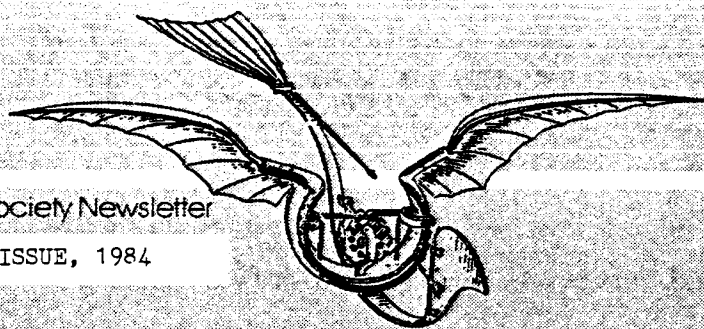


Ornithopter Modeler Society Newsletter

AUTUMN ISSUE, 1984



flapper  
facts

Volume I Number III

Pat Deshaye, editor

TOOOO MUCH

Various not-so-dear friends of OMS have observed that there seems to be no reason or order to the scheduling of Flapper Facts. Why an Autumn issue at the start of Summer? Well, it's because I put out the Summer issue at the start of Spring, and since that time there has been a veritable flood of flapper plans and info squirting through my mailbox. For the last few weeks I've felt like a little Dutch boy with my finger in a dyke (or is that 'dike?') because I don't want to keep everybody waiting for this great stuff, but neither do I want to break a nice quarterly format. So this issue should keep everyone happy until the middle of Winter, right?

I'd like to see the Facts become a sort of "forum," with contributed articles already typewritten in format (8 1/2 x 11, single-spaced). Notice that this issue is sort of "forummy" but some of the stuff is handwritten... yeeeeeech.

Hey, how about that new masthead?

True,

THE B I G NEWS

Pat:

As a guilt-ridden, etc. modeler, the least I can do is let you know that your newsletter is enjoyed here. Also, the enclosed stamps should help.

As you probably are aware, I've done some ornithopter experimenting and will try to relate some of my experiences later. You might be interested in knowing that an ornithopter of mine flew for 7 minutes, 51 seconds at a record trials on May 19, 1984. I've been experimenting quite a lot for the last few months and it paid off. There seems to be some stretch in the design. No detailed drawing now but I'm trying to get one.

Al Rohrbaugh

Editor's note: W. Van Gorder reports a Rohrbaugh duration record, cat IV, at 8:54. Amazing.

NOW YOU'VE GONE TOO FAR...

"I made my first ornithopter in about 1938, and now have a project to see about the feasibility of making a realistic flying replica of a large, flying reptile (wing-flapping, radio-controlled). Sincerely Yours, (signed) Paul MacCready."

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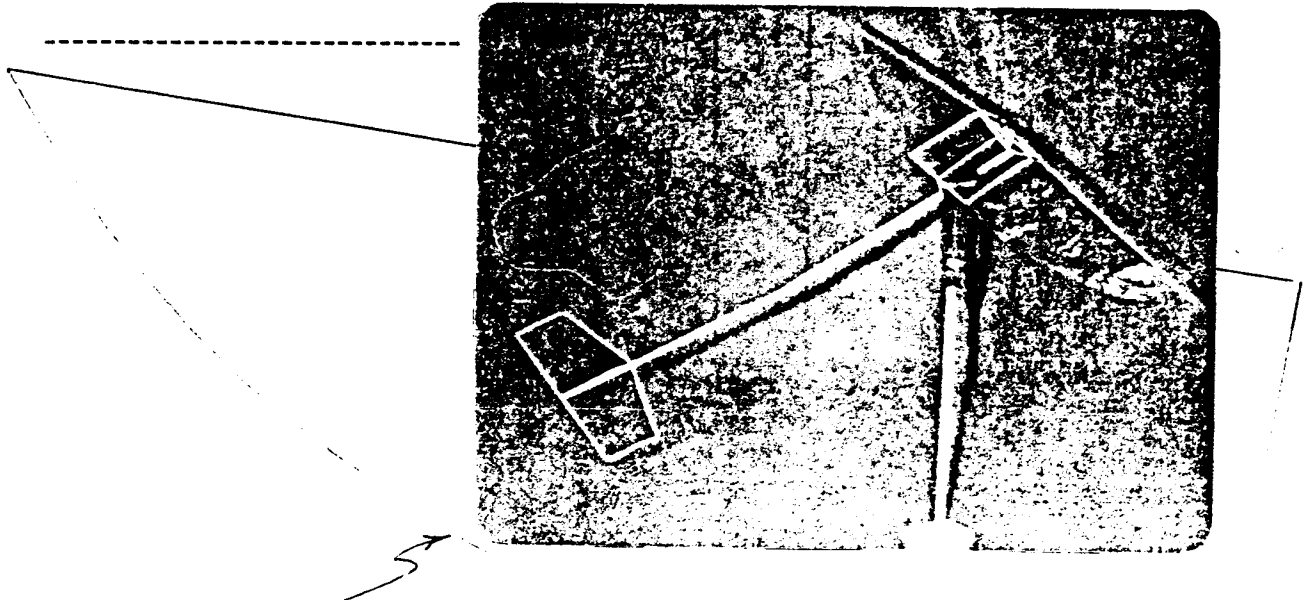
FLAPPERPETS '84

We're privileged to have the very finest performance pre-Rohrbaugh flappers in this issue: two from the American Keep-It-Simple-Stupid school of Midwestern ornithopter design, and the M. Yamanashi hi-tech postal contest winner.

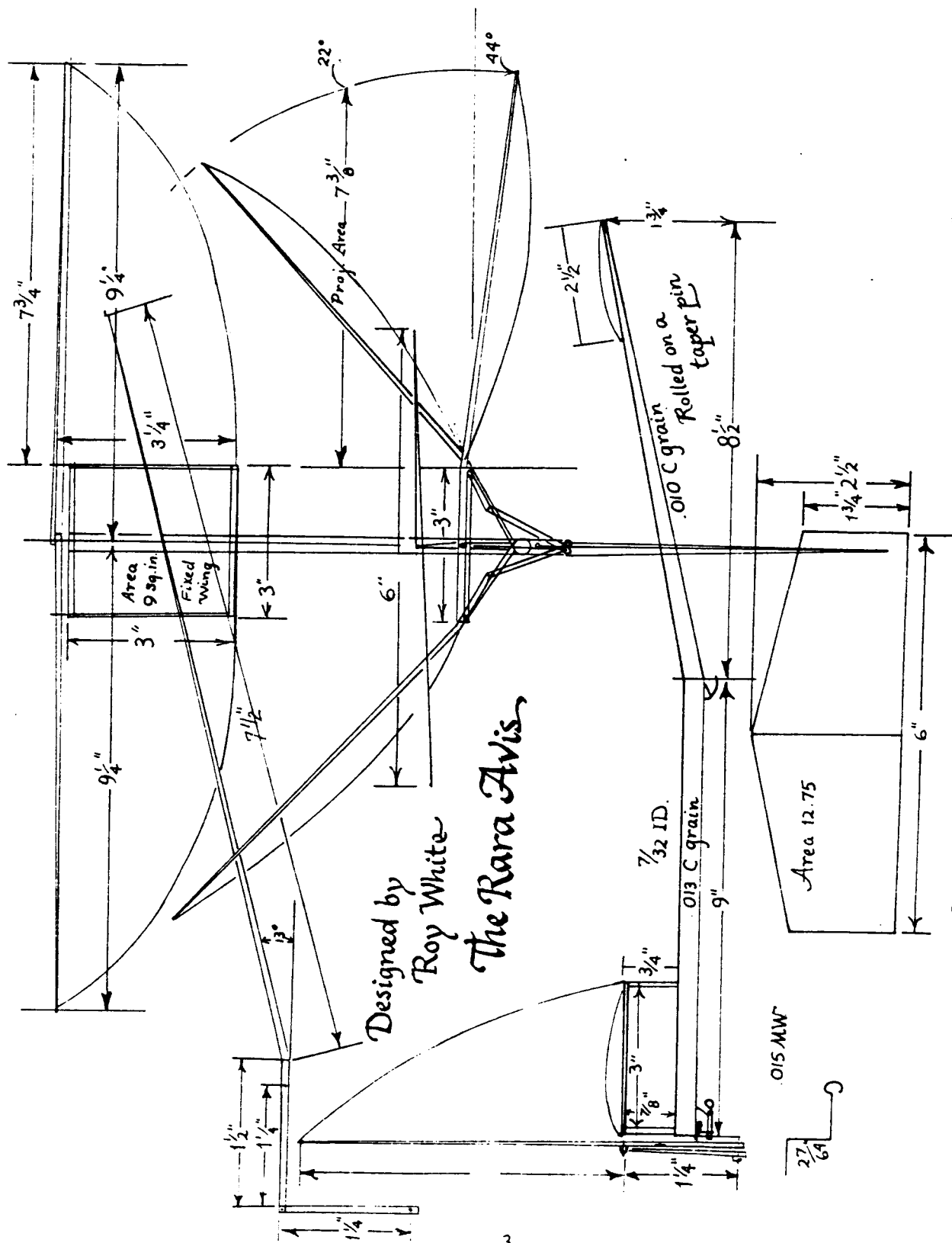
The "Rara Avis" is a fine low-ceiling performer (Cat. II @ 4:16) and is the result of much practice and experimentation by the Whites, who have regular access to a gym. The Whites report setting a new Cat. III outdoor record of 10:30 with "Squirrely Bird," a 3g. larger version of the indoor machine. "Rara Avis" is pictured at below right.

The W. Erbach flapper requires no introduction, as I'm sure every member and his dog have already begged Walt for his plans. The views are accompanied by a six-page construction article. I have made about five copies of this, which will be made available by SASE, members only.

Reg Parham scored plans of the "Fairly V" which will be run in Aeromodeller this month... Reg just happens to know one of the editors. This is the legendary 6:30 ornithopter, and a unique little beast it is. Note that the biplane flapping is completely asynchronous, as both pair of wings are operated by a single crank throw. Last issue I reported that this machine weighs 0.6 g... actually the motor weight. I stand corrected.



"Rara Avis" wing planform,  
actual size.



OMS Pet Model #3

# REDBIRD

BY  
WALTER ERBACH  
REAR JOINT  
RECORD ORNITHOPTER  
0.027 oz.

CAT I 2 MIN 30 SEC. LINCOLN NEOR.

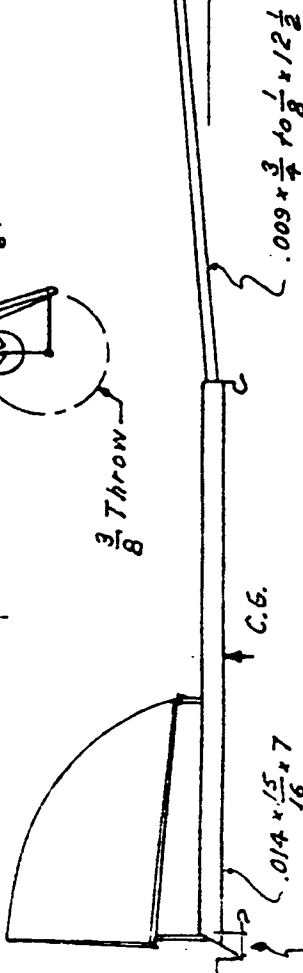
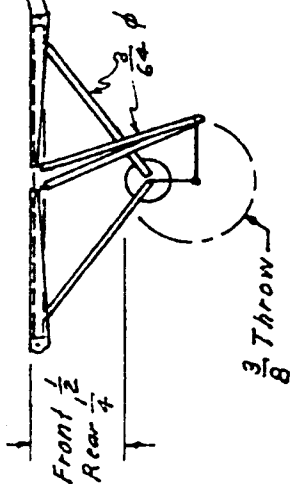
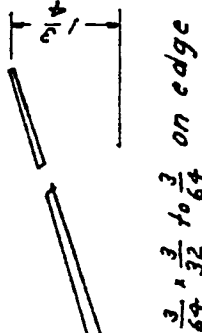
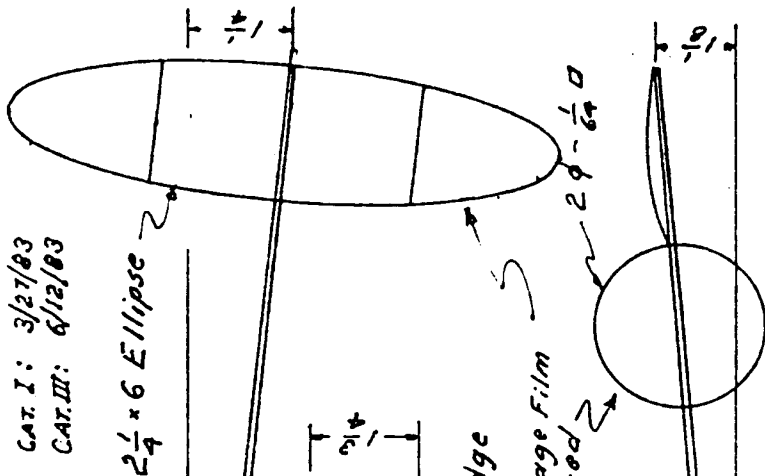
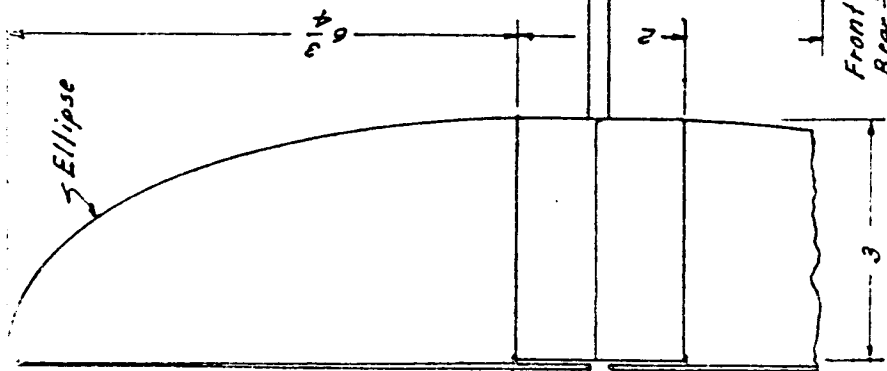
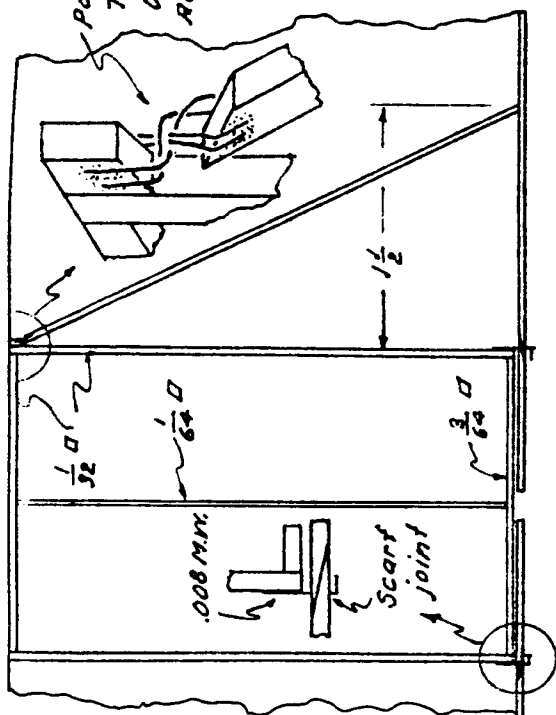
700 TURNS - .050 = 11 PIRGELL

CAT. III 4 MIN. 23 SEC. WEST BADEN, INC.

1300 TURNS - .050 = 12

CAT. I: 3/27/83

CAT. III: 6/12/83



Double bearing. Cement washer  
on shaft to prevent pull-through.



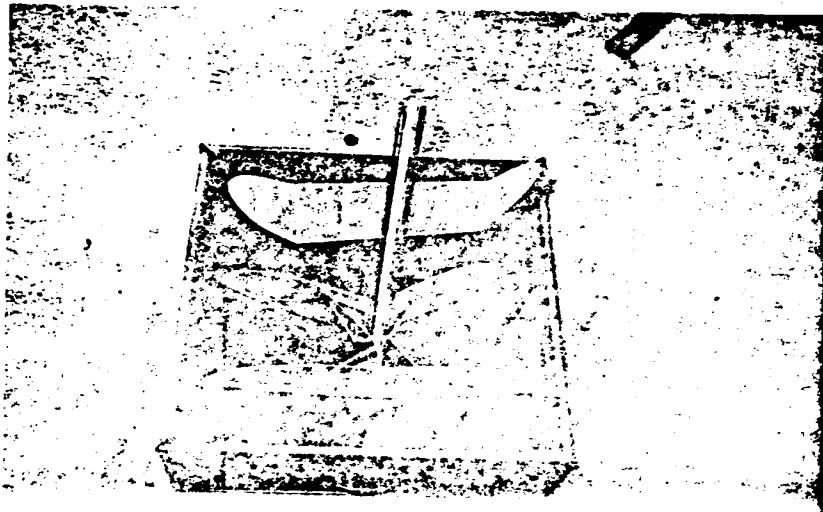
# WHY A CANARD.

FRANK KIESER.

THE CANARD CONFIGURATION HAS UNIQUE ADVANTAGES FOR THE ORNITHOPTER.

1. THE FIXED STABILIZER SURFACE IS FORWARD OF THE FLAPPING WING, AND THUS IS FORWARD OF THE DISTURBED AIR. THIS RESULTS IN A MORE EFFECTIVE LIFTING SURFACE.
2. THE FIXED STABILIZER SURFACE IS SET AT A POSITIVE, RATHER THAN NEGATIVE INCIDENCE ANGLE. THUS IT CONTRIBUTES SIGNIFICANTLY TO THE OVERALL LIFT.
3. THE BALANCE IS SUCH THAT A LONG MOTOR STICK AND RUBBER CAN BE USED.
4. THE SURFACE IS LOCATED OVER THE MOTOR STICK THUS NOT REQUIRING THE WEIGHT OF A SUPPORTING BOOM.

BELOW IS A PICTURE OF THE ONE I HAVE BEEN FLYING. AN IMPROVED DESIGN IS IN PROGRESS.



Dear Patrick,

your newsletter was an unexpected pleasure; I was delighted to receive it, and that you printed my design.

Here are some stray comments that it provoked:

1. You are quite right, I did bend my crankshaft. This was tried after I drew up my plan, and I also found that a large duration improvement resulted.
2. Wingspan is 38cm and so the drawing as reproduced is very close to half-size.
3. Current modifications include the use of tapered motor tubes and longer booms. Best time to date is 6:05 (high ceiling, straining every joint)
4. I don't agree that double flappers have to be heavier. Because vibration is eliminated they can be built much lighter, with care. Also, their higher efficiency means that they will fly on much lower torque levels, therefore saving weight on motor tubes and rubber.
5. I do not believe that the angular size of flapper travel is very important, so mine simply represents a reasonable compromise.
6. Enclosed are photos and a drawing of my recent 'Octoflapper'. The model's drag and weight are too high for a high performance (best time is only 2:40) However, it's appearance in the air is most intriguing. It is also a very smooth and stable flyer.
7. Finally, I think that double (biplane) flappers are really the only variety worth building, since their aesthetics and duration potential are so much higher than any other layout.

P.S. I am indeed a former FIA flyer, but also a current FID flyer. Incidentally, I would appreciate any previous copies of your newsletter.

Yours,

Philip Watson

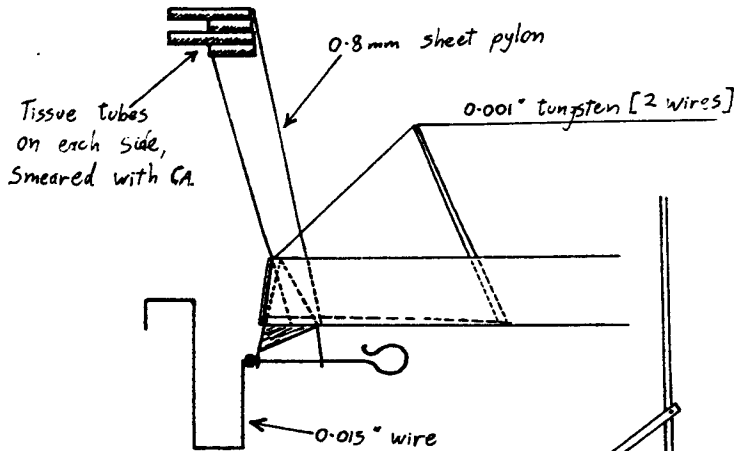
→ I will send you some photos of the 'Octoflapper' as soon as the film is developed. It does really fly! 7

# OCTOFLAPPER

DESIGNED AND DRAWN BY PHILIP WATSON

6/5/1984

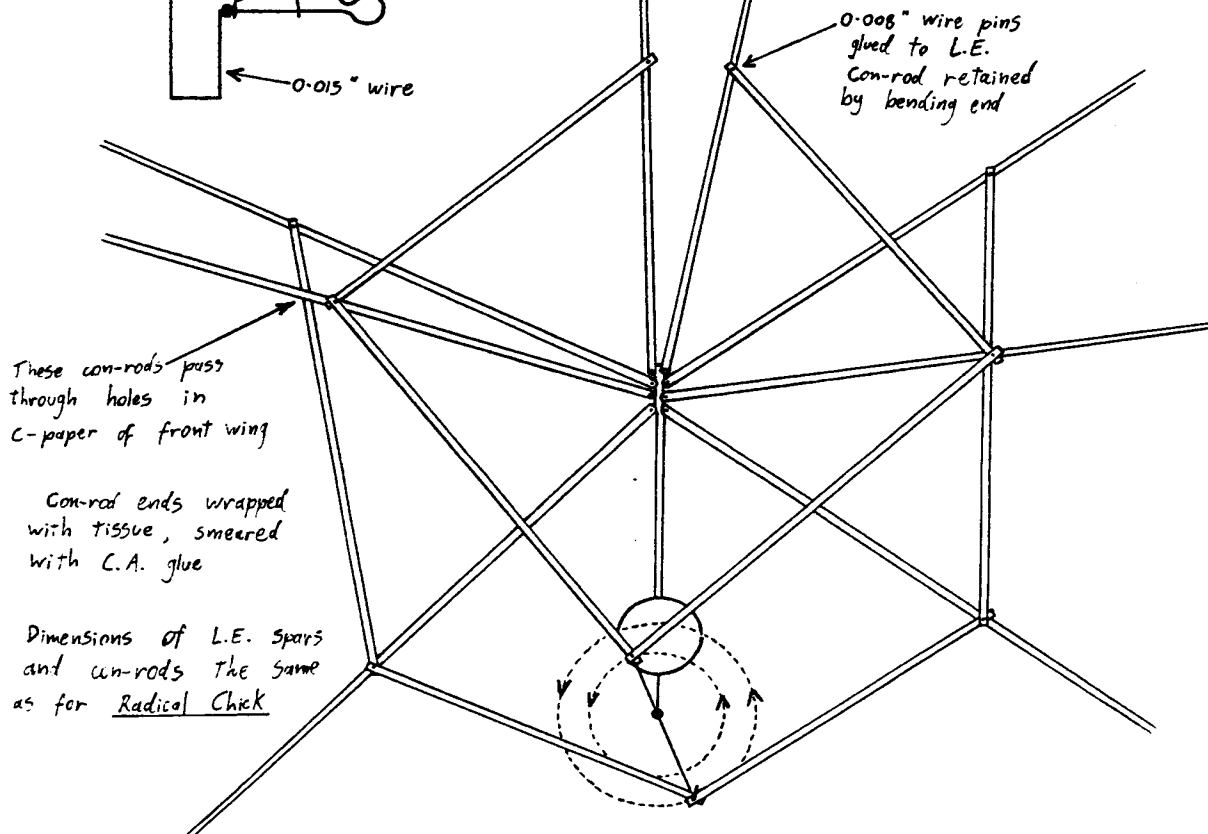
"Curiouser and Curiouser," said Alice.



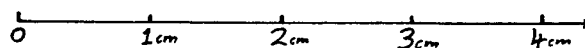
① Flapper dimensions are the same as for Radical Chick

② 22 cm stick, 27 cm beam

③ 23x9 cm parabolic stub  
→ Requires very little negative incidence.



2x FULL-SIZE





BUT SERIOUSLY... (an editorial)

It's time we got serious. Do you realize that the Society has no official voice and that as far as AMA is concerned, we don't even exist? Frank Kieser has raised some important questions on rules and policy, and has offered to serve as an official liason for the club. Whether this means we will acquire an AMA charter and thereby officially become a club depends on what he finds out... but at any rate our club deserves to have a say in the rules and policy governing our particular activity, because, after all, the OMS contains practically every competitive ornithopter builder in the U.S., if not the world. Here's hoping you'll throw your support behind Frank for the work he'll be doing for the club. We should be hearing from him through these pages in coming issues... we may even use the newsletter to cast votes and then dictate our consensus to the modeling orgs. Frank will not be at his regular address for the next few months-- write to him:

c/o Dr. N. Bridgens  
1605 Old Orchard Lane  
West Chester, PA 19380

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WELCOME NEW MEMBERS

It is always heartwarming to watch the member roster lengthen.

Andy Tagliafico is an Architect and quite a serious F1D builder, now turning his sights to biplane flappers.

Norm Smith is a Mechanical Engineer who built a flapper once and traded me a rubber stuffing stick for a membership. Welcome Norm, just giving you a hard time.

Meuser gave me Hewitt Phillips' address so I asked him to join. Phillips sent me two bucks and said he might write us an article about the first tandem biplane.

William Tefft wants to find some good beginner plans... why not send him some from your experience?

Paul MacCready, who is very comfortable designing machines which have no right to fly (whether pedal or solar-powered) and then winning big bucks with them to boot, was referred to us by Ken Johnson.

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NEXT ISSUE

If nothing really big jumps out of the mailbox and bites me on the nose, I hope the next issue will feature the Rohrbaugh plans and some special old-timer flapper stuff, along with the history article Lidgard submitted recently. My address may change (again) but you'll be notified.

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THE TURNING POINT OF WWII

Schroter: "Vot new tings haf you fur us, Herr Doktor Lippisch? Der Messerschmitt 163 vas wunderbar!"

Lippisch: "Das icht mein 'Fliegenkinderschwingenflugmodell!'"

Schroter: "Ach! Fur der Luftewaffe?"

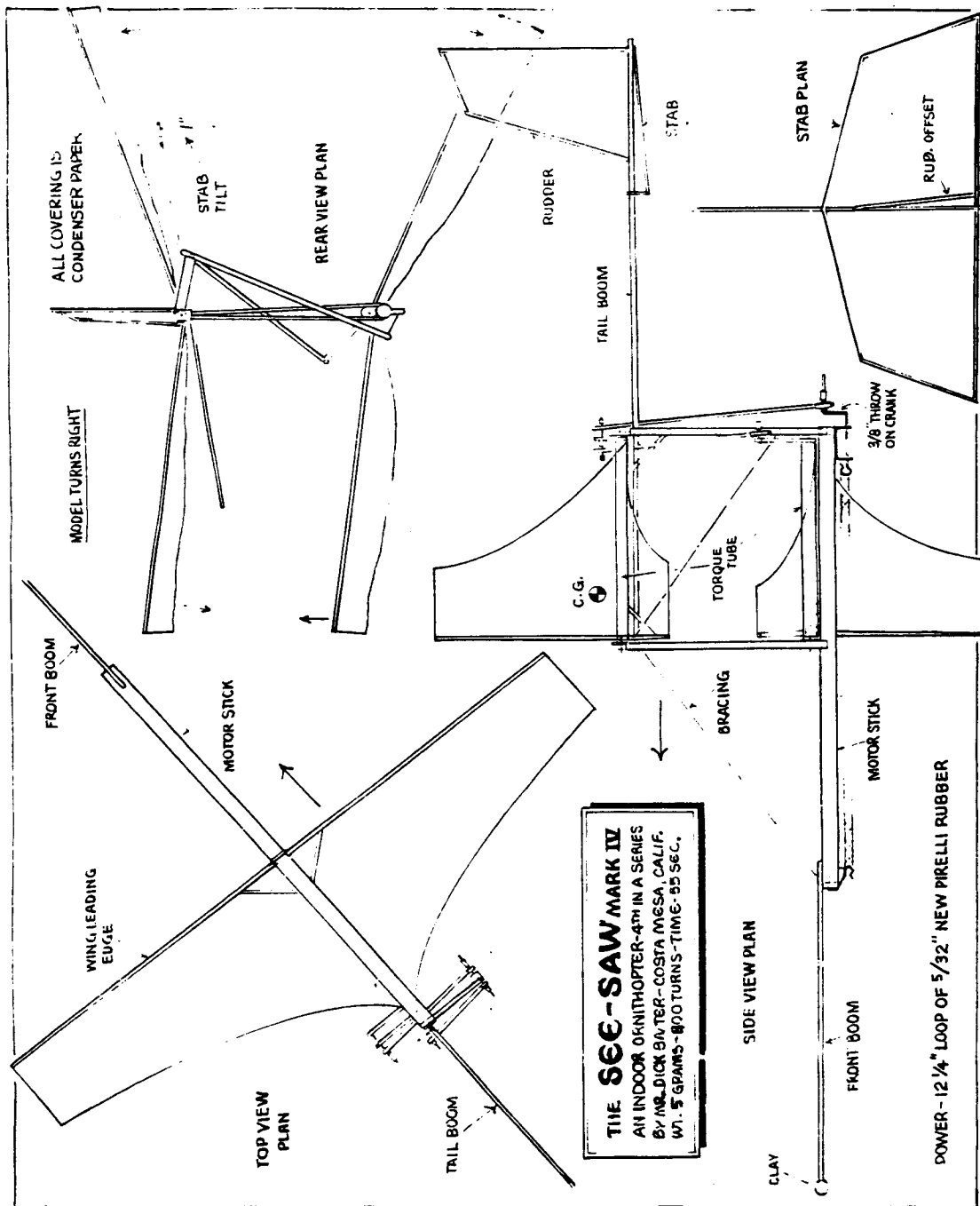
Lippisch: "Nicht! Uff korse not!"

Schroter: "Nonsensen! Vee vill put it into produktion eemediatlee!"

Lippisch: "...büt..."



Mr. Lippisch shows his "flapper" to Major Schroter and some friends.



Submitted by Ken Johnson