

*Study Maps First.*

"A pilot can familiarize himself very readily with the country which he has to patrol. A careful study of maps before making his first flight will give him a very good working idea of the country which he is to cover. After seeing the land from the air he should be thoroughly familiar with it, provided he has sufficiently studied his maps.

"The more conspicuous objects which are used from on high to determine location, are railroad lines, highways, streams and lakes. These are all shown on the maps and are very conspicuous from the air. As he becomes more familiar with his surroundings, building or groups of buildings and clearings, after they have turned brown during the late summer and early fall months, will also serve in determining location. It may be interesting to add that hills and mountains from the greater altitudes flatten out and look like level country, likewise it is sometimes impossible to distinguish between forests and pastures. The aeroplane used for fire detection or fire spotting would be of considerable value in being able to penetrate by observation distant sections of the country which are sparsely inhabited and difficult of access, and where the chief menace probably comes from campers.

*Wireless of Small Value.*

"The use of the wireless has been suggested, but is not to be advised; it would only tend to add weight, complicate paraphernalia and require someone skilled in its operation. Owing to the speed at which an aeroplane travels and the resulting small amount of time required to return to a base to report, nothing would be gained by such an installation and would have no value in this particular connection.

"It is somewhat difficult to estimate the cost of an aeroplane patrol service, however the following figures will throw some light on the subject: The initial outlay for each machine required in this service would be in the neighborhood of \$8,000 to \$10,000. In addition it would be necessary to provide housing and appliances for the maintenance at the station from which the machines would be operated. The

building and appliances could probably be installed at from \$500 to \$1,500. Depending upon their character and permanence. As the work done in this connection would be during the summer months, temporary housing of canvas might be sufficient, which would very materially reduce the expense. It would be advisable to maintain two machines from each base in order that there would be no interruption of the service. The approximate monthly expense of maintaining a station would be as follows:

Salary of aviator .....	\$200
Wages two mechanics \$100 each..	200
Gasoline, 15 gals. per day, 30 days,	90
Oil approximately 1 gal. per day..	15
Miscellaneous supplies \$20 and upwards .....	20
Total .....	\$525

"The above fuel and oil cost is based on two hours flight per day, or an average distance of 140 miles. Possible breakage to the equipment would also have to be considered."

*Discussion.*

Q. How would the roughness of our territory affect the proposition? As I understand it, one would not circulate aimlessly looking for fire, but make a fairly straight course high enough to see in all directions.

A. At a mile high a man could glide five or six miles, thus could reach one of two landings 12 miles apart.

Q. Would that be too high for locating fires?

A. No, about right. And he would want to be at least 3,000 feet on account of topography.

Q. How about mountain air currents?

A. We generally figure the air affected by obstacles on a plant surface to a height  $2\frac{1}{2}$  times the obstruction, but it would be nothing like that with mountains. I think by keeping abreast of the higher peaks there would be no trouble.

Q. A mountain lookout sees through a smoke blanket obliquely. Could an aviator, by looking straight down, penetrate smoke that would trouble our lookouts? If so, perhaps we could