Wes: Our first story examines secret photographs that may have been taken by a Confederate prisoner of war. The American Civil War is recorded as the bloodiest conflict in American history. Less well-known is how the carnage of the battlefields is matched by the horror that unfolds in dozens of prisoner-of-war camps throughout the North and South. As the war grows bloodier, each side inflicts new hardships on their prison populations. What happens in Civil War P.O.W. camps heralds a new era of inhumanity to prisoners and inmates that culminates in the horror of 20th-century concentration camps. More than a century after the war's end, family heirlooms belonging to a Florida man may shed light on a tale of courage and creativity from one of the darkest corners of those camps.

Jeffrey Fisell: When I was a teenager, my grandmother showed me a box with four photos in them and told me that the photos were taken by my great-great grandfather while he was a prisoner of war.

Wes: I'm Wes Cowan, and I'm meeting with Jeffrey Fisell to see if I can help him get to the bottom of his story.

Jeffrey: Well, I've got some photos that my...

Wes: He tells me that during the Civil War, his great-great grandfather was a Confederate prisoner at a high-security P.O.W. camp known as Johnson's Island, and that he managed to take these photographs in secret using a homemade camera.

Jeffrey: That's the story that's been handed down to us.

Wes: Jeffrey says the key to this mystery may be this label, attached to the case that holds the photographs. It claims his great-great grandfather built the camera with spare parts and developed the images with chemicals found on the prison grounds. That is a great story. I've got to tell you, I've never heard of that occurring in any P.O.W. camp, Union or Confederate. And if that's true, that is really significant. So, do you know anything about these guys? Jeffrey believes the men in the photos were also P.O.W.s at Johnson's Island, along with his great-great grandfather.

Jeffrey: Well, his name was Robert M. Smith.

Wes: And this is a picture of him?

Jeffrey: And we do know that he made this jewelry.

Wes: What exactly do you want to find out here?

Jeffrey: Well, we'd like to know if the story is true. If he actually built a camera while he was a prisoner at the camp and developed these pictures, and how did he manage that?

Wes: You know, I'd like to look at all this stuff for about ten minutes, if you don't mind. I specialize in Civil War-era photography. In many ways, American photography came of age during that conflict. The birth of American photojournalism can be traced back to the war's single bloodiest day: the Battle of Antietam on September 17th, 1862, when 6,000 soldiers lost their lives. The images of this battle's aftermath are enduring monuments to the horror of war. But I'm not so sure about these photos. The men look healthy and well-fed. And the story behind them seems pretty unlikely. This label says Smith built his camera in secret using a few basic objects: a pine plank, a pocket knife, a tin can, a spyglass lens. He got the necessary chemicals from the prison hospital and took the photographs in the gable of the garret, or attic, of cell block number four. This

card raises an awful lot of questions for me. I mean, the camera that he describes using is so crude and so rudimentary I can hardly believe that he took these photographs with it. Now, who are these guys? They've got labels that seem to indicate a military ranking, but were they prisoners of war on Johnson's Island? From 1861 to 1865, over 400,000 soldiers, one of every seven who serve in the Union and Confederate armies, become prisoners of war. Military leaders are unprepared to handle such numbers. The result: overcrowding, inadequate medical care, and shortages of food and clothing. Conditions at southern prisons are especially dire. At Andersonville in Georgia, some 13,000 Union prisoners die of disease and starvation. Isolated in Lake Erie, Johnson's Island is initially one of the more humane prisons. It houses officers only, many who can afford to buy luxuries from their captors. But that reputation for better treatment vanishes in 1864. In the spring of 1864, news reached the North of horrible atrocities at places like Andersonville. And so as a consequence, the northern prisoner-of-war camps wanted to retaliate. So they started cutting back rations and supplies to Southern prisoners. You know, Smith was supposedly taking these pictures in 1864, and so these cutbacks would've made it even more difficult for him to do this. Were these four men really Confederate prisoners at Johnson's Island? I search for their names on Civil War web sites. Here's captain F.M. Jackson. The picture online shows him as an old man. He was captured at the battle of Black River Bridge just before the crucial rebel loss at Vicksburg. He spent eighteen months at Johnson's Island. And here's James G. Rose. He was in the 61st Tennessee Mounted Infantry, and after a gallant record, he was captured near Bulls Gap and imprisoned on Johnson's Island. I also find a reference to Robert M. Smith, Jeffrey's great-great grandfather. It seems there's an archeological dig going on at Johnson's Island, and they've done some research on the inmate population. I set up an appointment to go to the dig site. In the meantime, I got to find out if the camera described in this label could really work. Rob Gibson is an expert on Civil War photography. I sent him a copy of Jeffrey's label and description of how the camera was made. Is it even possible to make a camera using those specifications?

Rob Gibson: Well, let me show you what I've assembled here.

Wes: Rob says our images are examples of wet-plate photography, in which a glass or metal plate is exposed after being treated with light-sensitive chemicals. It was a complicated, exact science practiced by professionals with access to—and mastery of—expensive equipment.

Rob: I tell anybody that to do wet-plate photography, you need basically the mind of a chemist, the eye of an artist, and the patience of a saint.

Wes: Okay, you've seen that label that I sent you. Is it even possible that he could've made a camera using those materials?

Rob: He was obviously a very clever man if he was able to do this. Let me show you what I've assembled and what limited resources he had. The card lists a tin can to make a lens tube, pine planks for the camera body, a pocket knife, a piece of glass with soap smeared on it, and lastly, the lens from a spyglass.

Wes: Rob says it wasn't easy, but based on this list, he made an effort to build a camera.

Rob: And that's it.

Wes: That's it.

Rob: Pretty crude. All right, here's our tin can.

Wes: All right.

Rob: I've drilled a hole in the back of this and actually used the knife to finish cutting this open so that we had the same type of equipment that he used. The soaped piece of glass here, which would be your focusing glass, sits back here. The images will be projected upside-down and backwards. And by sliding this lens, if you will, back and forth, he can get his image sharp and in focus. The next thing is, he has to actually put a plate in the same position as that piece of soaped-up glass.

Wes: And it's a light-sensitive plate.

Rob: Right, exactly. Now, the last thing he's going to have to do is come up with some way of capping the lens. One item that was very common to all soldiers back then was their little tin cup. Put a piece of black cloth in there, and I think this would work very good for uncapping, making their exposure, and capping the lens back up when you get done.

Wes: Will it work?

Rob: Your guess is as good as mine. I have no idea.

Wes: Well, let's give it a try. Rob prepares our metal plate while I get ready for my close-up.

Rob: Exposure times are somewhere around... Well, with this camera, maybe 15 seconds, we don't know yet. So you want to make sure you don't move during the exposure. Right. Here we go.

Wes: Let me know, and I'll strike the appropriate warlike pose.

Rob: First thing we're going to do is get you in focus here, so... Okay, very proud, very confident. Look right into the lens, perfectly still... And counting. Okay, you can move.

Wes: Whoo! This revolver is heavy. Now it's off to the darkroom. And when he emerges, the moment of truth. Is it going to work?

Rob: Well, we've got an image. Let's see here. This is just our rinse.

Wes: Rob puts the plate into a solution of potassium cyanide. This is our fixer, which neutralizes, or fixes, the image on the plate. Oh, there it comes.

Rob: Yep. And what's happening is, the silver is being dissolved by the fixer there.

Wes: That's absolutely amazing. Given the quality of that lens and the real primitiveness of the camera itself, I'm amazed he could do this. But it's proven here, he certainly could. The camera works, but there's still a major outstanding issue. To develop the images, Smith would've needed some pretty potent chemicals. Could he really have gotten hold of them from the prison hospital as the label claims? At the museum of Civil War medicine in Frederick, Maryland, I'm meeting curator Ryan Rokicki. I've got this list of chemicals that were supposed to be at Johnson's Island, and they seem like, you know, really harsh. What were doctors doing with chemicals like that in a hospital?

Ryan Rokicki: At the beginning of the Civil War...

Wes: Ryan explains that doctors had no concept of bacteria or germs. They believed that illness was caused

by a buildup of bodily poisons. Extremely harsh chemical treatments were thought of as cures to flush out the poisons. I show Ryan the list of chemicals Smith would have needed for photography. Were these available at the prison hospital?

Ryan: One-hundred-ninety-proof alcohol. Spiritus frumenti. You can see "whiskey" right there. And this was used as a stimulant to combat shock. They didn't know it was a depressant, like we know today.

Wes: How about ether?

Ryan: Ether was a very popular anesthetic. It's a common myth that during the Civil War, during operations, soldiers had to bite a bullet while they had their arms and legs amputated. They did have ether, they did have chloroform. All right, let's just keep going down the list here. Silver nitrate, iodide, ferrous sulfate; all of these were needed to take pictures and would've been in the hospital.

Wes: So, how about cyanide? I tell Ryan that cyanide was crucial to fixing the photos after they were developed.

Ryan: Cyanide—very deadly poison. Even at the time of the Civil War, they wouldn't have had a medicinal use for that.

Wes: Ryan searches an early pharmaceutical manual for an alternative.

Ryan: Here it is, sodium thiosulphate.

Wes: Ryan tells me that the chemical was used as a laxative during the Civil War. But this manual reveals another startling use. "This salt is familiar as a reducing agent in photography." All the necessary chemicals could have been at the prison hospital. So it seems as if the camera could have been used to take pictures. But how was such a feat accomplished in a high-security camp, especially after 1864, when conditions in P.O.W. Camps were at their worst? Today, the former prison camp is connected to the mainland by a causeway. But 150 years ago, this isolated 300-acre island was a perfect site to house inmates. Archaeologist Dave Bush is conducting the prison excavation. Centimeter by centimeter, his team is uncovering tantalizing fragments of the Civil War past. And they've made a couple of very interesting discoveries. Ah, so this is the dig.

Dave Bush: Over here we have different types of hard rubber materials that were carved by the prisoners into trinkets and jewelry, both as remembrances to their family and as things they could sell.

Wes: You know, the guy that I'm investigating, who was in block four, also produced these; rings and necklaces, little lockets. I wonder if any of these could have been carved by him.

Dave: Well, that's very possible. Right now they're excavating what used to be the prison hospital.

Wes: Dave also shows me bottles he's found nearby which once contained medicines and chemicals used in hospital treatments.

Dave: Block six, the hospital, was in this location. Block four was right next to it.

Wes: Wait a minute. Block four was that close to the hospital?

Dave: Yeah, it was right next-door. It's the one out there that's marked by the blue post.

Wes: The closeness of the hospital to block four, where Jeffrey's great-great grandfather was incarcerated, suggests that he might have been able to secretly obtain the needed chemicals. I get an eerie feeling that the story outlined in Jeffrey's label is lining up with what the archaeologists are discovering. I tell Dave about our photographs and ask him if he's found any record of a prisoner named Lt. Robert M. Smith.

Dave: This is a bound volume of the Confederate Veteran Magazine.

Wes: What he shows me next would give Jeffrey a glimpse into his great-great grandfather's past.

Jeffrey: So what do you think?

Wes: Jeffrey meets me at Johnson's Island so I can give him the news. You're standing right in the middle of the Confederate prisoner-of-war camp on Johnson's Island.

Jeffrey: Wow.

Wes: It's hard to imagine today, but at one time, there were thousands of men walking around in here. You're standing right in the middle of it. I tell Jeffrey that Dave Bush has unearthed a number of items that bring us close to the truth about what happened in cell block four. And he'd shown me a startling account from a Rebel magazine published after the war.

Wes: I went through all the Confederate Veterans to try to see if I could find anything on Johnson's Island, and here's one that should interest you. This is one with a photograph in it.

Jeffrey: Oh, yeah, look at the picture there. Huh, a caption. "Picture made on oyster can while on Johnson's Island prison. Lt. Smith, of Bristol, Tennessee, had his lens with him when captured and taken as prisoner to Johnson's Island, Ohio. By bribing a guard, he procured some chemicals, placed his lens in a tobacco box, and with this crude outfit, opened a gallery clandestinely in the garret of block number four of that prison." This is amazing. Lt. Smith was actually here in cell block four taking pictures of P.O.W.s right here on Johnson's Island.

Wes: It sure looks like that.

Jeffrey: That's fantastic to hear. I'm impressed and joyous at the same time. That's great news.

Wes: Dave Bush had known of the account of photographs being taken on Johnson's Island, but until we showed him that the homemade camera could work, like me, he'd been deeply skeptical. Now, I want to tell you something else. See these blue posts here? Those are the corners of cell block number four. You're standing on the exact spot where your great-great grandfather, two stories above us, was hiding out in the attic, operating this secret photographic gallery.

Jeffrey: That's great. That's phenomenal. I'm very proud to have him in my lineage. Thank you for finding this out.