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<p>Regarding an antique Tintype Photograph Thought to contain the image of JESSE JAMES.</p>	<p>FORENSIC DECLARATION of Photographic Authenticity Via Face Recognition</p>
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<p>Analysis requested by: Justin Whiting</p>	<p>DECLARATION OF KENT GIBSON A FORENSIC AUDIO & VIDEO AND FACIAL RECOGNITION EXPERT ForensicAV.com 511 N Orange DR , LA CA 90068 323-851-9900</p>
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I, Kent Gibson, state the following, of which I have personal knowledge:
I am the founder of ForensicAV.com (Forensic Audio/Video) which is a 30 year old
company based in Los Angeles, California. Regular clients include the US Secret
Service, the FBI, DOJ, USPS, IRS, LA Superior Court, LA County Sheriff, LA Public
Defender's Office, Pasadena PD Homicide Assaults, Santa Clara Sheriff's Dept., Santa
Rosa County, San Bernardino County Sheriff's Department and many private law
offices and various other courtroom representatives. I am a Certified Audio/Video
Forensic Examiner for LA Superior Court, on the approved expert witness list, and
chosen by the LA County Sheriff as a contract examiner for the county.

1 ForensicAV.com specializes in examining and preparing audio and visual
2 evidence for use during litigation. Additionally, Forensic Audio enhances recordings,
3 does **facial recognition**, authenticates recordings, **authenticates photographs**,
4 performs voice identification and prepares certified transcripts and sworn
5 declarations.

6 *Kent Gibson has authenticated over fifty images from the Old West. He was*
7 *instrumental in the recent authentication of a newly discovered Tintype of Billy The*
8 *Kid. These findings were presented by National Geographic Television in a two hour*
9 *television special. Since the broadcast, where he opined that the "CROQUET IMAGE"*
10 *tintype was in fact very likely to be of Billy the Kid and his gang - "The Regulators", the*
11 *full provenance of the image and the location where it was captured have been*
12 *verified.*

13 **FACIAL RECOGNITION**

14 A facial recognition system is a computer application capable
15 of identifying or verifying a person from a digital image or a video frame from
16 a video source. One of the ways to do this is by comparing selected facial
17 features from the image and a facial database. Most facial
18 recognition algorithms identify facial features by extracting landmarks, or features,
19 from an image of the subject's face.

20 Early facial recognition algorithms used simple geometric models, but the
21 recognition process has now matured into a science of sophisticated computerized
22 mathematical representations and matching processes. Major advancements and
23 initiatives in the past 10 to 15 years have propelled facial recognition technology

1 into the spotlight. Facial recognition can be used for both verification and
2 identification (open-set and closed-set). (BIOMETRICS.GOV)

3 Given reasonable controlled indoor lighting, the current state of the art in
4 face recognition is 90% verification at a 1% false acceptance rate.

5 (NATIONAL SCIENCE AND TECHNOLOGY COUNCIL)

6 **Facebook AI** team's vaunted algorithm, for instance, specializes in photos
7 online. It knows whether two images depict the same person 97.25 percent of the
8 time. Law enforcement agencies deploy facial recognition technology in public and
9 can identify someone by searching a biometric database that contains information
10 on as many as one-third of Americans. Google's **FaceNet** algorithm can identify faces
11 with 99.63 percent accuracy. The FBI, on the other hand, has roughly 85 percent
12 accuracy in identifying potential matches—though, admittedly, the photographs it
13 handles may be harder to analyze than those used by the social networks.

14 Forensic AV uses several facial recognition software modules, but they are all
15 based on **one to one** recognition. The program(s) target the pupils and then
16 compare up to 4,000 points on the face. The modules are capable of comparing
17 partial face, faces with or without beards, and faces not exactly aligned similarly.

18 One issue, aside from reliability discussed above, is judging what constitutes
19 a favorable percentage, recognizing that in forensics, very high percentages are rare.
20 My many years of experience have shown me that anything over 70% may be an
21 indication of a match. The results in other programs are self explanatory.

In the present case, I was contracted by Justin Whiting to examine an image thought to be of Jesse James at 14 years old, The image is on a 1/6th plate tintype:



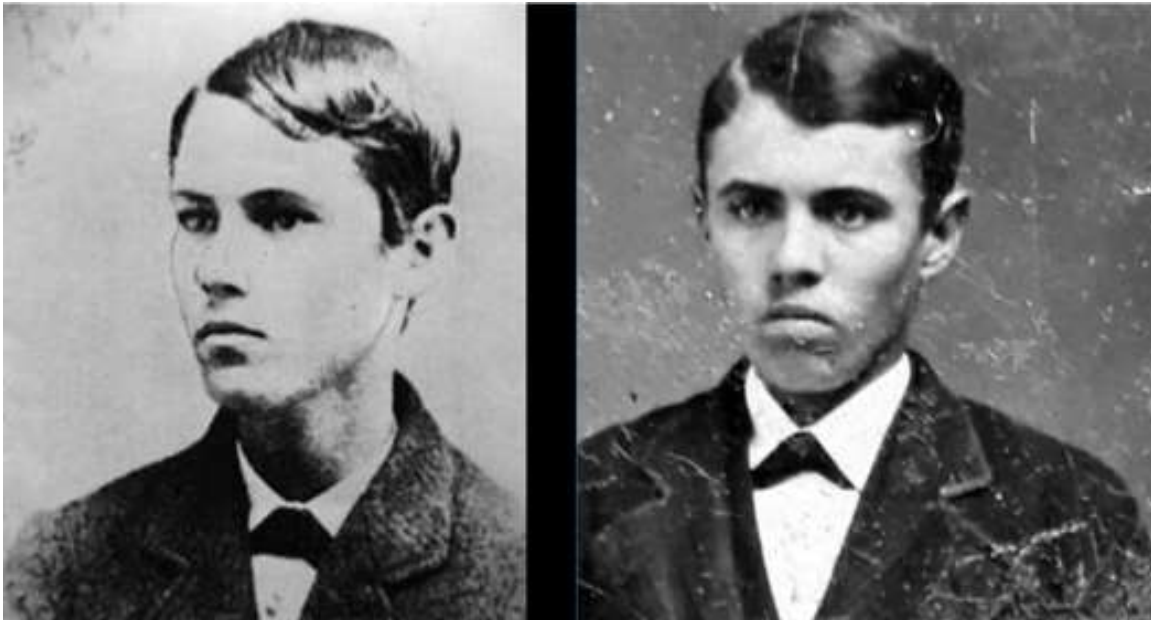
JESSE JAMES

From Wikipedia

Jesse Woodson James (September 5, 1847 – April 3, 1882) was an American outlaw, guerrilla, gang leader, bank robber, train robber, and murderer from the state of Missouri and the most famous member of the James-Younger Gang. Jesse and his brother Frank James were Confederate guerrillas or bushwhackers during the Civil War. They were accused of participating in crimes committed against Union soldiers, including the Centralia Massacre. After the war, as members of various gangs of outlaws, they robbed banks, stagecoaches, and trains. The James brothers were most active as members of their own gang from about 1866 until 1876, when as a result of their attempted robbery of a bank in Northfield, Minnesota, several members of the gang were captured or killed. They continued in crime for several years, recruiting new members, but were under increasing pressure from law enforcement. On April 3, 1882, Jesse James was killed by Robert Ford, a member of his own gang who hoped to collect a reward on James' head. Already a celebrity when he was alive, James became a legendary figure of the Wild West after his death.

Besides visual inspection and other methods, as previously mentioned. I use several different programs that provide numerical digital evidence using biometric Facial Recognition software modules. These programs are typically used by law enforcement, border security agents, and for biometric signatures in lieu of fingerprints or passwords.

In order to evaluate the tintype, the first step is to review authenticated pictures of Jesse James: It is very **lucky** that an authenticated photo exists in the James Preservation Trust, authenticated by Eric James, genealogist, historian and relative of Jesse James. This picture is known as “Jesse James at 14”. A cropped version of the image is shown below on the left, next to a cropped version of Justin Whiting’s tintype.



Authenticated Jesse at 14

Whiting Tintype

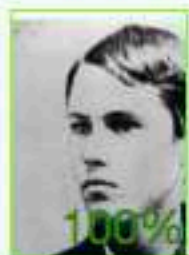
Having authenticated hundreds of antique images in my career, I immediately noticed that both images were strikingly similar. The subjects seem to be wearing the exact same clothes. I would be willing to say that it is likely that both of these images were created on the same day by the same photographer.

My task then became to PROVE that these images were indeed of the same person. I made a selection of WELL known Jesse James photographs, as shown below:



In the grid below, I show the likelihood percentages of each of the above images as compared to the others: I call this program Alpha

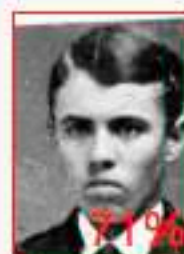
Matches



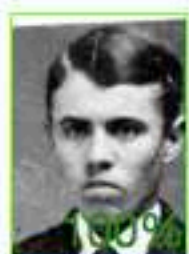
80.33%



82.33%

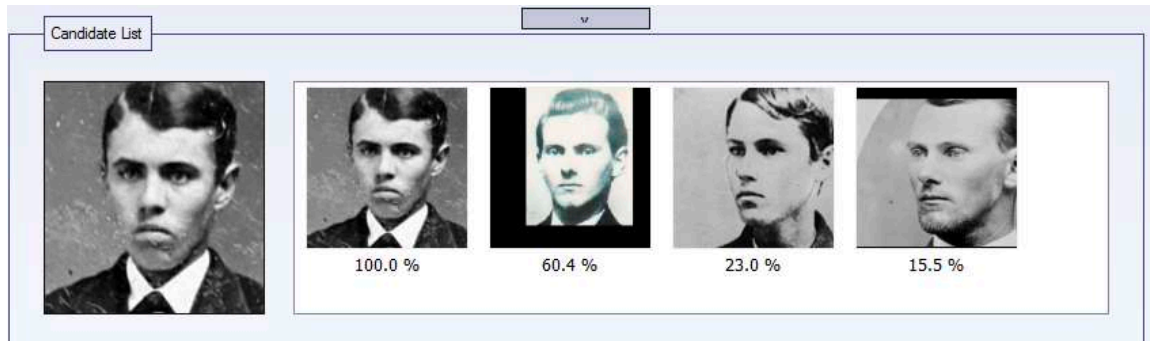


81.3%



74%

Below are comparison numbers using another software package:



And another program showed the following results:



These stats exhibit findings that indicate **a strong likelihood that the picture is indeed of Jesse James. I believe this photograph is authentic.**

I state this as a recognized forensic examiner with a very high degree of confidence.

I have no "quid pro quo" relationship with Mr. Whiting . He has paid my normal hourly fees and I do not stand to gain anything monetarily from pronouncing this image to be authentic.

I hereby declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct to the best of my knowledge, and that this Declaration was executed on the 10th day of March 2018.. The examination by tintype expert, Will Dunniway (attached) is further evidence of the authenticity of this tintype.

Kent Gibson - Forensic AV

This pdf of this document is digitally signed and certified and cannot be altered.

WILL DUNNIWAY

19th Century Image Authentication

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My name is Will Dunniway and I have been requested by Justin Whiting to evaluate this pictured photographic tintype (Ferrottype) images presented to me in high resolution digital files and shown here.

I have been asked to provide this information as I have been working with 19th century processes of photography for the last 26 years with my expertise in wet-plate collodion photography. Below is my opinion of this tintype image. I need to Emphasize up front that I am NOT a facial recognition expert.

The image belonging to Justin Whiting is a one of a kind first generation Ferrottype (Tintype). It was made in a studio setting by an unknown photographer. The age of this image was about 1861-2 and is correct in every way to this period. It was made using the period wet plate collodion process.

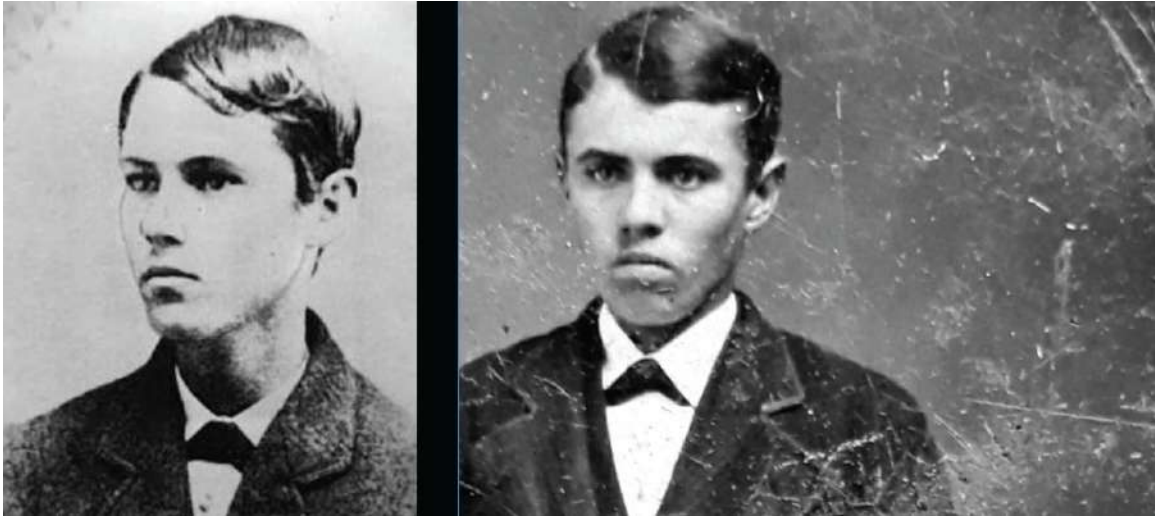
The comparison image is of unknown origin to me ever after some research. It is a well know image printed many times over in articles about Jesse James. It appears to have been printed off a collodion glass negative that had been vignettted to an albumen print. This is only conjecture about this particular image by myself. It is however very much multi-generation reproduction of an original plate - thus lacking in mid tone detail.

The tintype: With beginners instincts Justin was able to buy a one of kind original - None other like it. As I have said before, a first generation direct positive negative on black iron referred to as a ferrottype. When it is compared to the much used comparison image I believe it was taken on the same day by the same photographer. This is very evident by the face, hair cut, jacket, shirt, and tie that this is the same image of Jesse James at 14 years old. One of the originals.

Given these facts I will conclude that this image is Jesse James at 14 years old as compared to this otherwise known image as Jesse James printed many times before and shown here. With this I recommend that Justin follow up with a facial forensic comparison not only with this matching image, but other known Jesse James images when he was young.

My regards





Top Left is the image used for comparison.
Top right is cropped image of Justin Whiting;s 14 year old Jesse James.



At left is 1/6th plate tintype of 14 year old Jesse James owned by Justin Whiting.

