

Airport Lighting Expert

AIRPLANE lighting units that will operate safely in the wettest weather, non-electrical markers that guide pilots to a safe landing at night, and a neon "ladder" that automatically shows a pilot the correct landing glide into an airport are some of the recent developments in airport lighting that have been put into actual use with the assistance of a Sooner alumnus.

The alumnus is Amos L. Lewis, '22, former rural teacher in Oklahoma and a Navy electrician during the World War. His work on airport lighting was done for the National Bureau of Standards, but he recently became an examiner in the United States Patent Office.

The Bureau of Standards assigned Mr. Lewis to research and developmental work in airport lighting when it learned about the experience he had in electrical construction problems at a Naval air base in France, plus an education in electrical engineering obtained later at the University of Oklahoma.

Federal officials believed that a new system of airport lighting should be worked out, based entirely on aviation requirements and disregarding the conventional systems used for other purposes. Low cost, reliability and efficiency were set as goals.

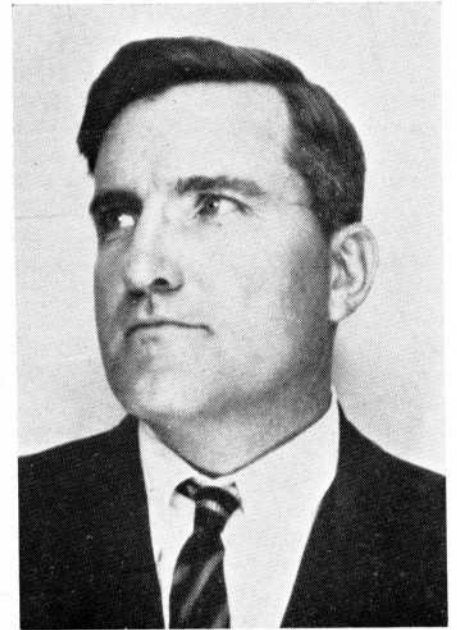
In a part of the Washington, D. C., airport which was set aside for a trial installation, Mr. Lewis and other federal employes worked out a system of underground electrical distribution, using 550 volts of current with boundary lights spaced approximately three hundred feet apart.

Each light is fed by an individual step-down transformer enclosed with the cable splices in a one gallon stoneware jar filled with insulating compound. The trick is that the jar is buried underground upside down and even though submerged in water, the water will not enter the jar.

With each lighting unit fed by an individual transformer, the most remote lights may be located at distances as great as two miles from the source. Measurements indicated large saving in cable, lighting units and lamps, and greater efficiency in operation than in the older lighting systems. The system has now been in operation more than a year and is reported to be giving excellent results.

The Bureau of Standards worked out the new system for the Safety and Planning Division of the Bureau of Air Commerce, which planned to prepare specifications and test reports for use of airport authorities throughout the country.

Another recent development in airport lighting which Mr. Lewis helped test out and found to be distinctly worth



Amos L. Lewis

while, was the use of reflector units along an airport runway as an additional guide to pilots. Reflecting units somewhat like those used in stop signs on streets and highways were mounted about a hundred feet apart on each side of the main runway at the Washington airport. The reflectors are made of a plastic with plane surfaces so designed that a beam of light from any angle is reflected directly back toward the source. The result is that a pilot leveling off to land, with his landing lights on, sees the reflection of landing lights as a bright line marking the edge of the runway.

Neon tube lights arranged in such a way to form an "approach lane" for pilots are still another lighting device developed to assist the pilot in locating and properly approaching the end of the runway.

This idea was developed and tested at Washington airport by men whom Mr. Lewis assisted. Six-foot neon tubes with special reflectors that train a beam at the gliding angle of an approaching airplane are arranged horizontally one hundred feet apart, beginning at the end of the runway and extending away from it on the center line of the runway. The approaching pilot upon attaining the proper angle and direction of glide sees a ladder of red steps on which to descend to the center of the runway at its near end.

Mr. Lewis came to Oklahoma in 1914 to teach in the rural schools. He joined the Navy when war was declared and graduated from the Naval Electrical School at Brooklyn. One of the first few thousand American sailors to land in France for aviation service, he served suc-

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cessively as helper, electrician and general foreman of inside electrical construction work on the naval air base in France.

After the Armistice, the aviation forces were organized into crews to man German steamships that had been surrendered. Mr. Lewis went with two other electricians in a party of fifteen non-commissioned officers to inspect the largest one of twelve surrendered ships. A temporary American crew and these fifteen men relieved the German crew and sailed the same day for Br est on the *Kaiserin Augusta Victoria*, one of the four largest vessels on the ocean at that time.

The new crews of the twelve surrendered ships started an exciting race to see which would reach the United States first with a shipload of nurses and soldiers, on a prize of war. One of Mr. Lewis's cherished mementos of the war is a New York newspaper clipping relating the story of the race. The *Kaiserin Augusta Victoria* was the winner and Mr. Lewis was the senior electrician of her generator room.

Obtaining a release from service in the Autumn of 1919, Mr. Lewis enrolled at O. U. for work in electrical engineering and arts and sciences. During 1931-33 he did graduate work in physics.

While attending the University Mr. Lewis was a member of the Masonic Lodge, the American Institute of Electrical Engineers, Kappa Delta Pi and Sigma Pi Sigma.

While in Norman he married Nancy Belle Hunt, who received a degree from the University in 1932.



Elected by State Bar

Two Sooner alumni defeated incumbent members for places on the Board of Governors of the State Bar in the annual election. They are Claude Monnet, '22 law, elected member-at-large, and Charles France, '23law, who was elected member of the Board from the third district. Both Mr. Monnet and Mr. France live in Oklahoma City.

Sooners who were re-elected or were unopposed for positions on the Board of Governors: Walter Arnote, '28law, McAlester, Second District; Tom L. Ruble, '22law, Taloga, Fourth District; and George Meacham, '20law, Clinton, Ninth District.



Junior bar executives

Executives of the Oklahoma Junior Bar Conference were appointed recently by James D. Fellers, '36law, Oklahoma City, state chairman.

Appointments include Ben Franklin, '35, '37law, Oklahoma City, state vice-chairman; R. Dale Vliet, '38law, Oklahoma City, secretary; and the following executive council: William H. Miley, '37law, Oklahoma City; Walter Arnote, '28law, McAlester; Albert C. Kidd, '30ex, We-woka; Rupert Fogg, '38law, El Reno; Denver Meacham, '35law, Oklahoma City; and Earl Sneed, '37law, Tulsa.

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