

Bruce Fader, Manager, Technical Services

You've all heard the definition of a specialist — "A man who knows more and more about less and less." I don't think any of us on the L.I.A. staff are quite in that category. We have been forced to specialize to a degree because of the complexity of the fields we serve. But while we try to give the architectural problems to Ed Martin and the ceramic questions to Jerry Smith, there is always the urgent phone call that comes in during one of their trips — and I think all of us are able to produce sensible information and answers to the questions that lie outside our focal interests.

In my case these interests are lead-acid batteries, sound and vibration — working usually with Ed Martin on the latter — and the design and production of our publications.

Aside from LEAD, we print a dozen or so publications in an average year. These range from reprints of articles — usually made for us by the magazine in which the article appeared — to twelve-page, two-color brochures like "Power with No Strings Attached" or the architectural flyers like our pools and planters or roofing publications. While there is no magic or special merit in the way we prepared these, it should interest you to know that the many skills — copywriting, layout, art and illustration, production planning and scheduling, proofreading, galley correcting, page paste-up, etc. — are handled almost exclusively within the L.I.A. staff. Considering the size of the staff and the multiplicity of tasks it handles, this is rather interesting in itself. There would be no surprise in the fact that three men could run a cotton farm, but our situation is more like three men running a rayon plant. Aside from the novelty of the situation it means that we can often do a two-color printing job for the cost of a single color, or a 12-page piece at the cost of an 8 pager. And I think we can claim, without immodesty, to have some excellent promotional literature working for us. I hope you will take time to look over the display of our current literature here at the annual meeting.

Probably the most successful piece of literature we've done recently has been the truck cost calculator. This one is of special interest to me for it falls in my bailiwick of battery promotion. The quick calculator was based on earlier published studies, but was presented in a new form so as to be easier to use in solving the common cost problems of material handling. L.I.A. originally entered a print order of 37,000 for this 12-page publication. Only 5,000 of these were for our use — the balance had been presold, at cost, to electric utilities, battery manufacturers, truck manufacturers and others. Despite this wide distribution, we were forced to reprint the piece bringing the total up to 73,000. These new copies were also sold at cost, in bulk.

In addition, we know that the piece has been translated into German, French, Swedish, Danish, and Norwegian, Spanish, and Greek. We estimate that there are between 100,000 and 120,000 copies of it in circulation and we have had requests for it from every continent. All this for the cost of 5000 printed copies — a pretty fair record!

"Power with No Strings Attached" is apparently serving one of the purposes for which it was designed quite well — alerting the buying public to the variety and convenience of battery powered devices. We've had a good many letters which begin "Where can I buy the . . ." It is too early to point to conspicuous success in the other goal we set for "No Strings," winning designers and new product people to the idea of using battery power. We have had an encouragingly enthusiastic reception from several editors, however, and our investment in this promotional idea

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will shortly realize some "capital gains" in the form of feature articles in Steel magazine and Machine Design magazine — two of the outstanding technical publications in their fields.

Our work on the use of lead for soundproofing has generally been quite different from our work with batteries. No well-organized body of technology exists in the acoustics field. There are no large manufacturers of leaded acoustical products we can turn to for recommendations or practical guidance. For this reason, our publicity has occasionally landed us in the interesting position of facing a potential customer whose attitude is, "Okay, you've convinced me I ought to try lead — Now, just how do I proceed?"

Usually, this results in forgetting we have a Madison Avenue address. Ed Martin and I roll up our sleeves, get out a block of drawing paper and bang heads on the problems of converting acoustical theory into practical design. The attempt usually leaves Ed or myself snoring for a while. However, the three jobs which we have followed through to completion — actually near-completion in one case, have given acoustically satisfactory results. And while we haven't been able to foresee all the practical problems of construction, we have been able to suggest details that can be built without unusual difficulty.

The first of these three was, of course, the Franklin Institute sound lab. Since it is reported in full in the issue of LEAD at the back of the room, I won't go into detail here. We achieved a 13 db improvement for what the senior engineer described as a "reasonable cost."

The second lead soundproofing job was in our own office. Ed Martin described it at the annual meeting last year. You'll recall that he was able to cram a six-inch wall performance into a bare 2-1/4" of space.

Our final collaboration is the polygraph room at the Bergen County Courthouse in Hackensack, New Jersey. You're probably more familiar with the polygraph when it's called a lie detector. Their problem was quite an interesting one: Extreme quiet was needed during questioning with the polygraph. Apparently the high-powered technology of "galvanic skin response," pulse and respiration rates and the other variables which the machine measures hinges on a sort of cathedral-like mystical silence. Unfortunately the only space which was available for the polygraph test room was an office cubical with thin steel partitions for walls. In the midst of a fruitful session, the whole psychology of the situation was frequently shattered by a shout in the corridor such as "Hey Charlie, the coffee's here!" These very unsilent interruptions have spoiled more than a few tests.

We undertook to quiet the room for them using sheet lead. Four pound lead was cut into squares 20 inches on a side and pasted right to the wall with Contact cement. We have been able to show an improvement of 13 db in the ability of the walls to stop sound. This is quite a considerable accomplishment and, in fact, about as much improvement as could have been made without tearing down the original structure and starting from scratch. We expect that with the addition of slight masking noises — probably a small fan or air conditioner in the room — the arrangement will be completely satisfactory.

This emphatically does not mean that we've opened any vast new market for lead — but we have solved a new type of problem and learned what can be accomplished and at what cost. We've also learned a few more tricks which can help on the next job.