

THE LANGLEY AEROPLANE.

It would serve no useful purpose to say anything which would increase the disappointment and mortification of Prof. LANGLEY at the instant and complete collapse of his airship, which broke in two and dropped into the Potomac, carrying Prof. MANLY to his second involuntary cold bath in that stream. The fact has established itself that Prof. LANGLEY is not a mechanician, and that his mathematics are better adapted to calculations of astronomical interest than to determining the strength of materials in mechanical constructions. Had his machine collided with a stronger and heavier machine in the launching, it might have broken its back without discrediting the formula of its inventor. But since it encountered only air, the fact that it broke in two means nothing other or different than that it was not strong enough for the work expected of it. Obviously the calculations which inspired Prof. LANGLEY with so much confidence were correct to a demonstration; probably that happened in this instance which is liable to happen in all mechanical constructions, the materials did not conform to the data on which the calculations were based. They never will. The margin of safety which the engineer allows arbitrarily for strength in excess of that which his calculations show him is sufficient is based upon experience that materials do not always, if often, do what is expected of them, and what they are theoretically capable of doing. That "there is always, somewhere, a weakest spot," is why the factor of safety is allowed. To allow it in an aeroplane would be to weight it so that it would be too heavy for its purpose.

We hope that Prof. LANGLEY will not put his substantial greatness as a scientist in further peril by continuing to waste his time, and the money involved, in further airship experiments. Life is short, and he is capable of services to humanity incomparably greater than can be expected to result from trying to fly. Men like SANTOS-DUMONT should have this field all to themselves. For students and investigators of the Langley type there are more useful employments, with fewer disappointments and mortifications than have been the portion of aerial navigators since the days of Icarus.