

SCHOOLBOYS LEARN TO MAKE AIR SHIPS

MORE than 10,000 amateur aeronauts are hard at work on the problems of the airship. The popularity of the new sport or science has increased of late by leaps and bounds. Everywhere new clubs are being formed, while those already organized are growing with surprising rapidity.

The plans for the Spring and Summer demonstrations and tournaments are far more ambitious than in previous seasons. Within the last few weeks definite plans have been completed for an international contest between the amateur aviators of England and America.

For every professional aeronaut there are hundreds of these alert amateurs. The young aviators bring to their work unbounded enthusiasm and a downright genius for invention. No pastime was ever conceived for the American boy which made so instant an appeal to his love of invention and conquest. There are many intelligent observers of the progress in aeronautics who believe that the achievements of this army of youthful inventors is destined to rival, even surpass, the work of the professionals. The boy inventor of to-day is the practical aviator of to-morrow.

One of the pioneer clubs in this work is that organized in Public School 55 at Eighty-fifth Street and First Avenue.

The boys are encouraged and directed in their work by Mr. A. E. Horn, one of the Faculty of the school, who has done much for the general movement. Much of the actual work of construction is done in one of the workshops of the school, and the boys meet frequently to put their models to actual test. The intelligent interest displayed in these models will come as a surprise to the laymen.

The progress of these young inventors is well illustrated by the thoroughness with which their clubs are organized and their systematic way of laying out their work. The Aeronautical Society of the Stuyvesant High School of New York is an excellent example. The club is not open to every enthusiast or even to all the owners of airships. Before being admitted each boy must qualify according to the rules of the club, and the requirements are surprisingly strict. There is a regular Demonstration Committee which passes on the applicants and decides on the eligibility of the new aviator.

So strict are the rules that at present there are but nine members of the club, although the waiting list contains many names. The young aviator must not only be able to design and build an aeroplane, but he must be able to explain the principles involved in its construction to the satisfaction of the committee.

The boy inventor is not hindered by patent restrictions of any kind. He is free to copy any model he sees fit, and the cheapness of the material brings such experimenting within the reach of all. Every meet or tournament of the boy aviators serves to bring out many new models. A large proportion of these are, of course, futile, but each serves to bring the youthful inventors a step nearer to the goal. It is reasonable to suppose that the successful airships of the future, or many of them, will have their first flights in these amateur trials.

In the regular tests and tournaments again the rules laid down for the contestants are much more strict than in the early days of the sport. The actual distance traversed by these ingenious craft is not alone considered in making the award. If the aeroplane turns over in its flight it is disqualified. If it should touch the ground, however lightly, even though it rise instantly to continue its flight, the official measurement must be taken from this point. The steadiness of the flight also is considered in making the award.

The tournaments are watched by three judges, one at the starting point, another standing midway down the course, and a third near the point where the air craft will alight. No one is permitted to wind

up the airship but the owner, nor, indeed, so much as touch it.

While elaborate models are manufactured, chiefly in France, and their cost is reasonable, there are literally hundreds of homemade craft in use to-day. And such is the progress among the amateur aviators in America that the homemade ones are actually superior in design, workmanship, and achievement to the foreign models.

The toy aeroplane is probably the cheapest toy in the world, as well as the most fascinating. The materials used in its construction cost but little. Few tools are required in the building. The problem of insuring lightness with stability and the ability to fly may be attacked over and over at trifling expense.

The amateur inventors have long since discovered the best material. The frames of the airships are made preferably of bamboo or reed, while tubes of aluminium are used for bracing. It is possible to buy propellers constructed with just the right pitch, but as a rule the boys prefer to carve these themselves, following the models used by the actual conqueror of the air.

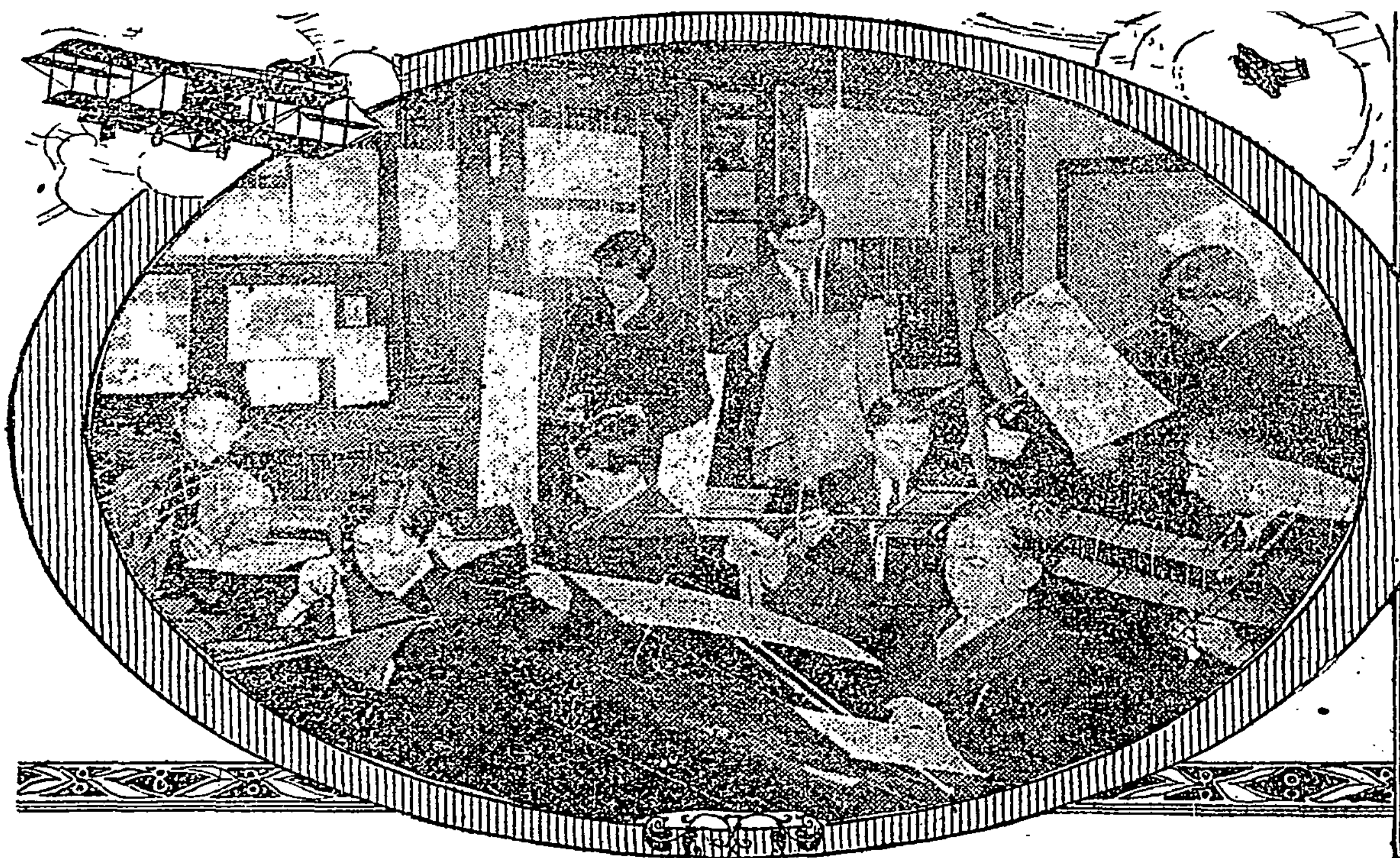
The enthusiasm for aeronautics has added a new and surprising number of unfamiliar words to the vocabulary of the

average boy. The mere layman in such matters will hear an almost wholly unfamiliar language spoken in the clubs or tournaments.

The aeronautical papers and the reports of the progress of aviation in the daily newspapers have no closer readers than the young inventors. Let a new type of airship appear in Europe to-day, and its merits will be discussed in junior aero clubs from the Atlantic to the Pacific Coast to-morrow, and in a week scores of models duplicating it to the last detail will actually be aloft.

The young aviators are attacking the problem of supplying power for these flights with characteristic energy. The little craft are now driven by the recoil of rubber bands, which are turned upon themselves. This is admitted to be merely a makeshift, however. Experiments have been made in driving the air craft by compressed air, the power being contained in a tube forming the backbone of the craft. Still other attempts have been made to drive the craft by means of clockwork mechanism.

The application of all these new motive powers is merely in the experimental stage, but no one doubts that the genius of thousands of bright American boys directed toward it will serve to solve the problem.



Future Inventors in the World of Aeronautics at Work in School.