



# The AMA History Project Presents: Biography of REGINALD LEIGH DENNY

November 20, 1891 – June 16, 1967



Previous work by NR (08/2001) & SS (10/2002); Updated by JS (04/2016, 08/2021)

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## Career:

- Famous actor of screen and stage
- Designed and sold the concept for a Radio Controlled drone to the military
- Manufactured and sold the Dennykite Airstream model engine
- Owned and operated a model hobby shop on Hollywood Boulevard in California

## Honors:

- 1983: National Free Flight Society Hall of Fame
  - 2005: Model Aviation Hall of Fame
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*The following is a four-part article about Reginald Denny, written by D.B. Mathews in his "Flying for Fun" column, published in Model Aviation magazine July, August, September, and October 2004.*

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## [Part 1 – July 2004]

**The following material** is excerpted in large part from an interesting Web site - [www.ctie.monash.edu.au/hargrave/dennyplane\\_jr.html](http://www.ctie.monash.edu.au/hargrave/dennyplane_jr.html) - which was created and is maintained by Russell Naughton, who is a staff member of Monash University in Victoria, Australia.

Who is Reginald Denny? One evening I watched *Mr. Blandings Builds His Dream House* on the Turner Classic Movies television station. This entertaining 1948 comedy stars Cary Grant and Myrna Loy as the Blandings, and Reginald Denny as their architect.

While I was watching it, it occurred to me that not many modelers associate movie stars with our hobby. Some collectors and some of us older guys recall Dennykite engines and Dennykite kits, but few fully realize their connection to a successful actor. I thought that could be the basis of a few interesting columns if I could access photos and articles on the subject.

Jack Maxwell wrote a two-part article about Reginald Denny's association with Radio Plane - one of the first firms to supply radio-controlled target drones to the military, in the late 1930s - that was published in the July and August 1992 issues of *MA*. Jack had served in a Navy unit that maintained and flew those drones during World War II.



*Actor and modeler Reginald Denny lived from [1891] until 1967.*



***Reginald Denny's hobby shop on the north side of Hollywood Boulevard was open from 1935 until 1963 under several owners who retained the name.***

That article was supported with numerous photos and data, so it was obvious that the material existed somewhere. I made a quick trip to the Google Internet search engine and turned up the aforementioned Reginald Denny site. It includes several hundred photos from what is obviously the Denny family album and reproductions of material published about Reginald Denny, including a construction article for a Denny Plane Jr. that I wrote which was published in the January 1977 *MA*. Now that's flattering!

Reginald Denny was born in Richmond, Surrey, England, on November 21, 1889, and he died in the same place in June 1967 while visiting his hometown. He acted in more than 200 movies and plays between 1919 and 1966. Both his parents were in the theater, and Reginald first appeared on stage at age 7. His father once played in a musical comedy opposite Lilly Langtree. (Do you remember the movie *Judge Roy Bean*?)



***While surely posed, this photo captures the excitement kids find in hobby shops. Reginald Denny is showing them some interesting models.***



***Classic airplanes hang in Denny's hobby shop. These fuselages are the Jr. type. They were for sale as ARFs in 1938!***

Reginald quit school at 16 to pursue a full-time theatrical career. He was successful in numerous roles in English Music Hall. He visited the US with a touring group in 1911 and moved here permanently in 1914. A moderately successful career in silent films followed.

When World War I broke out, Reginald enlisted in the Royal Air Force and was sent to Hastings, England, for pilot training. The war ended before he completed his training, so he saw no combat. This service left him with a lifelong interest in flying full-scale and model aircraft.

Returning to Hollywood in 1921, Reginald was frequently cast as the all-American athletic type

since he was in excellent condition. The advent of talking pictures ended this illusion, but his rugged good looks and sophisticated manner made him ideal for character roles - particularly playing sophisticated Englishmen.

The list of Reginald Denny's performances in movies is much too long to print here, but his more familiar roles were playing Commander Schmidlapp in *Batman*, Henry Percival in *Cat Ballou*, the police chief in *Around the World in 80 Days*, Frank Crawley in *Rebecca*, and Algy Longworth in the *Bulldog Drummond* series.

He created a role in the stage production of "My Fair Lady," and his last movie was *Assault on a Queen* in 1966. During his career he acted in such varied movies as *Abbott and Costello Meet Dr. Jekyll and Mr. Hyde* (1953) and *Romeo and Juliet* (1936).

Chances are extremely high that you have seen Reginald Denny in a movie. You may not have been able to put a name to the face, and you probably didn't know of a connection between the actor and model airplanes.

**Reginald Denny, Modeler:** Charles Lindbergh's solo crossing of the Atlantic set off a nationwide aviation craze, as has often been documented. Everyone young and old was focused on aviation and aviation events, and this interest and enthusiasm extended to building and flying model airplanes.

Numerous companies jumped into the activities with kits for rubber-powered models. As we illustrated with our photo coverage of the local Jimmie Allen contests, any event involving model airplanes generated huge crowds.

Combining his longtime interest and activities with full-scale aircraft, Reginald formed a company to develop and manufacture model airplane kits in 1934. By 1935, sales through local advertising were strong enough that he opened a retail model shop on the north side of Hollywood Boulevard in Hollywood, California, just visible from the exit off the Hollywood Freeway.



*Jane Withers with a Dennyplane Jr. used in her film Holy Terror. Jackie Cooper received one as a gift from Reginald.*



*Child actor Freddie Bartholomew prepares to fly a Dennyplane Jr. at Mines Field in California.*

That location remained open until at least 1963 under the management of Peter Veer. Apparently in 1963 (there is some contention on this date) the shop was sold to Col. Tom's and combined with a store farther south in West Los Angeles.

As was typical in that era, the shop was a special place for modelers of all ages but was particularly magnetic to the young children in the neighborhood. Numerous modeling friends who are 50 or older often relate what places of total fascination and dreams hobby shops were in their youth. One of my favorite items that illustrates that phenomenon was an article published many years ago centering on kids in hobby shops titled "How Much Are Your 10 Cent Gliders?"

Reginald enjoyed young people and was exceedingly accommodating to them in his shop. Legend has it that no child was denied the joy of building a model airplane from one of his kits just because he or she had no money.

Reginald also developed a wonderful reputation for presenting his kits or completed models to child stars of the day. A photo on the cover of *Mechanics Illustrated* several years ago showed a young Mickey Rooney launching a Dennyplane. And as you can see from the photos I've used, several other child stars had those models.

In 1937, Reginald added a realistic looking "gas" design called the Dennyplane to his rubber-power kit line. This original version was notable because of its all-sheet-balsa tail surfaces; aluminum-tube wingtips; and two-piece, plug-in wing.

The Dennyplane also used an experimental engine that was apparently developed and produced by Major Mosely's Aircraft Industries in Burbank, California - the same company that made and sold Baby Cyclone engines. A modeling-press advertising campaign, most notably in *Model Airplane News*, generated worldwide sales.

Later versions of the Dennyplane were designed around the Dennykite engine that Walter Righter developed and manufactured and Reginald sold under license. This power plant, although crude in some ways, started and ran reliably, and it was sturdy - more than could be said about many of its counterparts.

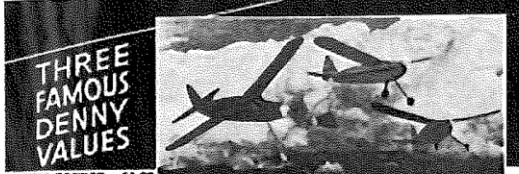
The Dennykite was not produced during World War II, but it was sold again in the late 1940s. The advent of glow plugs and fuel brought the curtain down on it because it was not robust enough to stand such use.

A source of confusion for many years is the "Jr." version of the Dennyplane. This was a design featuring a one-piece wing, simplified landing gear, and overall simplified construction. It was sold as a lower-priced kit, eliminating much of the deluxe hardware and liquids of the more expensive Dennyplane.

Both designs could hardly be thought of as "Duration" models, particularly when compared with contemporary East Coast and upper Midwest designs of the era. The popular competition events for Free Flight Power in the California area placed emphasis on appearance and realistic flight,







**THREE FAMOUS DENNY VALUES**

**DENNY CONDOR—\$1.00**  
12" Wing Span  
Builds like a cake of wood. The rubber engine is simple to install and operate. Denny's is the only model airplane that offers such a complete set of accessories. Best value for the money.

**DENNY SKYLARK—\$6c**  
12" Wing Span  
Builds like a cake of wood. The rubber engine is simple to install and operate. Denny's is the only model airplane that offers such a complete set of accessories. Best value for the money.

**DENNY STARLING—\$1c**  
12" Wing Span  
Builds like a cake of wood. The rubber engine is simple to install and operate. Denny's is the only model airplane that offers such a complete set of accessories. Best value for the money.



**DENNY Crack-proof BULLET**

**THE MYSTERY SPEED SHIP! CRACKING CAN'T SMASH IT!**

A powerful speed demon! Attains a speed of 20 miles per hour in the first 200 feet. Absolutely fat resistant. Like the finest endurance model. Uses streamlined, hardened propeller. Low wing. Adjustable rudder and ailerons. Built upon Denny's standard of quality. One of the best of all model airplanes designed by the Denny engineers.

**\$1.25**

**A Real Denny Value!**



**DENNY Streamline AIRWHEELS**

**Equip Your Models With Genuine Dennywheels!**

Here's another epoch-making Denny specialty for model builders—Denny Streamline Airwheels. Super quality construction. An outstanding engineering triumph. These airwheels are designed for durability and efficiency. Incorporating exclusive steel and patented bearings, Denny Airwheels, like other Denny products, are a notable advance in model airplane equipment. Refused and duplicated as well. Patented and checked twice and adapted. No benefits needed to obtain.

**\$1.75**

**Two Sizes—3 1/2-inch and 4 1/2-inch. Only \$1.75.**

**REGINALD DENNY INDUSTRIES, INC., 3141 HOLLYWOOD BLVD., HOLLYWOOD, CALIFORNIA.**

January 1938 MAN ad shows line of rubber-power kits that Reginald Denny marketed. Notice the inflatable air wheels.



This flight shot of a Dennyplane landing at Mines Field in the Los Angeles Basin was extraordinary for 1938.

Well, not quite impossible. Some engines and kits were available during the World War II years, but they were mostly junk! I can recall some of my contemporaries' awful, crushing disappointment when they scraped, saved, and sacrificed until they had enough money to send off for a GHQ engine, only to quickly learn that their money had been stolen from them.

These engines were available because of a bureaucratic mess-up. The War Production Board was advised that the future US mechanics and aircrews would need model airplanes on which to train. The bureaucrats decided that a manufacturer should be selected and provided with scarce and strategic materials to continue building model engines, and the way to determine which unit was the most "popular" was to check sales figures. Since the GHQ sold for less than half of the other brands, it did indeed sell more.

However, they didn't bother asking the opinion of anyone who knew anything about model engines, nor did they set up performance criteria. Had the government conducted even the most rudimentary test, it would have quickly learned that the GHQ wouldn't run.

Many young people of the 1940s were misled by those who sold these engines. They were so poorly built that they seldom produced more than an occasional "pop." And if by some miracle they did run, they wore out immediately. Consider how many potential modelers were driven away from the hobby, never to return, as a result of this grossly dishonest marketing.

Reginald Denny recognized this "build rubber power until you can afford gas" phenomenon; his ads featured several attractive rubber-powered models. I've reproduced a couple of the ads to give you a feel for them.

Notice that the Bullet was advertised as "crack-proof." This sort falls into the same category as

other ads of the era that claimed a model was “guaranteed to fly.” What was one to do if a model cracked or didn’t fly?

**The Dennymite:** When Reginald introduced the Dennyplane, it featured wing halves that plugged into the fuselage top, a rather complex undercarriage, a solid-sheet empennage, and wire wingtips.

As I wrote last month, early on Reginald sold an engine made for him by the same factory that was producing the Baby Cyclone. For whatever reason(s), only a few were produced and sold.

In 1937, Reginald conducted a bidding contest seeking an engine that was suitable for the Dennyplane. Several backyard shop machinists/entrepreneurs (who were likely unemployed at the time) entered engines for testing.

An engine of .573 cu. in. displacement that Walter H. Righter designed and built was selected as the most reliable and easiest to start. Walter built the prototypes in his backyard and then in a small shop at 4695 San Fernando Road in Glendale, California, but soon moved to larger facilities at 800 South Flower Street in Burbank.

Marketed through Reginald’s shop and mail-order business, and at least postwar through jobbers, the Dennymite proved to be a fairly successful seller and went through several modifications to its outside appearance and shape. It all led up to a teardrop-shaped cylinder head and exhaust stack called the “Airstream,” which was the final version and sold postwar for a while. A total of slightly more than 10,000 of the engines were sold.

This and many other engines of that era utilized a cam on the crankshaft to open and close the ignition points as the cylinder traveled up and down. This sent an impulse through a coil, which magnified the amperage from the dry-cell battery to produce a spark in a miniature spark plug. These engines ran on two parts white (unleaded) gasoline and one part SAE 70- weight oil. Heavy oil was needed for lubrication and to fill in the loose fit of the parts.

Once the engine was started, one advanced the ignition timing by raising the lever on the points while leaning the air/fuel mixture with the needle valve. I described that much faster than the starting process usually was. One could identify gas-engine fliers by their enlarged deltoid muscle from flipping propellers. We had no electric starters until much later.

I’ve included photos of the Dennyplane and the Denny Jr. this month to clarify the differences. The model presented to Robert Montgomery is a Dennyplane, as is the flight shot. It featured a two-piece wing, functional wing struts, and (not visible in the photo) an undercarriage which was internally sprung. Some variation of the vertical fin’s outline is also apparent.

This design was available in a standard and a deluxe kit. Both were well equipped with hardware such as a pre-bent aluminum tail-wheel bracket, but the deluxe kit also included air wheels, silk for covering, and dope.

Roughly a year after the Dennyplane’s introduction, a simplified version called the “Denny Jr.”



was introduced. Fred Hardy designed it. As can be seen in the picture, it used a one-piece wing with balsa tips and a plain bent-wire undercarriage.

However, this model was not cheaply done; it included a spun-aluminum cowl and metal aft of the firewall. I may have added to the confusion on this matter by publishing a Denny Jr. but identifying it as a “Dennyplane.” The extra-wide fuselages, round cowl, etc. are reminiscent of one of the Howard DGA series or perhaps a Fairchild 24W.

The Dennyplanes are undeniably far more attractive than most other gas-powered kits of the era. If you want to construct one, my drawings and construction article from the January 1977 *MA* are still available. A short kit (cut parts only) is available from Klarich Custom Kits, 2301 Sonata Dr., Rancho Cordova CA 95670.

**Next month I’ll** take a look at the virtually unknown major contributions to full-scale aviation that Reginald Denny and Walter Righter made.

### [Part 3 – September 2004]

**MUCH OF THE** following was excerpted from the article “Launch Count: 15,000 Drones, One Babe” by Stephen Joiner in the April/May 2003 *Air & Space* and Web site <http://www.ctie.monash.edu.au/hargrave/denny.html>

**What We Didn’t Know About Reginald Denny:** As is almost any modeler with an interest in our hobby’s history, I was aware of Reginald Denny’s important contributions to the success of aeromodeling in the 1930s. In the previous two columns I have attempted to share information about those model-airplane contributions and his theatrical career.

But as I explored the Web site from Monash University in Australia, I learned that Reginald Denny is truly the father of remotely piloted model airplanes!



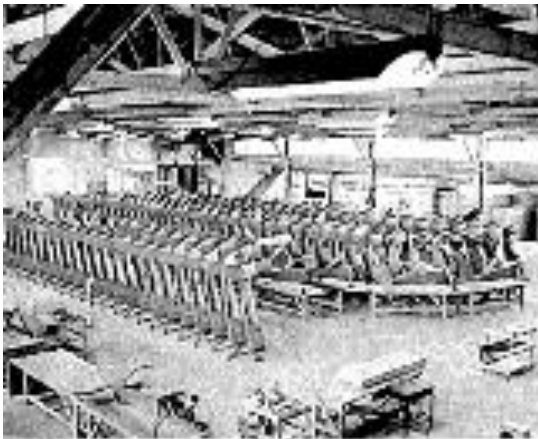
*Reginald Denny with his early RP-1. Power plant is a Righter horizontally opposed twin (ungeared). This drone bears a strong resemblance to the Denny Jr.*

From the beginnings of aerial combat, antiaircraft gunners practiced marksmanship by shooting at target sleeves, which were essentially large windsocks towed behind airplanes. Such flying duty was not highly prized, yet even though the target was towed in a straight line, few hits were ever recorded on the sleeve or tow airplane.

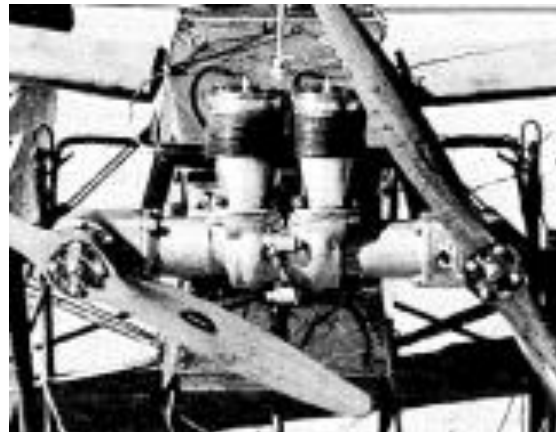
The military thinkers doubted that enemy aircraft would oblige with such broad-sided targets. In 1935, Reginald Denny heard an

antiaircraft officer complaining about the inadequacy of the target sleeves. “I told him I saw no reason why a target plane couldn’t be sent up by radio control,” he later told a *Los Angeles Herald Express* reporter. That was the defining moment for the development of what we refer to today as Remotely Piloted Vehicles, or RPVs.

Reginald’s offhand remark was visionary and well ahead of the development curve. As far as can



*The production line at Radio Plane: a sophisticated mass-production facility that grew out of a home workshop.*



*Unorthodox Righter twin’s gearboxes provided contra-rotation of two propellers. Can you imagine hand-cranking it?*

be determined, at that time no one had made repeatable radio-controlled flights - or at least not to the point of being commercially viable.

The AMA Nationals did not even have a Radio Control event until 1937, and the few successful flights then were essentially controlled crashes. Clinton De Soto won flying a radio-controlled (at least occasionally) glider.

On the other hand, the Good brothers, Chas. Siegfried, Chet Lanzo, Clinton De Soto, Joe Raspante, Jim Walker, and a few others could see the potential for commercial and military applications for their pioneering radio-controlled model activities. But they lacked the financial backing of a movie star or the technical resources of a large body of unemployed technical people from the aircraft and movie industry. As a result, their radio control developments were limited to single models and



*A restored OQ-2 drone before complete covering. Notice the stamped aluminum wing ribs and two propellers on one shaft contra-rotating via a gearbox.*

the available commercial engines.

**Hobby Becomes Obsession:** Reginald converted his home workshop into a remote-piloting lab. “My dad devoted most of his time to the development of radio control, and took acting jobs only to support his family and the drone project,” said his son, Reg Denny.

With the help of several ham radio operators and Walter Righter, who built the two-cylinder engine, Reginald produced the first radio-controlled miniature target drone in 1936: the 9-foot-span RP-1. “RP” stood for “Radio Plane.” (See photo.)

The RP-1 used toy train motors to move the control surfaces and a rotary telephone dial to encode signals in the RC transmitter. Chas. Siegfried and Jim Walker also used a phone dial for this purpose, leading to the conclusion that there must have been a flow of information between these three pioneers. Chas. Siegfried worked for the telephone company here in Wichita, and I saw him, in 1948, dialing for control, albeit rather sluggish and inconsistent.

These primitive technologies did not produce acceptable results for several years. Undeterred by numerous early crashes, Reginald continued to finance prototypes by playing movie roles opposite such diverse talents as Greta Garbo and Abbott and Costello. Thus his late-night research and development continued on Vine Street.

**Finally -- Predictability!** Four years of hard work and frustration later, in 1939 the home-built servos were replaced with units from Bendix, and a joystick replaced the phone dial. When the 12-foot-span RP-4 finally auditioned for the military, its big break almost became a disaster.

“Unbeknownst to the military that day, the aircraft went completely out of control,” wrote Reginald’s son. “The brass was extremely impressed with the wild aerobatics, while my father and his group were terrified that the drone might dive into the reviewing stands.”

The RP-4 spun into the ground, but Reginald returned to Hollywood with a government contract. The Army designated the improved RP-5 the “OQ-2,” and the Navy designated its drone the TDD-1, for “Target Drone Denny.” The specifications were a one-hour flight to 5,000 feet, and then a parachute recovery with minimal damage.



*This young lady was working in the Radio Plane factory when a twist of fate changed her life forever.*



*Albert Robinson restored this drone, which is on display at the [National Model Aviation] Museum. Open hatch is for recovery parachute release.*



*The rail apparatus used to launch drones from a limited space without attempting to take off unassisted.*

In June 1940, the Radio Plane Corporation moved from the Denny household to a Van Nuys, California factory. Nearly 15,000 Denny drones were produced during World War II.

Reginald continued to refine the designs, adding aileron control, larger engines, and increasingly more-reliable radio equipment. The last iteration was the long-lived KD-2R5, which reached a production run of more

than 85,000, surpassing that of any full-scale aircraft ever manufactured!

Yet by the nature of their intended use, very few drones remain. That makes the OQ-2a on display in the [National Model Aviation] Museum in Muncie, Indiana, a unique exhibit.

**Construction and Power:** Early versions of the drones were constructed much like large model airplanes; that is, they were built mostly from wood and were covered with lightweight muslin, which was sealed with nitrate dope. As the series evolved, a welded steel-tubing fuselage was combined with stamped aluminum wing ribs and a welded empennage.

The early series was powered by various twin engines designed and manufactured by Walter Righter, who had built the Denny model airplane engines for Reginald. Some of these early twins were, to put it mildly, “unusual,” as you can see in the photo.

Those were later replaced by more traditional horizontally opposed twins that featured an updraft carburetor, a single ignition, and, in some instances, gearboxes that provided contra-rotation of twin propellers in an effort to counter torque.

Next month I will show you the launching method used and the parachute recovery system.

**That Photo:** In 1945, Sergeant David Conover Sr. was a photographer assigned to the 1st Motion Picture Unit stationed at Universal Studios. In an effort to improve the troops’ morale, this unit provided newsreel footage of support on the home front to be shown as part of the informational (read: propaganda) movies for the troops program.

The commander of this unit was a friend of Reginald’s, and he sent David out to Radio Plane to take some footage and stills of the activities there. The commander was Ronald Reagan.

David immediately noticed a photogenic young lady doping OQ-3 panels and asked her if she would pose for him. A 19-year-old Norma Jean Dougherty reportedly asked, "Am I really photogenic?" David thought she was to the point where he arranged a test and subsequent contract with a modeling agency for her. Those first commercial photos led to an extraordinary career for this Radio Plane worker - particularly after she went blonde and changed her name to Marilyn Monroe.

When I saw the photo in *Air & Space*, I contacted the editor, who referred me to David Conover Sr.'s son, who runs a bed- and-breakfast on an island in the Frazier River in British Columbia, Canada, near Kamloops. You are looking at the first commercial photo ever taken of Marilyn Monroe! Who would have thought it possible to use a photo of Marilyn in a column about model airplanes?

#### [Part 4 – October 2004]

**I'VE NEVER ENCOUNTERED** a subject of such extensive historical interest and with so much available material as Reginald Denny. The story of him and his modeling activities begs to be told in more detail than is possible in one or two columns, so I've chosen to cover the story in multiple columns. I hope this subject has retained your interest, as early response mail seems to indicate.

To review, following is a quote from a 1947 *American Magazine*:

"Most any fairly frequent movie fan of at least 20 years knows Reginald Denny as the guy who plays those likable but dim-witted British roles; but relatively few know there is another and far more important side to the actor. He is the inventor of a midget robot plane- very, very hush-hush during the war and used extensively by both the Army and the Navy Air Forces as targets in the training of aerial and antiaircraft gunners.

"Denny is not a scientist nor unusually mechanically minded. It all started when he tried to help a youngster fly a model airplane and it crashed. The actor sent for a new one and before he knew it was making all sorts of models himself.

"Then back in 1934, Denny had this idea of the radio controlled airplane for gunnery training, and no one would listen to him, but when the war came on, the government took interest and had him manufacture them in quantities. They are named for the actor labeled TDD for Target Drone Denny."



*Reginald Denny wears a suit and tie while flying a drone.*

**Radioplane:** Reginald Denny and engineer Walter Righter were the true fathers of today's Unmanned Aerial Vehicle (UAV) industry. They were the pioneers in the field of pilotless aviation.

In the 1940s, the mass production of their "Radioplane" target drones led to the military's widespread adoption of radio-controlled aircraft for combat roles from the Pacific Theater in World War II through to Iraq in 2004.

As I have shown, the Dennyplane model airplane series - a precursor to the Radioplane and powered by Walter Righter's Dennymite engine - was the jewel in the crown of a range of his hobby products that brought model aviation to the masses in a post-Depression, pre-war America.

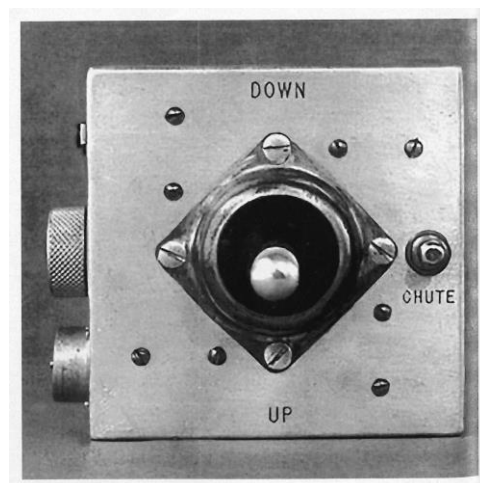
Reginald Denny's finances were not as successful as the Remotely Piloted Vehicles (RPVs) he fathered.

Nearly bankrupt from self-funding his remote-piloting research and with his movie career in decline, he acquired partners. Taking disastrous advice, he sold his share of Radioplane shortly before it was acquired by Northrop Corporation to become its Ventura Division, which produced RPVs for decades thereafter.

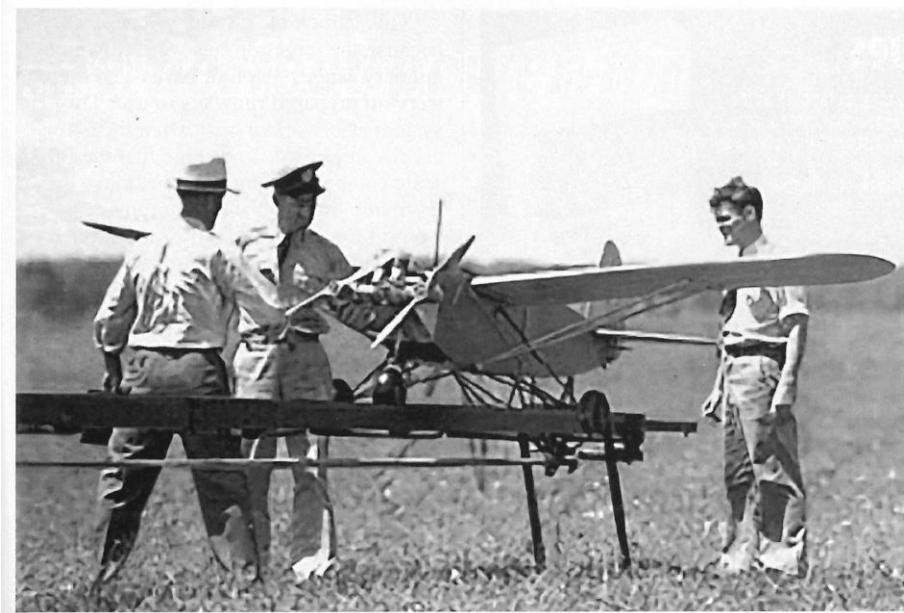
Although Reginald Denny is credited with fathering the robot planes, financial straits dictated that his last years would be spent not parenting prototypes or reaping the financial rewards of his efforts, but on Broadway reprising the role of Colonel Pickering in "My Fair Lady." By the time he died in 1967, he had seen his "idea" grow into a major military tool, including early guided ordnance. Not too shabby for a model-airplane nut!

**The OQ-2 in AMA's Museum:** Please take a look at the two photos I included last month of the Denny Radioplane drone that is on exhibit in the National Model Aviation Museum in Muncie, Indiana.

Albert Robinson of Dallas, Texas, donated this restoration and its radio equipment. I understand that others can be found in some military museums elsewhere, but the one in the AMA museum has an interesting history.



*A step up from telephone dial shown earlier. In spite of labeling, it also provided left and right. Note chute control.*



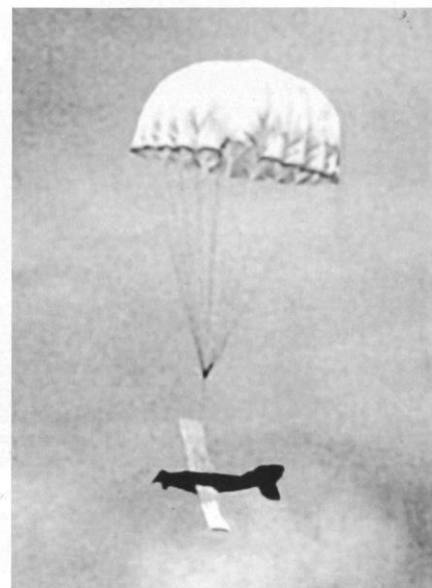
*An early drone on a field launcher. The author believes that this and other photos illustrate a stretched bike inner tube used to catapult the drone.*

Albert wrote:

“This drone has been in the family since the 1950s. It belonged to my dad who was a freighter pilot, killed in a hijacking/insurance job in South America in 1965. Dad was a ‘horse trader’ (and modeler) extraordinaire, and the rumor was that he traded some DC-3 brake parts for it in the very early 1950s but that is speculation.

“The drone sat up in the loft of my mother’s house until we moved mom to Coco Beach, Florida, and brought the drone to Dallas. We used it as a reference for a kit we produced - a mini electric Free Flight version. The drone remained unrestored in our care until I needed a quickie test mule for the UAV ‘Longshot’ we were developing.

“After a clean-up and re-cover it was flown, gently, a few times in 1998. The instability in yaw from the undersized vertical fin coupled with a poor power to weight ratio would have required major rework. We put it away until we heard from the National Model Aviation Museum.



*The parachute deployed to bring the drone down gently. Here is a real dethermalizer!*

“As an interesting side bar: this particular serial number was researched, and after discussing it with the Northrop Curator, Mr. Ira Chart, we discovered that Norma Jean Dougherty (Marilyn Monroe) worked on this particular aircraft.” [See the photo in last month’s issue.]

We modelers owe Albert Robinson a large thank you for placing the drone and its radio equipment in the AMA museum. If you have not visited the museum recently, or ever, figure on devoting at least a full day to exploring this incredible place; to spend less time is to not do the exhibits justice.

It is gratifying to have a quality repository for the treasures from longtime modelers’ collections that probably would have otherwise been placed in dumpsters by their survivors.

**Launching Technique:** Last month I promised to briefly discuss the launching method that Reginald Denny and his staff at Radioplane developed. After repeated close examination of the various photos of the launching rail system used, it appears that the early drones were launched using rubber bands!

Careful examination reveals what appear to be bicycle inner tubes tied together to form a long double loop, which was then attached to the drone’s bottom, and the whole thing was stretched out by a crank that pulled the drone toward the rear of the rail. Once released, the rubber bands slung the drone up to flying speed as it departed the end of the rail.



*Recovery parachute pack in fuselage top.*

One would presume that later launching rails used “bungee” cords, or similar, and that the rubber inner tube was an early cheap substitute.

This launching system was necessary because the target drones were flown on gunnery ranges - not air bases - so there were no prepared runways to use. This system also worked well when the Navy used it shipboard. I presume that the full scale catapult system used on ships, involving either steam or gunpowder, would blow the wings off of the drones. If there is any question of whether Denny and his group were modelers, this early launch device should prove that they were. This rubber-band launch technique has always been popular for launching models such as the Jim Walker Interceptor glider and many kits of the era.

Next month I will illustrate another launching system, also straight from modeling. If any reader knows for sure that this month’s conclusion is incorrect, please advise me.

**Recovery:** A large parachute was attached to the drone’s balance point and deployed from a container on the airplane’s top by a radio signal. Since I can detect no evidence of a radio-



controlled throttle or fuel cutoff on the drones, I presume that the chute was deployed after the engine ran out of fuel.

Since it was unusual to actually hit one of the targets with gunfire in the era before radar guidance, it is logical to assume that most of them were recovered relatively unharmed with the parachute system if they weren't crashed by mechanical or human failures.

Tom Smalley of Sherman Oaks, California, who was employed by Northrop Grumman in the unmanned aircraft division (earlier Radioplane), wrote:

“The unmanned vehicles were recovered by parachute systems. Some involved a complex sequence of events before deploying the parachute. This led the company to be selected for developing the parachute recovery systems for the Mercury, Gemini, and Apollo projects.”

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