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Orville Carlisle
420 Norfolk Avenue
Norfolk, Nebr.

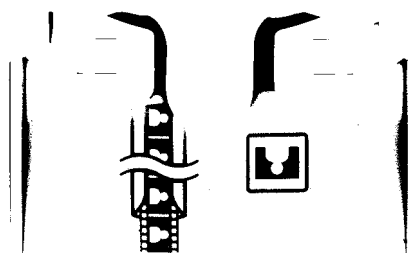
Dear Orville:

It was indeed a pleasure to talk with you on the phone last night.

We've been working down here, and I'm enclosing the ~~xxx~~ preliminary results of our efforts. Our object has been thus far to clean up the design somewhat, and I hope you will not consider it as an affront to your own fine design, which already works. We just wanted to see what we could do.

We picked the basic Aerobee profile as a starter because the Aerobee is a nice, stable missile configuration and because it is also an aerodynamically-stabilized, free ballistic, unguided missile such as the Mark II. The result is Parabee -- standing for Parachute-Aerobee. Parabee I is to be an initial aerodynamic test model to prove out the configuration; it will have four fins. If it proves out well, we will go to the Parabee II, which has three fins and thereby has less inherent stability. Parabee II-B (B standing for Boosted) combined a booster stage with the rocket Parabee II. Parabee II-B will be tried only when we get the bugs out of the II model. As you will notice, the rocket body is extremely thin paper; however, the balsa stiffeners (which correspond to the cable and piping shrouds on the real rocket prototype) add considerable strength to the body without running up the weight of the unit. (This is rough to ~~put~~ put into production, but would be ~~good~~ good for a kit). The ogive nose is turned from a 3/4" square balsa block. The red plastic parachute will pack into the body okay, but new end cups will have to be made; this is no sweat. The launching arrangements for this bird have not been deped out yet, since this is only a prelim design. However, we are considering the use of two electrical solder lugs or two eyelets, one near the nose (to which the shock cord will also be attached) and one in the region of the motor mount. This arrangement should be cleaner than the tube on the Mark II and will help the tip-off problem as the bird leaves the launch rail.

Without the benefit of the high-speed movies we took Tuesday, we now know that the Mark II is "fishtailing" as it goes up the launch rail. We put the bird on the launcher and then coated the launch rail with blue chalk; when the bird was recovered, we were able to see where the launch shoe had rubbed; we also studied the places where the chalk was rubbed off the rail. The Mark II was leaving the rail with as much as ten degrees of tilt, meaning that the tolerances on the launch shoe will have to be tightened up.



We discussed the problem of production of the Rock-A-Chute at considerable length during lunch today. Two people besides myself, with the possibility of two more, considered the possibility of setting up a company to do the job, I believe we could get it financed to the tune of about 25 grand. You, of course, would be in on it, by all means. The chief of the warheads branch down here knows the big shots in every fireworks and explosives outfit in the country. We also have tabs on companies which specialize in producing things like thin paper tubes to specifications. We considered the possibility of sub-contracting the production of the rocket charges (probably by Zenith, because of your previous contact with them), the paper tubes, the balsa fins, the launcher components, and nose cone, and the chute. The units would then be assembled and boxed here either as kits or as completed units. Working in large production lots, the price would come down quite a bit from the one you quoted to me. People here seem to think the charges could be retailed at 10 cents apiece or three for a quarter, the kits at \$5.00, and the completed rocket with loaded charges at between \$8.00 and \$10.00.

The whole works would be primarily offered as a toy, although there are other markets as well. By far the best besides the toy market is that of a demonstration rocket. The Pege Project is ~~presently~~ presently engrossed in the design of a model Pege rocket to be powered by your rocket charges with which they can demonstrate to visiting firemen the workings of their full-sized bird.

Due to the size of the rocket charge, it can be incorporated into scale models of many guided missiles and rockets -- Nike, Corporal, Honest John, Terrier, Aerobee, and others -- which will actually work and can be recovered. If the sales of the initial market item -- Mark II, for example -- warranted it, other designs could be placed on the market.

The big problem, it seems to me, is to keep quiet until ready to roll. Then, hit the market first with the best and try to stay ahead of competitors. Your patents will not be worth too much along that line, because other outfits will figure ways to get around them if they see the unit taking hold. But your advantage will be prior know-how. If we decide to team, we'll have a tremendous prior advantage. Many things need to be investigated in this matter before any action can be taken. In the first place, there is a possible conflict of interest insofar as we are concerned. There is the state, county, and city ordinances around the nation which must be considered, as well as the ICC regulations on shipping. (I think we can beat these ~~ordinances~~ ordinances and regulations because other people have done it.)

At any rate, there is one proposal. What do you think?

Cordially,

G. Harry Stine

