

Schools Design Prize 1981



Once again a distinguished group of winners emerged from this year's competition and were presented with their cheques and certificate by the Prime Minister, Mrs. Margaret Thatcher, at a ceremony at the Institution of Civil Engineers, on 9 December 1981, before an invited audience of educationalists, industrialists and the press.

Readers of *Studies in Design Education Craft and Technology*, many of whose pupils have entered successfully for this competition in recent years, will be interested to learn of the 1981 winning entries so we are including a selection of annotated photographs that virtually speak for themselves.

GROUP ONE

Aquarium breeding tank
David Chorley, of Ifield Comprehensive School, Crawley, designed a breeding tank to clip on the edge of an aquarium. It contains a small trap, in which the pregnant fish is placed. When the young fish are born, they fall through slits at the base of the trap into the breeding tank so that the parent fish cannot eat them.

GROUP TWO

Schoolboy's pain detector put to medical use

Carlton Evans of Brentwood School, Essex designed and built DASH (Distress Alarm for the Severely Handicapped), which electronically monitors changes in the level of consciousness, pain or mental stress.

Electrodes attached to a patient's fingers or toes amplify fluctuations in the skin's electrical resistance, brought about by the activity of deep-seated sweat glands, and register them on a centre-reading meter. Movement to the left shows relaxation or anaesthesia.



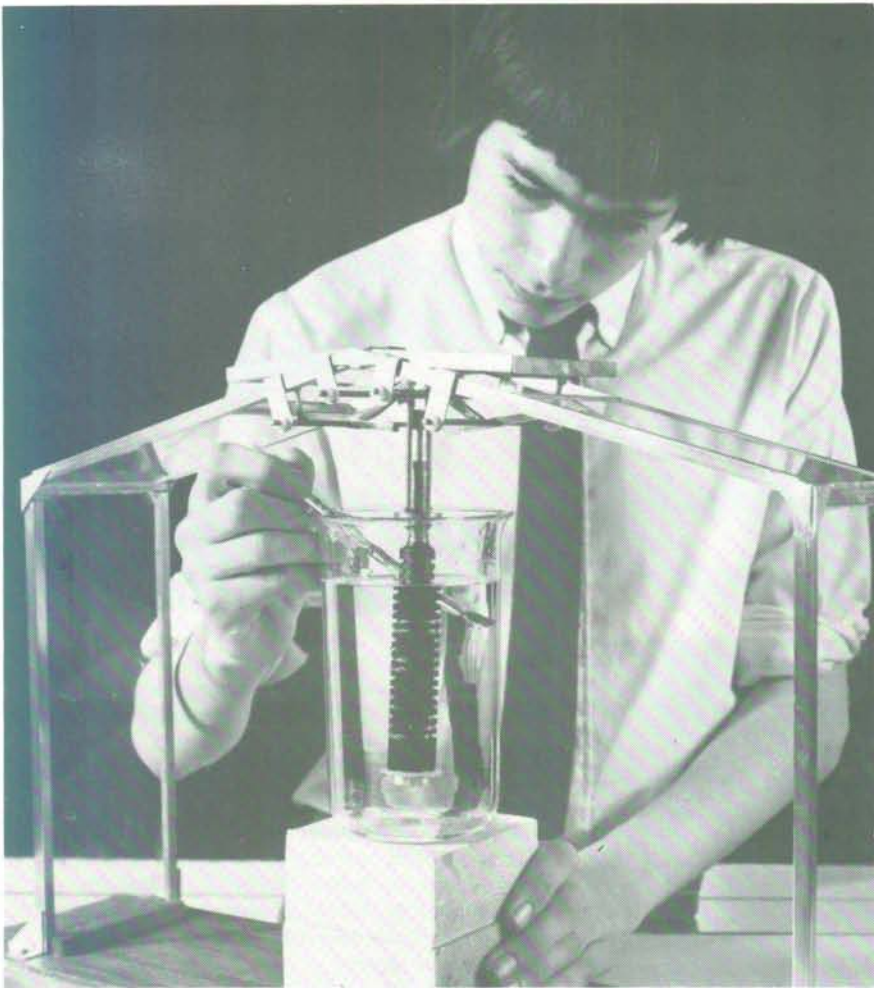
GROUP ONE

Sport for all

Fiona Cherryman and Kerry Luscombe of Cliffe Woods Middle School, Rochester, Kent, designed a giant skateboard to help disabled children join in their friends' fun.

Seen here is Fiona with the board, which is on the four multi-directional wheels and can be adjusted to different heights. A brightly coloured, washable cushion makes the board more comfortable and provides support around the child's head and neck.





GROUP TWO

Automatic Greenhouse Window Opener

Jeremy Cushing, of Lyn Grove High School, Great Yarmouth, designed a device to open a pair of greenhouse windows automatically. Contained in a brass cylinder is a mixture of paraffin wax and paraffin oil. When the heat rises, the mixture expands forcing a piston to drive two levers which open the windows.



GROUP TWO

Garden tools for disabled people

This long-handled tool for disabled people is part of a pair of tools designed by Jacy Barber, of Shrewsbury High School. The tongs are made of aluminium with cork linings to the pincers to give a better grip.



GROUP TWO

Spirit-level to help the blind

Sixteen-year-old Diane George of Longslade Upper School, Leics. designed an electronic spirit-level which emits audible notes, so that her blind father could use it without assistance. She mounted a light sensitive transistor and constant light source on both ends of the level, with a U-shaped tube containing mercury between the two. When the surface is not horizontal the mercury moves along the tube, blocking out the light and triggering a buzzer. The two tones differentiate between tilt to the left or right. When the level is horizontal the buzzing stops.

Below: GROUP THREE

Improved animation table for the amateur
Keen cartoonist Anthony Benson of John Rigby Sixth Form College, Wigan found his home-made equipment too limited for the advanced techniques he wished to try, yet the professional tables were out of his price range. He designed and made an animation table which incorporated some of the professional features. The glass lid is pivoted so that it stays at a fixed height when lifted, leaving both hands free, and when put down clamps the drawing or cells firmly in place. The background scenes can be moved independently using rollers on either side of the table, and a sliding peg-bar allows the cells to be moved precisely to the left or right.



Above: GROUP THREE

Play structure for young children

This blue and yellow play structure, designed by Amanda Grace, of Manshead Upper School, Luton is intended for pre-school playgroups. It is adapted and dismantled easily, folding up for easy storage.

Below: GROUP THREE

A design you can count on

A local printing works gave Jonathan Cameron the brief for his A-level project at Edlington Comprehensive School, Doncaster. They wanted a cheap, portable and easy to use device which would count paper.

Jonathan used a battery-powered electric pick-up from a record player, which he housed in a T-shaped glass reinforced plastics case. When the pick-up is run down the edge of a pile of fanned-out paper, the pulses created are counted and register on a liquid crystal display.



GROUP THREE

Inva-Retro

John Freeman and Ingram Legge designed the Inva-Retro for disabled people visiting the dentist. A wheelchair is backed into the Inva-Retro which is then tilted into position so that the dentist can attend to his patient without lifting them into the dentist's chair.

