

D.R. Thomas
Oakdale Comprehensive School

The Penny and Giles Project

Oakdale Comprehensive School caters for the 11-16 age group and has a six form entry — 180 pupils/year. Based on a secondary modern school, the reorganisation to a fully comprehensive unit has just been completed.

Four years ago a school-industry-employment committee was formed and it now consists of some 30 participating industries and teachers. One company involved is Penny and Giles Conductive Plastics who make electrical components for navigation equipment. As a furthering of links between the company and other schools in the area, they sponsor an annual engineering competition, the first of which was held this year (1979).

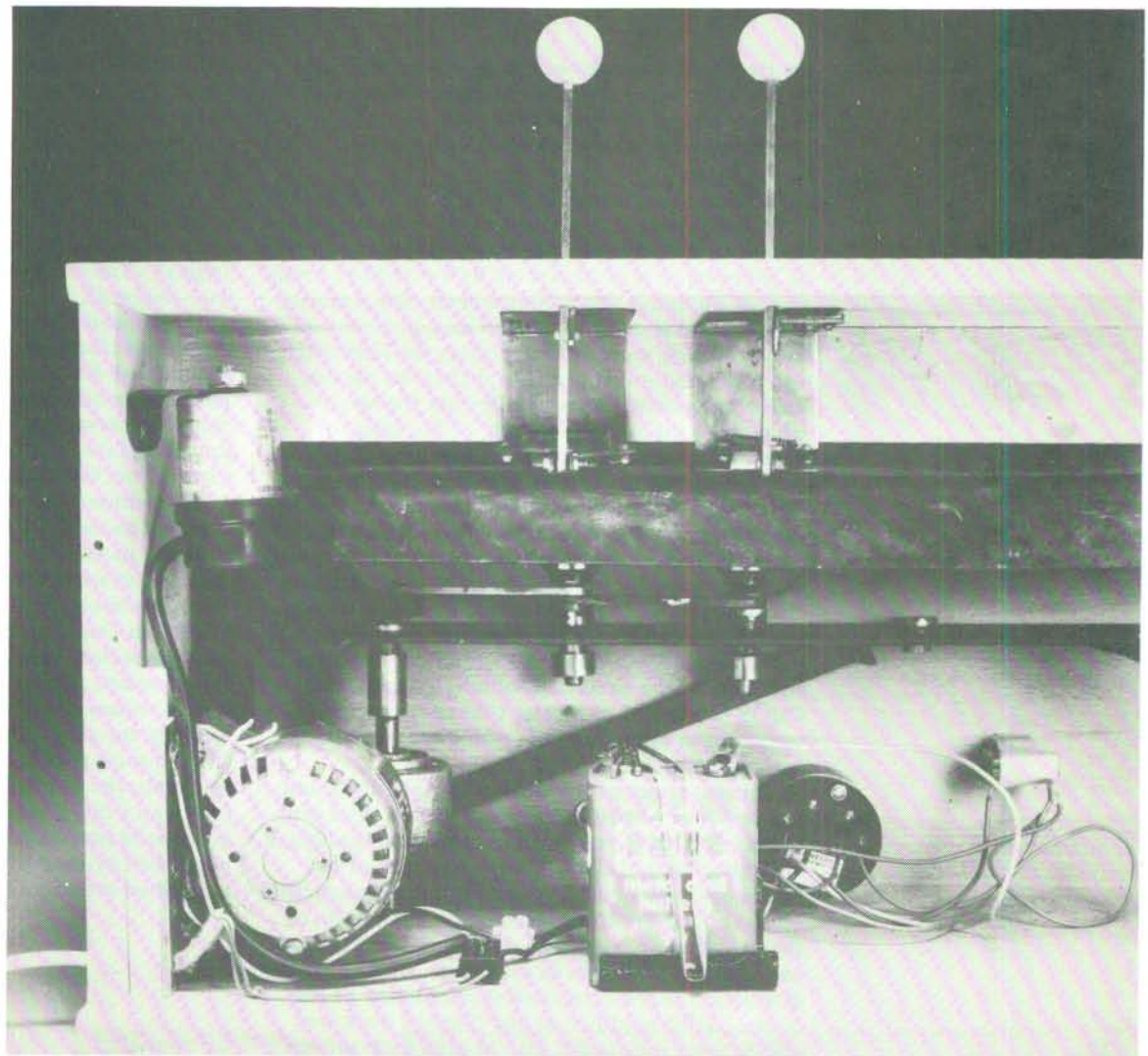
The competition each year involves the company setting a problem for the schools to solve. The first competition involved the testing of cylindrical potentiometers, approximately the same size as cotton reels. The test apparatus which had to be designed involved an oscillation test through an angle of 60° over 10,000 revolutions, at the end of

which time the apparatus would switch off and a light come on to indicate the completion of the test.

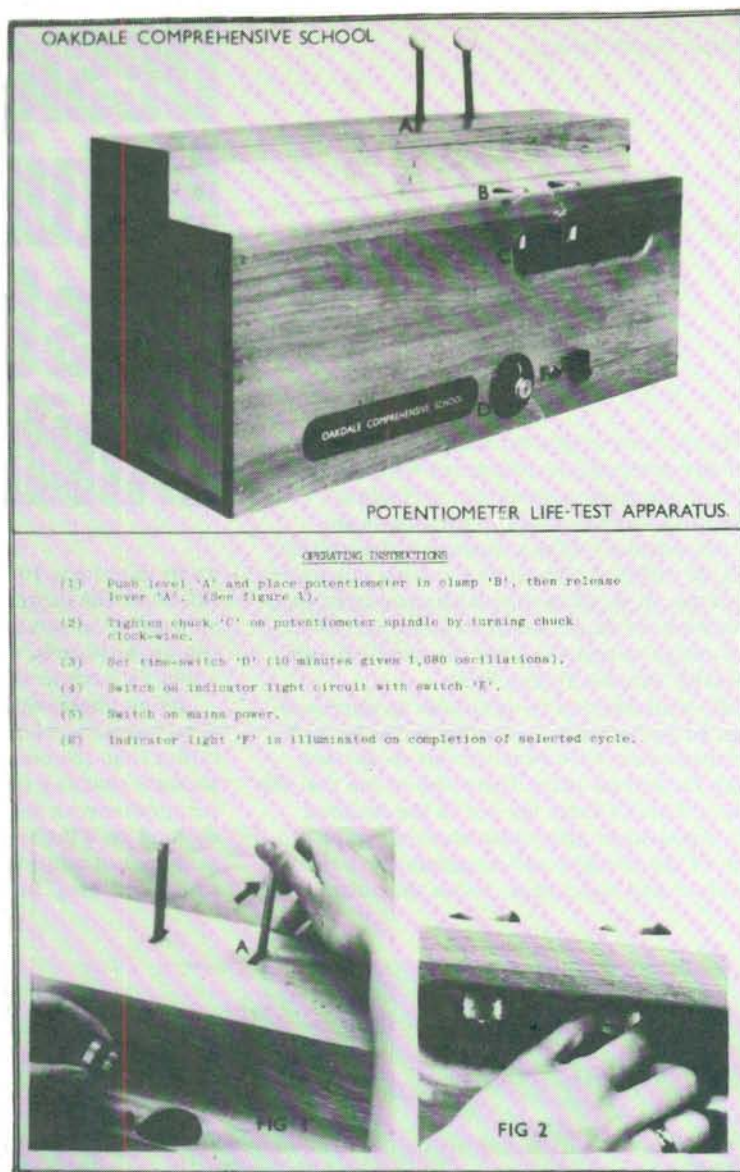
The winning design submitted by Oakdale School proved to be better than the existing method of testing in the factory, consequently the company have had a considerable 'spin off' for their initiative and are encouraged to continue.

The project was carried out by a team of four fourth form pupils; they formed a close-knit working on the design drawings, mechanics, electrics and construction of the project. The boys' solution was a simple and effective device. Instead of the three small screws which required repeated tightening and unscrewing used by Penny and Giles, the group designed a clamping system to hold the

A close-up of the inner workings of the potentiometer life test apparatus.



The front of the potentiometer life test apparatus with instructions on how to work it below.



potentiometers in place, and a linkage mechanism to turn a spindle through the required angle for testing. The team's ingenuity and resources were demonstrated by their ability to adapt the available hardware to suit their needs.

This particular apparatus gained a much coveted prize in The Design Council Schools Design Prize as well as being runner up in the Young Engineer for Britain Competition. Penny and Giles therefore gained considerable additional national publicity.

In this school the project was tackled as an out of school, extra curricular activity. However having become involved with problem solving and industrial design, the appetite of all involved and others, has been well and truly whetted and for this year's competition (design of an inclinometer for a jib crane) there has been a tremendous response from youngsters and staff alike.

In school Craft, Design and Technology is being studied from the first form, along the lines specified by the Welsh Joint Education Committee. This encourages youngsters to think about problems of design and their solution. One could say that as a subject in the school curriculum it could be in danger of becoming 'part of school' whereas the tangible problems being set by Penny and Giles can be used as very useful proving areas for prospective designers, engineers and others.

One problem in an evolving comprehensive school is the fact that Woodwork, Metalwork, engineering subjects, art, etc. tend to be regarded as for the less able. It is my own experience that this is indeed the case, and parents of the more able youngsters tend to advise their offspring that the traditional academic

subjects should be taken in preference to craft disciplines. As a result of the first competition a number of parents have made enquiries about Craft, Design and Technology and have been wise enough to realise that this particular field does involve all round ability both from the academic and practical spheres.

Naturally the successes in competition must surely act as an incentive, the fact remains that because of the Penny and Giles project, and because of The Design Council Competition and because of the Young Engineer for Britain Competition more and more youngsters and most important, parents, have become enlightened in the field of design and other allied disciplines, consequently there has been an upsurge in interest at this school which must surely increase as more and more youngsters and parents become 'educated' in the wide field of design and technology.

The allied approach of Craft, Design and Technology in the classroom, together with competition such as the ones described make up a successful formula for schools and industry alike. It has certainly proved successful in this school where we work hand in hand with local industry for the benefit of all concerned, and in particular the youngsters.

I am certain that as a school we could not do without the involvement with our industrialists and the initiative of the Penny and Giles Company is to be applauded. All involved have gained much from this relationship which I am sure will continue to blossom forth in the future as part and parcel of the education in this school.