



gives us that feeling of solidity we know as lift.

Figure 3 can be understood by anyone who has ever seen a windmill. Farmers always mount their windmills high so the wind can get at them better. They not only do this when buildings are around but do it as well out in the middle of open fields. The wind has what is called a velocity gradient—it is slowed down by friction with the surface of the earth or water. The wind fifty feet up may blow 30 miles per hour while the wind at the ground may be only 20.

Now then, if part of this velocity differential lies within the zone of influence of the wing, it will produce a marked effect on the lift. Flying upwind, the wind velocity at G in figure 1 will be a few feet per second higher than the velocity at H. According to figure 2, this should result in increased lift. On the other hand, flying down-

wind, the average velocity in the zone of influence above the wing will be decreased relative to that below the wing, resulting in a loss of lift.

Thus it is readily seen that, when flying level within the range of the wind velocity gradient, a ship must fly a faster air speed when going tailwind than when going upwind to obtain the same degree of controllability. By the same token the soaring pilot must run faster down the ridge than up; a ship will have a hotter air speed landing downwind than upwind and will not float as long; and airplane pilots might be a little easier on fences and landing gears if they would dare practice an occasional downwind turn near the ground. Yes, the downwind turn must be made faster than the upwind, and the sooner we all realize the cause, the sooner we will be able to avoid the consequences.

HUDSON VALLEY FALL MEET

(Continued from page 2)

display of northern lights that night, we were up the next morning to find it clear and cold with the northwest wind still blowing. Making a solo test flight in the Schweizer I easily climbed a thousand feet on slope lift at 9:15 and landed after six minutes.

Alfred Pepin and Frank Shellborn just arrived from Hartford, Conn., set up their shiny Cadet and Alfred made a short flight. About this time the wind began to be quite variable and shifted to the north so we relocated the winch.

Alex Dawydoff, who had unselfishly stood back all the day before to let others fly, was elected to be the guinea pig for the next Airhopper flight to see if the winch could get us high enough to soar. Luck was with us. With barely 400 feet we caught a thermal over the center of the field. Spiralling in a cloudless sky we reached 3500 feet before we decided to leave the thermal to be sure to get back to the field. It was hard to let go, especially as the variometer needle was indicating better than 5 meters as we turned north.

Longest flight of the day was 56 minutes by Les Barton who gave up only because he was nearly frozen. He said he found big areas of lift at 3000 feet. Others to fly that day, both members of the Hudson Valley Club, were George Yesse and Robert Shatz.

As the wind died down in the middle of the afternoon we had a spot landing contest. Some of the first tries showed the lack of practice of pilots who hadn't flown for some time: 170 feet, 62 feet, 187 feet, 114 feet, etc. This

encouraged me to try for a spot with the two-place following an airplane tow late in the afternoon with Alfred Wolf as passenger.

Marvin Everett who had already towed up Don Lawrence gave us a good tow with his Challenger Travel Air aiding our combined climb by staying close to the windward side of the ridge. Coming in we floated half way across the field and our landing run knocked over the flag in the center of the circle, the nose stopping 13 feet beyond. This contest seemed to be in the bag, but Ernie Schweizer soon nosed me out with a beautiful spot of 7 ft. 1¼ in.

In addition to the many interesting spectators who drove in from afar we had two more airplane loads. Saturday a New Jersey Guard 0-46 was flown in by Lieut. John Treher with Lieut. H. C. Scudder as observer. Sunday we were honored by a visit from Mr. and Mrs. Bob Love who had flown from Boston in their Stinson. Other distinguished visitors included C. B. Colby, Editor of *Air Trails*, and M. Abrial, premier French sailplane designer and Silver C Pilot who flew the little Schweizer.

A total of \$32.00 prize money was distributed among the winning pilots and additional prizes for performance, three subscriptions to *Air Trails* were given by C. B. Colby to Alfred Pepin, Gus Scheurer, and the Elmira Glider Club.

Accurate statistics would not have been possible were it not for the untiring efforts of Mr. Sargent, Herb's father,

(Continued on page 9)