

A CANNON THAT COULD LISTEN

by Mark Sternheimer, VAHS Board Member

Armand Thieblot was hired as the chief engineer of Fairchild Aircraft in the late 1930's. His first major design was the PT-19 and PT-26 Primary Trainer of which more than 6000 were built during WWII. Other aircraft that he is given credit for designing are the AT-21 Gunnery Trainer, C-82 and C119 Flying Boxcar. After WWII he designed the T-31 Basic Trainer. The



Fairchild M-84

personal airplane at the end of WW2. It used the wooden wing from the PT-19 along with a new 4 place cabin design. However large quantities of surplus PT-19 and PT-26 were then available at prices of \$200 or less, therefore, no production quantities of the M-84 were made.

By the early 1950's, Thieblot lost interest in Fairchild and started his own aircraft design bureau in Washington, DC, and named it "Thieblot Aircraft". In the spring of 1953, Thieblot Aircraft received a subcontract from Republic to design the installation for the M61 "Gatling" Cannon in the new F-105 fighter.

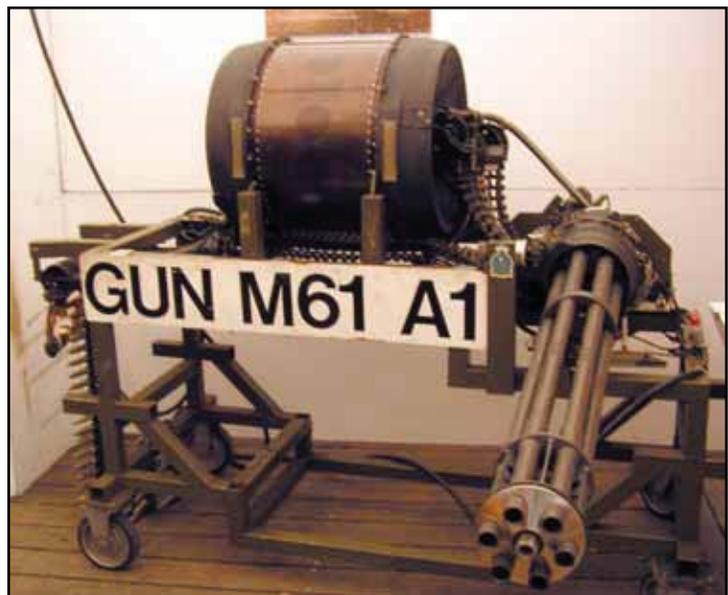
Thieblot hired about 20 mechanical and aeronautical engineers to design the nose of the F-105 which was filled completely with the M61 "Gatling" cannon. I was hired as an electrical engineer to work on the firing circuits and motor drive for the M61. No one knew anything about the M61. It had 6 barrels and fired 20MM explosive rounds at 4000 rounds per minute. Only after seeing a 16mm movie of the gun actually being fired did



T-31 (XNQ-1) Trainer

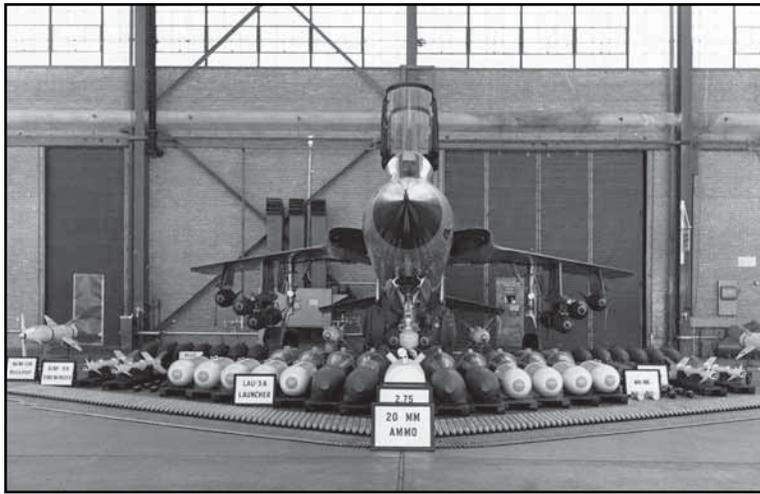
we believe in its capabilities.

After most of the basic design work had been completed, Mr. Thieblot asked me to do a special project. He believed that a fighter pilot was so busy in actual



M61 Gatling Cannon

combat that he would not be able to control the firing of the M61 while flying the aircraft. Since only

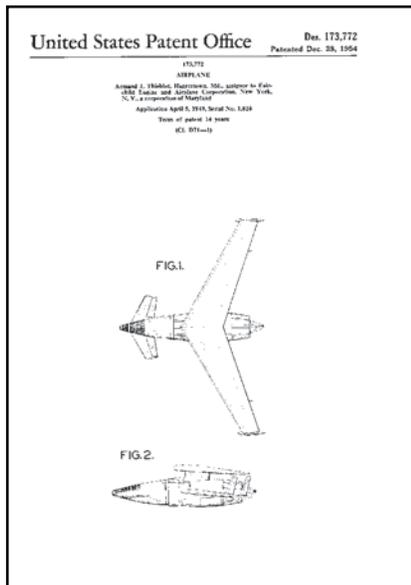


Republic F-105F Armament

about 1000 rounds of ammo were carried, if the pilot held the “fire” switch too long, he would run out of ammo in 15 seconds. Thieblot wanted a voice activated circuit that would fire the M61 for several seconds on the voice command, “Fire Cannon” that the pilot would speak into the mike installed in his oxygen mask.

In 1953 the only company that I knew of that did any work with voice recognition was IBM. After reading their available literature, I thought I knew enough to design such a system. Of course IBM had large tube type computers to help them. This was long before the days of the transistor and small solid state computers. I told Mr. Thieblot that it was possible to design a small tube type circuit that would do the job. Sometimes ignorance is bliss.

I designed a simple circuit using filters and tubes to identify the voice frequencies in the command “Fire Cannon”



Canard Jet Patent Drawing

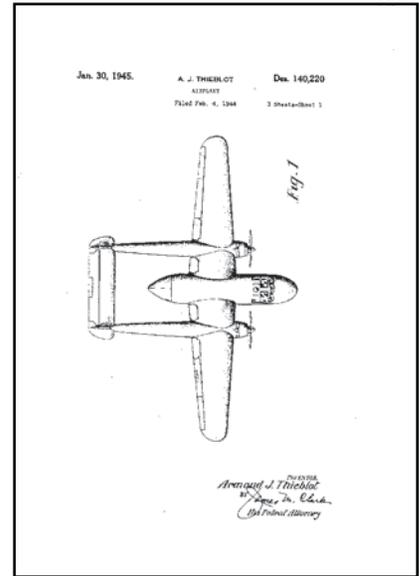
and added them together to close a relay for several seconds which gave a controlled burst of about 50 to 100 rounds.

When I was ready to give a demonstration to Mr. Thieblot I knew that unless I spoke the words, “Fire Cannon”, exactly the same each time, the circuit would not work. I practiced for several days until I could get it to work most of the time. After I successfully gave the demonstration to Mr. Thieblot he asked to try the system himself.

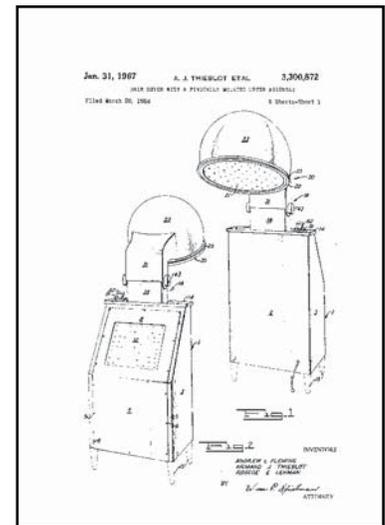
Of course nothing happened. Mr. Thieblot spoke with a slight French accent and thinking quickly I said that as a security feature it would only respond to the actual pilot’s voice. He responded that was a good feature, but also added that he would like to see another circuit that would respond to “Lower Flaps”.

Not too long after that demonstration I decided to move on to greener pastures as my bag of tricks was exhausted.

The Thieblot Aircraft Co. continued to grow until it had



C-119 Patent Drawing



Hair Dryer Patent Drawing

several hundred employees. It was sold to the Nems-Clarke Co. in 1959. Although Thieblot was well known for his many advanced designs for aircraft, his last patent design was for a complex electric hair dryer!! (patent no. 3,000,872 filed 3/20/1964).

The first airplane that I owned was one of Mr. Thieblot's PT-26 trainers that cost \$200. After the wooden wing went bad, I saved the Ranger engine and gave it to the VAHS and it is now part of their collection.



Historical Footnotes

This is DH's vision of what a 1933 backwoods airliner should look like. This photograph was taken, I believe, in Newfoundland. Called a Dragon Rapide, it sported a pair of 200 horsepower water-cooled powerplants, and is said to have achieved a cruise speed in excess of 125 with 6 - 8 passengers. I took this photograph of a photograph on display with other materials in celebration of the airline's founding. Submitted by VAHS Member Richard A. Repp

