

THE
National Aeronautic
MAGAZINE



In This Issue:

The Future of the Airship—II, by Commander C. E. Rosendahl, U. S. Navy

Bagging Coyotes from the Air, by Ed Canfield

Sikorsky the Invincible, by Robert French

200-Ton Flying Boats are Coming, by Igor I. Sikorsky

Los Angeles Develops its Airports, by Richard B. Barnitz

Wings vs. Dog Sleds in the Arctic, by Phyrne Squier

Why Physical Examinations for Aviators, by Harry V. Wurdemann, M.D.

Possibilities of the Radio Compass, by Col. J. Carroll Cone

Bill Enyart's Page

Aero Club News

Aviation Activities

PUBLISHED BY THE NATIONAL AERONAUTIC ASSOCIATION

DECEMBER • 1935 • PRICE TWENTY-FIVE CENTS



A Vultee monoplane in flight: a striking photograph snapped by Bruce Burns, of Santa Monica, Calif., and submitted by Lee H. Smith of the Airplane Development Corporation at Glendale, Calif.

The National Aeronautic Magazine

DECEMBER, 1935

Volume XIII

Number 11

CONTENTS

	Page		Page
The Future of the Airship—II	5	Aeronautically Speaking:	24
Bagging Coyotes from the Air	8	Prop Wash and Backfire	25
Sikorsky the Invincible	11	Why Physical Examinations for Aviators?	26
200-Ton Flying Boats are Coming	13	Rudderless Planes: The Weick W 1	27
Los Angeles Develops its Airports	14	Maryland Flying Club's New Program	28
Wings vs. Dog Sleds in the Arctic	16	News of the Aeronautical World	29
Possibilities of the Radio Compass	20	Carolina Aero Club Meets	30
Latest from the Camera's Lens	23	N. A. A. Hotel Directory	34

Cover Photo: A Sikorsky S-42 flying through the Golden Gate at San Francisco on a preliminary flight on Pan American's new Trans-Pacific Airways prior to its opening on November 22. This giant nineteen-ton flying boat is similar to those flying Latin American routes for Pan American Airways. See Page eleven for the article on "Sikorsky the Invincible".

Editor.....CHARLES F. HORNER

Associate Editor.....WAYNE W. PARRISH

Entered as second-class April, 1930, at the Post Office, Washington, D. C., under the Act of Congress of March 3, 1879, at special rate. Published monthly. Subscription rates \$2.00 per year. Single copies 25c.

Membership in the National Aeronautic Assn. is \$5.00 per year. All members receive the Association's magazine free of charge. Copyright, 1935, by the National Aeronautic Assn. of the U.S.A., Inc.

"Canfield
FLYING SERVICE"
ON DOOR OF
KAWI-KAEN NC 876N



Three good aviators: Dennis, Dorotha and Ed Canfield with the "Coyote Special".

Bagging Coyotes from the Air

By ED CANFIELD
Canfield Flying Service, Inc., Williston, N. D.

Editor's Note: The Flying Canfields are famous in the Dakotas, comprising one of the most remarkable flying teams in the country. Mrs. Dorotha Canfield is one of the few women to hold a transport license and the only woman flyer to engage successfully in the hazardous occupation of hunting coyotes from the air. The "Coyote Special" has flown 180,000 miles and is still going strong. Ed Canfield pilots the Stinson Reliant and in fifteen years continuous flying up to June 15, 1935, shows 5,188 hours in the air in his logbook. In 32,558 flights made and 66,989 passengers carried there has not been a single accident to a passenger. The Canfields carry hunters to the north woods, patrol power lines and barnstorm over the Dakotas. Their story is a genuine American saga of the air. They live up to their slogan, "Our business is up in the air".

THE CANFIELD Flying Service represents the outcome, outgrowth, or some such result of fifteen years of continuous flying, always conscious of the fact that the greatest danger in aviation is the danger of starvation. These fifteen years have witnessed a sort of evolution from the early circus idea of stunt flying to the present setup wherein environment has played an important part. When I first started flying in 1921 it was the customary procedure, when the weather began to get cold and uncertain in the fall, to put the airplane away for the winter. But being of such a contrary turn of mind, and also due to the fact that I was short of cash (which is usually the case with aviators), I decided to keep mine out for a while and to go deer hunting in it. I advertised to take some one along that would pay for the expenses of the

trip. I didn't get a nibble. Then I figured it out and advertised to take some one along for \$25.00. Right away I had a passenger.

The whole countryside turned out to see us try to take off on this fool's venture. The earth had been well soaked by a previous snow which had melted, then frozen again, leaving the ground hard and rough but very slippery on top from the sun's rays melting the surface. During the process of getting started, the bystanders got into some heated arguments as to whether or not I could get up speed enough to take off without putting chains on the wheels and none of them ever expected to see us again. We had a week's good time on the trip, got ourselves a nice fat buck, and I returned with \$40.00 cash in my pocket taken in from passengers carried where we landed to hunt deer. Now it is not an uncommon thing, when up in the North Country with moose hunters, to start up the ship and take off from the ice when it is fifty below.

But to get back to the purpose of this article, which is to give a "running account" of our flying service,—whatever that may mean. (I expect to see this come out in red ink; our running accounts usually look that way.) The so-called barnstorming and student instruction and the occasional sale of an airplane would keep the "intrepid aviator" in eats during the summer months, but being more or less human, I found that I couldn't hibernate when it came winter. And speaking of the winters out here,—I am reminded of the fellow who said we have only three seasons out here, *Winter, July and August.*

Perhaps the first real winter work we had was patrolling high-lines. This was accomplished by taking a few

of the Montana Dakota Power Co. officials out in the airplane and flying along their lines to show them how well and easily the entire system could be seen and checked from the air. Of course the fact is that a lot of their lines run through country that is rugged, unsettled, and inaccessible by car, especially in the winter time when there is snow on the ground. When this company began running their gas mains cross country to the various centers of population, they were already sold on the use of the airplane. Contrary to first thought, a leak in a gas main buried under ground is very easy to detect from the air. Due to the pressure maintained on the line, when a gas main breaks, it blows a regular shell hole in the ground. This is especially easy to see when there is snow on the ground and the black dirt blows out on top. There was, however, one problem to solve. In spite of the detailed map furnished by the company showing the lay of the pipe line, it was impossible to follow it closely enough through unsettled portions of the country. Therefore the company made steel markers and put them up at intervals over the pipeline and high enough to always be above the snow.

Our coyote hunting from the air has brought us more revenue than any other one item of winter flying. It has also brought us more publicity. Mrs. Canfield flies the ship and I do the shooting. In view of some of the full page Associated Press stories depicting the "pretty Mrs. Canfield swooping down on the unsuspecting wolf from the sky and ridding the northwest of the WILD HORSE MENACE" etc., which rather burned me up, I am going to give you the low-down on some of it. In the first place,

At top, Dorotha and Ed Canfield peeling a pelt at twenty below zero. Second from top, "Home is where you land": Mr. and Mrs. Glen Talbot, of Jamestown, N. D., and Dorotha Canfield on a fishing trip in Canada. At right, Henry Vohs of Williston, N. D., with the 1450 pound moose shot at the Canfield camp in northern Canada. Below, Ed and Dorotha Canfield with a bunch of coyotes shot from their plane, the "Coyote Special". Over 900 have been bagged from the plane.



"WILLISTON, CITY OF OPPORTUNITY"
on L & R DOOR OF STINSON NC 428 W or 928 W ?



At left, results of a successful deer hunt along the bottoms of the Missouri River. Left to right, Dick Caughlin of Minot, N. D.; Ed Canfield, and Harold Price of Grenora, N. D. This photograph was taken during a snow storm. Below, Ed Canfield and Harold Price after a good duck shoot at Salt Lake, N. D., which brought down fifty-two ducks including twelve varieties. In the center is Mrs. Emma Dickin-son, owner of the Salt Lake camp.

Mrs. Canfield is not the whooping, BACK TO NATURE IN THE RAW type. We did not go in for aerial coyote hunting so much from the standpoint of sport as to keep the wolf from the door by dragging him in. It furnished a source of revenue and kept a ship in the air when it was most needed, during the slack season. There were several birds to kill with one stone, so to speak. I found it almost impossible to get anybody that could shoot and kill coyotes from an airplane.

When we started hunting coyotes, Dorothea needed flying time to get her transport license. She could fly for me, which saved the expense of a pilot; building up her time while I was hunting coyotes saved her putting extra time on the ship, and then the fact that she weighed only 108 pounds meant a lot in getting our little ship out of small rough places where we had to land to skin our coyotes, especially when the snowdrifts were bad. Hunting coyotes from the air is at best a hazardous occupation. Due to the rough terrain in which the coyote keeps himself, the low flying which is necessary in order to find and shoot him, and the miserable spots one has to sit down on and get off from in order to garner his pelt, calls for a lot of luck and a peculiar technique that few have been able to acquire. Like any other game, there are a lot of tricks to the trade and the longer you play it the more proficient you become. One needs to know and understand the habits and characteristics of this most cunning marauder. It is astonishing to see how quickly they grasp the situation. When first approached from the air with an airplane the coyote does not show much concern. Heretofore, he has been master of anything that comes out of the sky.

But let the first pass and first shot miss or slightly wound him and the game of wits begins with even odds. They realize immediately that their only chance is to get under cover, and the old saying, "any port in a storm", goes for them. Of course the timbered coulees, buckbrush, wash-outs, caves, and rock ledges are their favorite hideouts. But when caught short, a road culvert, a bridge, haystack, or stonepile, will serve to keep something between them and the plane. We have had them go into a vacant house. Once one ran under

a bunch of horses. We flew low over the horses and scattered them, where-by the coyote ran up to a farmer who was coming out to see what all the commotion was about. The coyote evidently figured that since he feared the man, the monstrosity of the air would do so too, and he chose the lesser of the two evils. The last winter hunting coyotes we averaged three coyotes an hour for our flying time. We get frequent calls from sheep men and ranchers to fly out and pick off coyotes that are killing stock. Sometimes we are paid a bonus for killing certain coyotes but usually we charge by the hour. However, as the Royal Canadian Mounted Police always get their man,—we get our coyote. Near by is a picture of our little *Coyote Special* in which we have bagged 919 coyotes.

Mrs. Canfield and I are professional hunters, but we hunt for other things than coyotes. Sometimes we hunt for a place to stay all night! When we carry revenue men, we might be hunting for moonshine stills along the brakes and bush of the Missouri River, or with game wardens we might be looking for dead or wounded deer and illegal game hunters. We have carried sheriffs hunting horse thieves. We have hunted and found strayed and stolen horses. We make a specialty of taking moose hunters into Canada and maintain a camp back in the north woods of Saskatchewan where the moose and caribou are plentiful. We make it our business to know where the best goose hunting in Canada is and have blueprints of their feeding grounds. We know where to take people to find the best fishing. We have connections down in Wyoming where we can fly hunters seeking that fastest of all big game animals, the prairie antelope.

We have assembled a certain fixed emergency equipment which we carry with us at all times. The idea is

(Continued on page 34)



Coyotes

(Continued from page 10)

to make us self-supporting if caught in sudden storms, blizzards, or forced or bad landings. This varies somewhat more in winter than in summer. But the main essentials are the automatic shotgun with shells for both small game and large game, an axe, a weather-proof box containing matches, salt, and tea, and a pail to melt snow or get water in. We have been using ski-equipped planes for

many years. I designed my own skis before there was such a thing on the market and we are still using skis of my design which we consider best suited for our work. The conventional broad bottom ski would be disastrous in our line of work where we seldom land on a landing field. We use a narrow steel ski, and on the skis of the "Coyote Ship" I have put on what I proudly call a "rock dodger".

In emergency calls, with a few cushions and an air-mattress, we transform our Stinson into an ambulance to trans-

port sick or injured. One call that I do not want many of, was that of transporting a crazy man to the Insane Hospital who had just jumped through the glass of a two-story window.

Because of, or in spite of, the Hoover "depression" and the Roosevelt "New Deal" the Canfield Flying Service has developed into a sort of one-man band affair. It is a one-family affair. Mrs. Canfield and I do all the piloting, I do the mechanical work, and we both spend the profits if there are any.

OFFICIAL N. A. A. HOTELS

CALIFORNIA

FRESNO

- **Hotel Fresno.** A Hamilton Hotel. 250 fireproof rooms. Refrigerated air cooled. Three minutes from airport. Clayton V. Smith, Managing Director. Pilot License No. 11394.

LOS ANGELES

- **Hollywood Plaza Hotel.** Most convenient hotel to Airports in the heart of Hollywood next to everything to see and do. All rooms with shower and bath. Eugene J. Stern, Pres., Ralph B. Carter, Asst. Mgr., Vine St. at Hollywood Blvd., Hollywood, California.

SACRAMENTO

- **Hotel Sacramento.** Headquarters for air travelers and air men. Within one block of the State Capitol. Fireproof in construction. All rooms have private bath. Albert Bettens, Manager.

DISTRICT OF COLUMBIA

WASHINGTON

- **The Mayflower.** Washington's finest hotel. Convenient to Government buildings and the business district. Near N. A. A. headquarters.

GEORGIA

ATLANTA

- **Piedmont Hotel.** Best downtown location, fronting on Peachtree, Luckie and Forsyth Sts. 450 rooms, each with bath and shower, iced water, radio and fan. Air conditioned dining room and coffee shop. Ticket offices of Eastern and Delta Air Lines located in Hotel Building. J. G. Brandon, Manager.

SAVANNAH

- **Hotel Savannah.** Home of Savannah Chapter, N. A. A. Free transportation from and to airport. 300 rooms. Andrew A. Smith, Manager.

ILLINOIS

CHICAGO

- **The Blackstone Hotel.** Chicago Aviation Headquarters and home of the Quiet Birdmen. Rates from \$3.50 per day and upwards. A hearty welcome awaits air passengers. Benj. H. Marshall, Pres.

LOUISIANA

NEW ORLEANS

- **The Roosevelt Hotel.** Located in the heart of New Orleans. Few blocks from famed Vieux Carre. Air-conditioned bedrooms, bar, lobby and restaurants. 750 rooms and baths. Rates from \$3.00. Entertainment. Name orchestras. Jas. Pat. O'Shaughnessy, Mgr.

MICHIGAN

DETROIT

- **Hotel Statler.** Faces Grand Circus Park, the most convenient location in Detroit. Special attention to Air Travelers. J. Henry Pichler, Manager.

GRAND RAPIDS

- **The Rowe.** Western Michigan's Most Popular Hotel. Headquarters for Air Travelers and Airmen. Division American Hotels Corporation. J. Bingham Morris, Manager.

MINNESOTA

MINNEAPOLIS

- **Nicollet Hotel.** Northwest's finest hotel. Six hundred outside rooms at very moderate rates. W. B. Clark, Manager.

MISSOURI

ST. JOSEPH

- **Hotel Robidoux.** Newly transformed. Now one of Missouri's Outstanding Hotels. Otto Strucksberg, Manager.

NEBRASKA

OMAHA

- **Hotel Fontenelle.** An Eppley Hotel. 350 rooms with bath. Pre-eminent. Famous restaurants. Entertainment.

NEW JERSEY

ATLANTIC CITY

- **Chalfonte-Haddon Hall.** On Boardwalk; ocean decks; Health Baths; excellent food; moderate rates. American and European Plans. Convenient to Airport.

NEW YORK

NEW YORK

- **Hotel New Yorker.** 34th Street at 8th Ave. 2500 rooms from \$3 with radio, servidor, tub and shower. Four popular price restaurants. Excellent transportation facilities between hotel and Newark Airport. Under Ralph Hitz direction.
- **The Waldorf-Astoria.** At the heart of social and business New York. Air Travelers are invited to use the many Waldorf services to make their visits enjoyable. Rooms from \$5 the day. Park Avenue, 49th to 50th Streets.

ROCHESTER

- **Powers Hotel.** Headquarters for air travelers and pilots. 300 rooms moderately priced. Air cooled Tap Room. Roy P. Brainard, Managing Director.

OHIO

CLEVELAND

- **The Carter Hotel.** Located in the heart of Cleveland. All outside rooms, each provided with private bath and circulating ice water, radio optional. The Cleveland home of many famous aviators. William T. Cruse, Manager.
- **Hotel Cleveland.** L. E. Pierce, Vice-President and General Manager. 1000 rooms, each with bath, servidor and circulating ice water.
- **Hotel Statler.** A civic center on Euclid Avenue at East Twelfth Street. A friendly atmosphere and personal service awaits travelers. Howard F. Dugan, Mgr.

OKLAHOMA

TULSA

- **The Mayo.** Aeronautical Headquarters for the Southwest. Your Home Away From Home. 600 moderately priced rooms, each with bath. Down town location.

OREGON

PORTLAND

- **Hotel Multnomah.** Portland, Oregon's largest and finest hotel. Five hundred and fifty rooms. Seven minutes from the airport. Supper Club Dancing 9 p. m. to 1 a. m. Friendly service, reasonable rates. Earl McInnes, Mgr.

PENNSYLVANIA

PITTSBURGH

- **Hotel William Penn.** 1600 rooms with bath. Four restaurants. Aero Club. Gerald F. O'Neill, Manager.

TEXAS

FORT WORTH

- **The Blackstone.** Fort Worth's Hotel of Distinction. The Southwest's most modern and finest. Headquarters for all air travelers. J. D. O'Keefe, President.

UTAH

SALT LAKE CITY

- **Hotel Utah.** The Intermountain Country's most beautiful hotel. In the heart of Salt Lake City, "Center of Scenic America". Headquarters for airline travelers and pilots. Consolidated Air Lines Ticket Office in Lobby. Distinctive Restaurants. Guy Toombes, Manager.

WASHINGTON

SEATTLE

- **Olympic Hotel.** The Pacific Northwest's *Grand Hotel*. 1,000 rooms with bath. Ten minutes from airport. Frank W. Hull, Manager.