  
13 which is two blasting caps is considered to be the recommended  
14 method, although, "dual priming" in the true military sense is  
15 not what was achieved in this device.

16 Q And in what way was that?

17 A "Dual priming" in the military sense, normally means two  
18 totally separate circuits capable of firing the device. The  
19 purpose for dual priming in the military is if one circuit  
20 does not work then they use an alternate circuit. That's  
21 typically what the U.S. military intends when they talk "dual  
22 priming" in their, in their systems.

23 Q And in what way was this different?

24 A This was different in the fact that there were two caps.  
25 But if there was something wrong in the wiring system going to

1 the caps, the system would not work. Any break, any opening in  
2 the firing system would prevent the system from working,  
3 whether it was a break in the wire, one bad blasting cap,  
4 although it is very unusual to find a blasting cap that does  
5 not work right. But if one cap did not work right, the other  
6 cap would not work at all.

7 Q But for simply the task of having two blasting caps,  
8 simply the notion of two blasting caps, anyone with the  
9 military, with access to the United States military manual  
10 might have come to the conclusion that two blasting caps was  
11 important?

12 A Anyone with access to the U.S. military manuals on  
13 explosives materials and uses could see where they talk or  
14 discuss dual priming. Although in most the pictures, where  
15 they talk dual priming in military manuals, and I might add  
16 most of those books are put out for engineers, not bomb  
17 technicians, but most of those books talk about a nonelectric  
18 system and an electric system paired together to come up with  
19 a dual prime system.

20 The Army EOD side on occasion will use dual electric  
21 systems for a dual prime system.

22 Q Do you know whether or not, I can't say that I found that  
23 any of the, any of the manuals, the manuals, for example, put  
24 out how, would say anything about dual blasting caps?

25 A I cannot give you an honest answer on that. I don't know

1 several thoughts at the time. My initial thought before  
2 that -- before I talked to Officer Foley, who was there, he  
3 was only person that can actually tell me what happened just  
4 prior to the explosion. Before I talked to him, there were  
5 some thought that because it had gone through such a rough  
6 environment of being under a vehicle, being scraped off from  
7 under a vehicle, being handcarried in and either maybe roughly  
8 placed or shortly tossed in two different occasions, that some  
9 of the components inside being glued in place, could have  
10 broken loose. Especially the 9-volt batteries which are in a  
11 metal housing, and do have a little weight could have possibly  
12 broken loose and shifted inside the container.

13 If any metal inside the box came in contact with the  
14 firing switch the toggle switch, two contacts, it would do the  
15 same as closing the switch. It would fire the device if  
16 electrical contact was made. It is shorting the switch out is  
17 what was it was doing. That was my initial thought. Although  
18 I really had no way to prove that. It's just a thought of  
19 what could have happened.

20 After I talked to bomb technician Foley, and he made  
21 the statement, that looks like a Servo and its moving, that  
22 told me that that system received a signal from somewhere, it  
23 could have been a person within a half mile, three quarters of  
24 a mile up to a mile, pushing the lever, and actually firing it  
25 on him, or it could have been a microwave system from a mile

1 down the road. It could have been a kid two blocks away with  
2 his little toy car system. It could have been many things,  
3 and there is no way to pin down exactly where the signal came  
4 from.

5 Q Based on Officer Foley's accounts to you, you believe it  
6 was triggered by a radio transmission?

7 A I believe that if the Servo moved, the receiver had to  
8 receive the signal from somewhere, yes.

9 Q And you really then don't have an explanation as to why,  
10 you don't have an explanation as to why those radio waves that  
11 are around us all the time didn't trigger the device 12 to 24  
12 hours earlier than it did on October 28th?

13 A Well, those radio waves are around us all the time.  
14 There are some effects on radio waves. One being what's in  
15 the close area up to where a receiver is at. If a person -- a  
16 good way to explain it, if you're listening to a radio or  
17 portable radio, you've got the antenna pulled up, sometimes if  
18 you're not getting a real good signal, if you walked over and  
19 touched the radio, touched the antenna, the radio station will  
20 come in much better. It is because you're acting as an  
21 antenna, you're an influence on that signal. The fact that a  
22 person is on the device could affect how well, the device  
23 received a signal because the person could also act as an  
24 antenna to help boost the signal's strength that's going into  
25 the receiver.

1 Q Do you have any information that either Officer Foley or  
2 Officer Hurley had touched the device?

3 A Yes, I have information, I don't know exactly which  
4 one -- to my understanding, Officer Hurley touched the  
5 device. Actually moved the device.

6 Q At the time that it went off or later or before, I'm  
7 sorry --

8 A It's my understanding that it was moved before because of  
9 the position it was in when initially found. In order to do  
10 anything to it, it had to be moved slightly.

11 Q But it was moved, and then isn't it a fact that Officer  
12 Foley describes the device of going off while they were both  
13 looking?

14 A Yes, Officer, Officer Foley describes the device, and  
15 explains what he sees as far as movement and knows what's  
16 going to happen. And from, from the injuries done to Officer  
17 Hurley, I know exactly the position Officer Hurley was in when  
18 the device went off.

19 Q But one other explanation, sir, for why the device didn't  
20 go off 24 hours earlier is that someone pulled the slide  
21 switch or the battery switch, someone pulled the slide switch?

22 A Well, I don't think there is a capability of coming to an  
23 explanation as to why it didn't function earlier. If you got  
24 a radio playing in your office, certain times of the day, you  
25 will get very good reception; other times of the day, you will

1 get very poor reception. This remote control system, although  
2 it cost in the realm of a \$100 per system, it's still a very  
3 cheap system. It's, it's not meant to control something  
4 that's as dangerous. It's just meant to control a toy radio  
5 car. If you tell it go left and it goes right, it doesn't  
6 really make a whole lot of difference. I mean, the little boy  
7 is not going to like it but it doesn't do any permanent  
8 damage. It's not intended to be put into a system of this  
9 nature.

10 Q Essentially, the explanation, a conceivable hypothesis of  
11 why it doesn't go off 24 hours earlier, are someone wasn't  
12 function as antenna in the way, perhaps, Officer Hurley or  
13 Officer Foley was, someone pulled the slide switch, someone  
14 disabled it in some other way, or who knows what; is that  
15 about right?

16 A The true answer to what you're asking is we have no way  
17 of telling why it didn't go off earlier. We have reasons to  
18 understand why it could have functioned when it did, being  
19 signals coming in. We have no way of knowing what signals it  
20 received, what strength those signals it received, and at what  
21 times during the day it received different signals from  
22 different things.

23 Q Absolutely. And you have no way of knowing whether or  
24 not it was able, that is to say, it was ready to go in some  
25 fashion 24 hours before whether the slide switch has been

1 pulled?

2 A If I'm understanding your question correctly, you're  
3 asking me if I knew the position of the slide switch 24 hours  
4 earlier or not; is that correct?

5 Q That's correct. Obviously you didn't?

6 A You're right, I do not.

7 Q Finally, sir, you said that the person who did this bomb  
8 had taken out or had removed the paper that surrounded the  
9 dynamite; is that right?

10 A That is correct.

11 Q Now, with respect to that, isn't it fair to say that when  
12 the device explodes, the dynamite is essentially scattered  
13 everywhere?

14 A It's fair to say that much of the dynamite itself, the  
15 explosive material is consumed. That doesn't mean it totally  
16 disappears. It means it goes from one material, one chemical  
17 state to another chemical state. Typically, everything is  
18 still there. And if something falls to the ground, it is  
19 still going to be there. If a small piece of paper gets  
20 kicked out, it's still going to be there. If particles of the  
21 explosive itself that don't function get kicked away, they  
22 will be still be there. Then you will also produced a lot of  
23 heat, a lot of smoke, that, of course, gets blown away.

24 Q How often do you actually find the dynamite wrapper after  
25 an explosion?

1 A On many occasions you will find -- I'm not talking about,  
2 here's a piece of brown paper on the ground, it must be the  
3 wrapper. But if you take, scooping, or basically you dig up  
4 the blast seat, where the device actually functioned and put  
5 it in through a laboratory for microscopic analysis, more  
6 often than not, you will find small fragments of that paper  
7 wrapping.

8 Q And fragments of the paper wrapper from which you would  
9 be able to trace the manufacturer of the explosives?

10 A No, ma'am, no, ma'am. You can trace the manufacturer of  
11 the dynamite by the number. If you do not have -- basically,  
12 all of the number or a large portion of the number, each part  
13 of the number that you don't have restricts how far you can  
14 trace it.

15 Q Typically, what you are saying, you wind up with just  
16 fragments of a piece of paper from which you, obviously, it  
17 would be difficult to reconstruct a number?

18 A I will admit that it's not easy to reconstruct minute  
19 components of paper or anything after it's been involved in an  
20 explosion.

21 Q Did you -- how soon after the explosion did you search  
22 Shay, Sr.'s garage, if you know?

23 A I don't know exactly. I know we initially started in the  
24 forward part of the residence working towards the back. It's  
25 very typical for us to also have a couple of investigators in

1 the area of the initial explosion itself. We have them there  
2 because we get a lot of information right from the blast seat  
3 area. And by getting that information, we can give  
4 information to the people on the outer areas that will make it  
5 much easier for them to, first, know what to look for, give  
6 ideas of where things might be, what direction things might be  
7 in. And during that process, when that was going on, the  
8 garage was open, and inside the garage we could see a piece of  
9 wood. And on that piece of wood, we could see paint.

10 Initially, as most of you might think, we jumped  
11 right on it, it's important to us. It's not something that's  
12 real tiny, and you don't know what it is, it's right there in  
13 front of you and you see it. So we did, we looked at it. And  
14 we looked at it for two reasons. One, was the wood the same?  
15 No, the wood was nothing like the same. The wood had three  
16 layers. But the wood itself was a totally different type of  
17 wood.

18 The paint on it, it was dark paint. If you looked at  
19 it in one way, the paint appeared to be very dark, almost  
20 black in. If you looked at it an a different angle, it was a  
21 black-blue. And comparing the two, we had fragments of the  
22 wooden box, comparing the two, they didn't match.

23 Now, at a later time, we took segments of that -- and  
24 I say "we," the team or other investigators at a later time --  
25 took portions of that and had them analyzed. And it did

1 nothing more than support our initial determination that they  
2 did not match.

3 Q My question had been: At what time did you search the  
4 garage?

5 A Well --

6 Q I think you answered, but that wasn't my question.

7 A I myself did not do what you would actually consider a  
8 search of the garage. I'm sure the garage was searched by  
9 someone on the team.

10 Q And did anyone at any point find a transmitter on Shay,  
11 Sr.'s property?

12 A Not to my knowledge, no.

13 Q Did anyone ever search, for example,  
14 Shay, Sr.'s child's to see if there was a remote control  
15 device?

16 A That I have no idea.

17 Q Now, did you have any information as to how old the child  
18 he had?

19 A No, ma'am. I knew he had, I knew he had a son, but other  
20 than that, no.

21 Q And as part of the reconstruction, did you try to  
22 reconstruct how it could that be the box would fall off a car,  
23 leaving metal fragments, without the box itself being  
24 substantially damaged?

25 A Well, I have my own opinion on that. And as we talked

1 just in the recent past, the box was very well constructed.  
2 The box was glued. The box was nailed. The box was small.  
3 It wasn't -- a larger box is easier to break over. A small  
4 thin box is fairly rugged. And the fact that when the device,  
5 what's, in my opinion, was under the vehicle, got knocked out  
6 from underneath that vehicle, it wasn't as if the car fell on  
7 it, although I'm trying to get into an area that's not my area  
8 of expertise, but the vehicle didn't fall on it or drop flat  
9 on it. It was a side movement, so it kind of in a way it  
10 scraped it off. I guess scrape is a good term.

11 Q There were magnet fragments that showed, that there were  
12 magnet fragments that suggested at least that the magnet gave  
13 before the glue did.

14 In other words, the fragments of the magnets were  
15 actually left on the underside of the car rather than simply  
16 popping off at the line of the glue, isn't that right?

17 A To my knowledge; that's correct. There were magnet  
18 fragments underneath the vehicle.

19 Q So, did you have an explanation as to how it could come  
20 to pass that, rather, is your explanation that the reason why  
21 the magnets could be ripped apart, the metal magnets could be  
22 ripped apart, but the box would be in act tact was box was so  
23 well constructed it would have withstood what the magnets  
24 didn't withstand?

25 A Probably the best way I can answer that is to say that my

1 opinion is as to the magnets or the box are just that of a  
2 person, I worked with wood before, I know what magnets are, I  
3 got them on a refrigerator at home, but I'm a specialist in  
4 the area and I cannot give you answer on why it happened that  
5 way.

6 Q Was there a specialist at ATF that addressed this  
7 question?

8 A We do have a metallurgist who I'm sure is familiar with  
9 magnets who could possibly address it, yes.

10 Q Did he address it?

11 A To my knowledge, no, but I do not have total knowledge of  
12 everything that happened during the case.

13 Q Did you have occasion to see the blue lines that were  
14 drawn on the inside of this well constructed box?

15 A I did see, and it was not on every piece, blue lines, I  
16 did see a case where a blue line, we could not tell whether an  
17 ink pen or what type of pen but a blue marking that had later  
18 been cut on that marking, yes.

19 Q And the cuts in this box were not rough cuts, right, they  
20 were rather fine cuts; isn't that right?

21 A Cuts that I noticed in the box seemed to be fairly well  
22 done, yes.

23 Q And that again was consistent with the maker of the box  
24 being someone who knew how to do finish work?

25 A Well, I won't say finish work. I would say it was, to

1 me, as a person that works with wood a little bit myself, it  
2 shows a person that very carefully did something.

3 MS. GERTNER: No further questions.

4 THE COURT: Any redirect?

5 MR. LIBBY: A few, your Honor.

6 THE COURT: First we stretch.

7 (Pause.)

8 Redirect Examination by Mr. Libby

9 Q Mr. Waskom, calling to mind counsel's questioning about  
10 the so-called twin detonator cap system here?

11 A Yes, sir.

12 Q And how it's discussed in some U.S. military manuals, do  
13 you recall that questioning?

14 A Yes, sir.

15 Q Now, I believe you mentioned that it was, I believe  
16 recommended that there be twin detonator caps in some  
17 instances, correct?

18 A Yes. In military systems they do recommend it.

19 Q Directing your attention to Government's Exhibit 20,  
20 would it assist you in describing to the Court and jury,  
21 please, that part of your answer that dealt with their being a  
22 separate circuit, that is one each, for the two detonator  
23 caps? I believe you mentioned there was alternate circuits;  
24 is that right?

25 A Yes.

1 Q What did you mean by that?

2 A What we're saying is, this system has two detonators in  
3 it. But that doesn't truly make it what we would call a dual  
4 prime system. A dual prime system in military training means  
5 there are two entirely separate ways of functioning an  
6 explosive charge.

7 Now, by having both detonators, both blasting caps  
8 hooked to the same wire, relying on the same batteries,  
9 relying on the same switch, you don't really have two positive  
10 ways two separate ways to fire the device; you've only got  
11 one. If a wire is broken here, nothing can happen. If one of  
12 these detonators is bad, nothing can happen. If your battery  
13 goes dead or the wire breaks up here or that little snap clip  
14 comes off the battery, it cannot function. Everything has to  
15 be right for it to function.

16 If you wanted a true dual prime system, the way the  
17 military would discuss it, you would have, you might rely on  
18 the same battery pack, the same power source. You might rely  
19 on the same on and off switch, but you would have double  
20 conductors going around, each conductor hooking in one  
21 blasting cap, the other conductor hooking into the other, so  
22 either one would work. It doesn't rely on the other circuit.

23 Q Thank Mr. Waskom.

24 Calling to mind, also, yesterday's demonstration of  
25 the functional display we showed for the Court and jury,

1 obviously, the outcome there showed the receipt of the signal?

2 A Yes. The outcome of the demonstration yesterday was the  
3 receiver system receiving the signal from the transmitter,  
4 yes.

5 Q And we had photo flash bulbs showing the operation of the  
6 two detonator caps?

7 A We had flash bulbs indicating that the detonators would  
8 have functioned at that point.

9 Q In the real world in this investigation, Mr. Waskom, did  
10 you reach a conclusion as to whether the two detonator caps in  
11 the device actually functioned?

12 A In the investigation we did look at the two detonators.  
13 In some cases, it's hard to tell whether each detonator  
14 actually functioned the way it was designed to function. And  
15 basically, what I'm saying is we have two detonators that are  
16 pushed inside of an explosive material.

17 If one detonator functions, it will fire that  
18 explosive material. It doesn't have to be both detonators.  
19 If either detonator functions, the dynamite will function.  
20 The dynamite itself functioning will damage the other  
21 detonator whether it truly functions the way designed or not.  
22 So it's difficult to tell a lot of times whether both  
23 detonators actually functioned the way they were supposed to.

24 I do know that both detonators were operational in  
25 the beginning stage of the system of the series of events they

1 go through. In other words, each detonator has a little wire  
2 in it that initiates a pyrotechnic system. I know that  
3 happened in both instances, because if one of them didn't  
4 happen, the other cap could not have happened, because it has  
5 to be to be a circuit. So I know that part happened.

6 Right now, I would I would say that one of the  
7 detonators either did not totally function correctly or may  
8 have been pushed out or blown out of the explosive before it  
9 could totally function correctly. Although, that's a very  
10 shaky statement. We don't know exactly whether that happened  
11 or not. It's possible, possibly not.

12 Q But we do know that it functioned sufficiently to  
13 initiate the main charge, correct?

14 A Yes, the main charge did function.

15 MR. LIBBY: Your Honor, finally I would have marked  
16 for identification, EOD improvised explosives manual.

17 MS. GERTNER: For that purpose, no objection.

18 [Government's Exhibit 47 marked for identification.]

19 THE COURT: Ms. Gertner, anything else?

20 MS. GERTNER: No, your Honor.

21 THE COURT: Thank you, Mr. Waskom, you are excused.

22 Who is next?

23 MR. KELLY: Your Honor, the Government calls Thomas  
24 Shay, Sr.

25