NATIONAL COLLEGE OF ART AND DESIGN

FACULTY OF DESIGN

Department of Industrial Design.

# THE DEVELOPEMENT OF PRODUCT DESIGN IN THE KILKENNY DESIGN WORKSHOPS

by

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## INTRODUCTION:

The objective of this thesis is to discuss the development of industrial design for both craft-based industries and engineering manufacturers in the Kilkenny Design Workshops over the decades of the sixties, seventies and up to its closure in the eighties.

I have approached this task by taking different products and different designs developed throughout the above mentioned periods and discussing their effects on society in Ireland and on the effectiveness of the design for the different companies involved.

The task of accomplishing this objective was very difficult, as Kilkenny Design Workshops have been closed for the last seven years. This meant that some of the products discussed in this thesis were created by designers who have long since left Kilkenny and in some cases Ireland, and some of the companies that these products were designed for, have long since closed. Therefore it was extremely difficult to obtain information surrounding the development of the designs or the concepts leading up to the finished design. It was however possible in most of the cases, thanks to the assistance of the staff in Kilkenny Design Consultancy. Kilkenny Design Consultancy is a relatively new design consultancy located on the grounds of the Kilkenny castle stables. The consultancy is run by Mr. Christopher Shaw an industrial designer, Mr. Peter Dabinet a graphic designer and Miss Rosemary Ryan a model maker.

Christopher Shaw had worked for Kilkenny Design Workshops for a year before its closing and had managed to hold onto some of the concept models and slides of pieces of work done by Kilkenny Design Workshops over the years. Mr. Shaw also provided me with a list of the designers that had worked for KDW. It was through people like Christopher Shaw that this thesis became possible. The majority of the designers and manufacturers that I talked to were very excited about the different designs they had done while working for KDW and the different products they had manufactured over the years. I hope that this excitement is re-generated in this thesis as the products and views of the people who are responsible for the creation and development of Industrial design in KDW are expressed.

It was encouraging to find that a lot of the designers and craftsmen that worked in KDW had used the experience and skills they had learnt there to set up their own consultanices after KDW had closed. This has helped keep a high standard of design in Ireland that KDW fought so long and hard to establish.

However it is impossible to discuss the designs of these different products and their effects on society without first looking at the thinking behind the formation of KDW and at the knowledge of design in Ireland at that time. Also the state of industry both craft-based and engineering must be discussed in order to understand the environment from which these designs were created. These views will hopefully give an understanding of the thinking behind the industrial designers and the craftsmen that were KDW.

CHAPTER 1:

## THE FORMATION OF KILKENNY DESIGN WORKSHOPS:

Ireland during the fifties found itself in a terrible situation, it had been left behind by the Industrial Revolution and was still in the grip of perennial depression, with emigration continuing unabated as it had done for a century. Manufacturing companies were being left behind by their European competitors, the future of Irish industry looked very bleak.

The state, however responded incredibly to this situation, building up in the fifties a tourist promotion body that is even today still the envy of many countries and an airline that had been created in the twenties, that gained similar respect. They also created a number of state-owned bodies to stimulate industry and to learn from more developing nations.

One of these state-owned bodies was the Export Board, "An Coras Trachtala," and in 1959 this body sought and was granted administrative responsibility for improving standards of Industrial design in Ireland. The board approached this problem by turning to the Scandinavians for assistance. Scandinavian design at the time was regarded as the best in Europe. The thinking at that time being, that any Scandinavia design was good design while anything from countries such as England was considered as bad design. This approach to design was very contraversel, as one of the main aims of Coras Trachtala was to establish an Irish identity in design. It was felt that by looking to Scandinavia for assistance that Ireland would just end up with a variation of the scandivian identity.

> The fear was that Ireland would make the mistake of adopting the Scandinavian style instead of the Scandinavian approach to developing a national design style ( Mulcahy, 1992, p.47 ) .

Eventually a decision was made and in 1962 an Coras Trachtala invited a group of eminent Scandinavian designers to Ireland to report on the state of design in the country. The five man team spent two weeks visiting factories, colleges, museums and shops. Their report Design in Ireland, published by the Export Board in 1962, was based on a selective but well balanced survey. Although it was predictably critical of the level of design awareness in industry and a little idealistic in its recommendations, it was perceptive and optimistic.

The bases of its report can be summed up in the following quotation from its design report:

> Ireland, by virtue of her lack of sophistication in matters of design, has a unique opportunity, denied by circumstances to many more developed countries, of making a great contribution, not alone to her own prosperity and culture, but to the culture of western Europe. We believe with courage and foresight the possibilities can be realised ( Scandinavian report, 1962, p. 2 ).

The recommendations of the Scandinavian study was appreciated greatly by the Export Board, but it was viewed basically as a short sighted solution. What the Export Board wanted was a more permanent implant of design skills; a solution that would have a lasting influence on industry and on the Irish people generally.

This view was expressed in the foreword of the Export Board to the Scandinavian report:

> Good design is an undeniable necessity to the growth of our export trade, but standards cannot be raised for export goods only. The factors that determine the quality, good or bad, of the designs we produce are deeply rooted in our homes, our schools, our shops, our historic traditions; our whole way of living ( Export board, 1962, p. 8 ).

Therefore to achieve this concept an organisation was created by the Export Board. This organisation would be a sort of missionary centre of influence, but its emphasis would be on practical demonstration. It was to be a community of experienced designers, with craftsmen and technicians who would work with industries and prove their designs in prototype before they were adopted by the manufacturers. Of course a great influence on this organisation was in the creation of jobs in Ireland.

It was accepted that many of the professional designers and other specialist staff would have to be recruited from abroad, with Irish craftsmen and trainees working alongside them to gain both experience and confidence.

> A permanent up grading of the country's design performance must depend on our own native talent. It is inevitable in the early stages that we bring in established professionals from other countries to train others and to share their experience ( Walsh, 1995, p.7 ) .

Once the bases of the organisation was decided on, the next problem was to find a suitable location. This was a difficult task as the Export Board had decided that the organisation should have an identity of its own, not to be over shadowed by existing state agencies in Dublin. A location where a community type situation could be achieved was recommended. Somewhere where the craftsmen and designers could interact, share resources and pool ideas.

Such a location was found in the castle stable buildings that stood empty in the centre of Kilkenny city. Kilkenny then with a population of approximately 12,500 is roughly equidistant from Dublin, Cork and Limerick. Kilkenny also is regarded as one of the most beautiful and most cultural cities in Ireland.

The city contains a collection of well preserved old buildings some dating from mediaeval times; buildings like Kilkenny Castle, Rothe House, St. Canice's Cathedral and of course the eighteenth century complex of stable buildings, that the Export Board chose as the organisations new home. The stable buildings themselves are perfect for the task as they are architecturally distinctive and are considered ideal for the craft based activities then envisaged, as well as offering the potential for some staff accommodation.

The formation of state-owned but autonomous companies is the characteristic way in which Ireland responds to need for active intervention in commercial and industrial affairs. The larger "semi-state" bodies as they are generally called are formed by special legislation introduced by the approbate department of state, and are made directly answerable to its minister through boards of directors appointed by him. However, when the Export Board itself a satellite of the Department of Industry, sought to set up the new institution to serve it in matters of design, it used the simpler expedient of registering a private company wholly owned by itself.

Thus in April 1963, Kilkenny Design Workshops came into existence without public debate or political lobbying, and without direct responsibility to a government minister.

CHAPTER 2:

## PRODUCT DESIGN IN KDW DURING THE SIXTIES:

Kilkenny Design Workshops initial work was emphasised on craft-based industries. This approach was a deliberate and purposeful one as an early catalogue of KDW's work stated:

> Attention has been concentrated on traditional products. This is where innovation starts, where a country's cultural characteristics show themselves, and where the standard of its manufacturers is set ( Walsh, 1963, p.3 ).

Another reason for this approach of work, was because design had already become a recognised feature of craft-based industries. It was even considered by some craftsmen as a necessary ingredient of success. Overall though underrated and ill-defined, the designer's role in these industries was at least acknowledged. It was felt also that in succeeding in these areas of industry that other manufacturers would take notice of the level of work KDW was capable of. It was through craft work that KDW would also be able to make contact with the people of Ireland. KDW could use this contact to help build up an understanding of what an industrial designer was and what role he could play in society. This approach also accomplished one of KDW's major goals which was to revive Irish craft-based skills which were not in commercial currency at that time.

So in 1965, KDW commenced its first year of full operation.

The majority of work done by KDW in the sixties was of a craft based nature but there were some industrial products designed during this period of time.

Ireland had always had a good reputation in producing fine silver ware, KDW tried to carry on this tradition in an enthusiastic way. The precious metals workshops was in fact one of the first established by KDW and one of the few that remained unchanged during the 21 years of KDW's existence. Some beautiful ranges of jugs and cups were designed and made from silver. Also different designs of candlesticks were commissioned in the starting years of KDW. It has been said that some of the jewellry and hollow ware designed in the early years had echoes of early Christian Celtic metal ware.

Another interesting approach taken by KDW was in its exploration of different materials and different manufacturing methods of producing goods. The designers and craftsmen were encouraged to explore the potential of materials like pewter, cast and wrought iron, casein, horn and leather and particularly that of indigenous ones like local pottery clays, bog oak, Irish mined silver and the dense black limestone known as Kilkenny marble. Examples of this type of exploration of materials can be seen in the setting up of Bormic. A candle making company which was created by KDW to fulfil the market, that their diverse candle making techniques had created. KDWs use of materials like "Kilkenny Marble" developed a number of products, which also resulted in the establishment of a number of new manufacturing companies.

This approach to design was viewed by KDW as their most effective chance of penetrating overseas markets. And it was through the design of unusual and distinctive products that KDW thought this was best achieved. Examples of these types of products are the wooden tobacco jar with marble lid. These novel products helped employ local people and helped a lot of existing companies to diversify their range of production. It also made the Irish industries aware of the materials available to them in their environment.

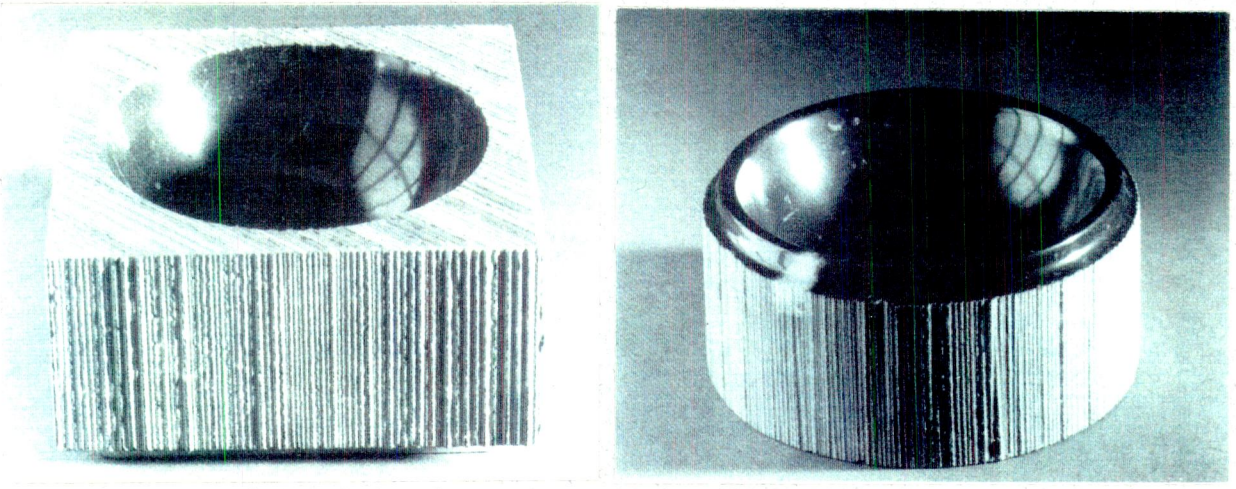


Fig.1(a),(b) Ashtrays designed using a variety of local materials,

Fig.2 Wooden tobacco jar with marble lid. These products achieved the unusual by encouraging coopertion between specialised craft enterprises.

The same experimentation in materials was continued into the wood turning workshops. The main aim of KDW in this area was to develop products for quantity production, designed to match the skill levels of different producers. The products produced here were the likes of cheese boards, bowls, egg-cups, salad servers and toys. Also carved wooden figures were designed to allow firms with appropriate skills and equipment to diversify and take special market opportunities. This working with wood, lead to KDW's first design work with furniture. This work was on adaptations to traditional sugan chairs.

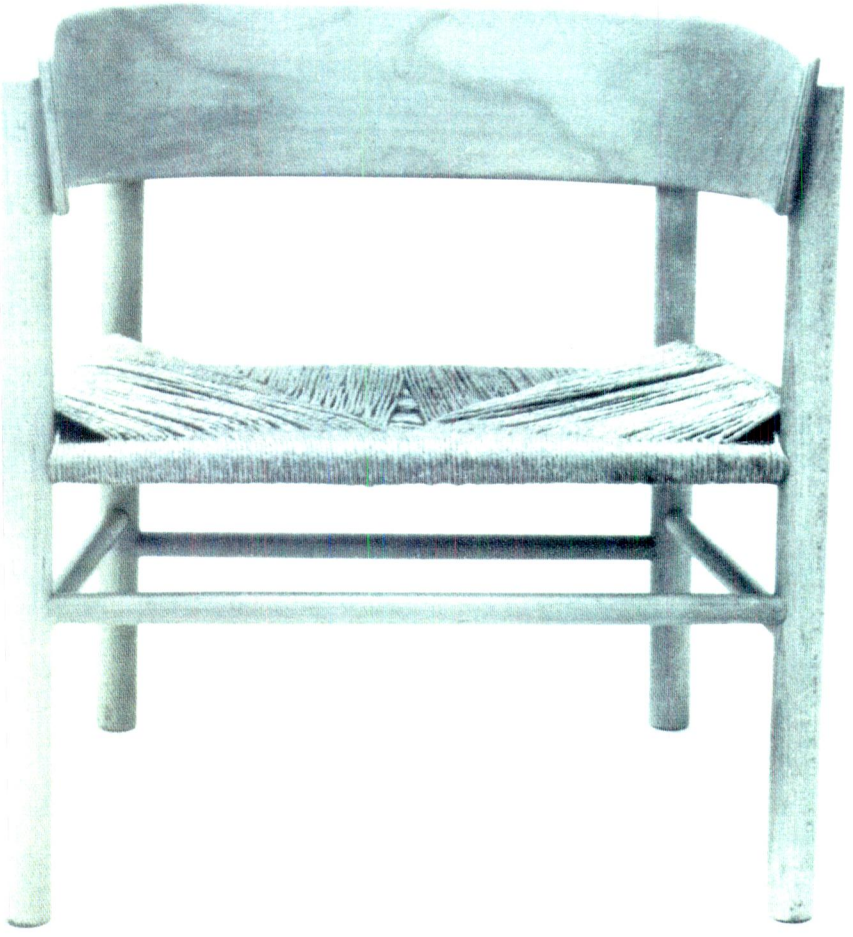


Fig.3 Adaptation of the traditional sugan chair.

The designs were commissioned by the Ardee Chair Company. The alterations to the original design were very successful as the time and cost of manufacturing was substantially reduced. This project lead to the opening of a training workshop which was arranged so that a Danish craftsman could teach factory employees the techniques of seat stringing. This was an example of teaching which some say was a contributor to the overall closure of KDW because a lot of time and expense was put into the teaching and training of craftsmen. They learnt the skills and gained experience and confidence through working for KDW. But many of them left after reaching a professional level and set up their own business and in turn created a lot of competition in a market that KDW was already struggling to survive in. It was events like this that although unstoppable and unfortunate were inevitable.

Another example of furniture design by KDW during this period was the work on the furniture commissioned by Conran Associates for London Airport. This design was very influential at the time, not only for its form, but also for the choice of material used in the seating. This material was "Moquette," it was an unfashionable fabric in 1966 when KDW suggested its use in the seating. KDW designed a cut wool marquette for the purpose and the material was excepted. This marked a turning point for an Irish mill which had the facilities to produce the material.

This approach in design was very important to KDW as it was through finding different contracts and commissions that the salvation of struggling companies could be obtained. Much of KDW's early work was in finding new applications for the products and skills of firms that were in decline and through design helping them to respond to new market opportunities.

This again was viewed as a wrong economical approach on the financial bases of KDW as a lot of work was done with struggling companies instead of more profitable work which could have been done with more successful companies. KDW may in retrospect be criticised for failing to appreciate that it is by leading a nation's industry from the front rather than pushing it from behind, that the best results are likely to be achieved.

KDW also made revolutionary moves in the area of pottery in Ireland, a craft that was almost unknown during the sixties. KDW accomplished this through the introduction of well known potters such as Sonja Landweer. The designers and modellers worked side by side with the potters to develop slipcast pieces for factory production. There were very few services provided in Ireland for pottery based industries before the creation of KDW. KDW's services included plaster, moulding, model making, body and glaze research and testing and transfer making services were also provided. This gave the designers and craftsmen an opportunity to test the products under production conditions before they were licensed to factories for manufactures. The success of the pottery industry can still be seen through products such as the "fluted coffee pot" from a range called "Irish Lace" designed for Carrigaline Pottery in 1965. These products were designed so they could be manufactured with different glazes and in different techniques and are still available and sought after today, some thirty years after their introduction.

Another example of this type of product was the work done for Belleek Pottery. The Belleek Pottery range of hundreds of pieces mostly originated between 1860 and 1870. KDW believed that Belleek's growing market dependence on collectors and sentimental nostalgia should be balanced by new designs.

One obvious opportunity for this was in the design of annual commemorative pieces such as the Christmas plates of which KDW designed and modelled several.

Fig.4 A piece from the Belleek Pottery range designed by KDW,

CHAPTER 3:

## PRODUCT DESIGN IN KDW DURING THE SEVENTIES:

The beginning of the seventies, saw a change of direction for KDW. The concentration that KDW had had on the craft based industries in the sixties had caused Ireland's industrial structure to change radically. The seventies saw an end to the domination of craft-based industries and the birth of the engineering industries. Even though KDW had envisaged a change of scope beyond the craft-based industries, neither the rate of industrial change nor the implications for the company could have been fully anticipated. KDW had undertaken some industrial work up to this stage like the Wurttembergische Metal-warenfabrik projects, but it was clear to keep up with the advances in industry some serious changes would have to take place in KDW. Wurttembergische Metal-warenfabrik was at the time the leading German tableware manufacture in Europe. In 1970, KDW accepted a major commission of a two year programme to design a wide range of products for WMF. This range of products consisted of cutlery, cast-iron cookware, spun metal ware, glass, ceramics, and wood ware. This initiative resulted in not only some significant orders for Irish factories but also the success of the designs for manufacture abroad had the effect of radically improving KDW's credibility with industry in its own country, and of promoting more serious consideration towards the value of design.

This was not KDW's only work in cutlery, they also designed some pressed-steel cutlery for a firm in Enniscorthy owned by the manufactures Viners. The majority of the design work commissioned by Viners for KDW was done with American and Australian markets in mind.

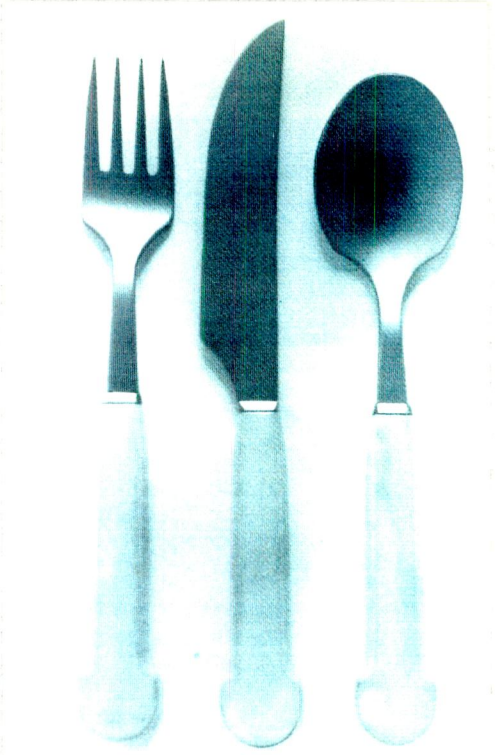


Fig.5 Cutlery design
for WMF by KDW.

Fig.6 Stainless Steel Cutlery
designed for WMF by KDW.

In 1973, KDW carried out a survey to find the need for design services in Irelands engineering industries. The results of the survey showed that even though engineering industries had shown a rapid growth, there was still very little understanding much less acknowledgement, of the potential role of the industrial designer. This survey's results were coincided with a development plan to encourage engineering based manufacturers to avail of the potential benefits possible when using the services of an industrial designer. This was done by KDW offering services precisely tailored to the needs of the different manufacturers. This service would be reinforced with the availability of model making, prototyping and technical information support. However in order to implement the above mentioned plan there would have to be a serious investment of capital made into KDW. This capital was needed to help in the expansion of the premises and equipment and for initial subvention to prime and promote the activities. Unfortunately for KDW at the time of this great need for investment the world was in turmoil over the first international oil crisis. Therefore the government at the time was only interested with cutbacks in state expenditure and was in no position to invest in KDW's plans for expansion.

So no matter how strong and confident KDW's voice was on proclaiming the potential and the need for growth, it could not be heard. This was a hard time for KDW as this was the first cold wind to be felt after the balmy days of expansion and investment in Ireland which had lead to the creation of KDW. This change in society found KDW thrown back on its own resources so to speak. This was not altogether a bad thing for KDW as it made the organisation realise what it was capable of. That the sporadic successes in design for non-craft industries were more than simply adventurous.

The view was expressed that the effect KDWs design work had had on improving craft based industries could have just as remarkable an effect on other engineering industries. These views lead to the adoption of longer term plans for a change of emphasis.

This change of emphasis was to occur over a ten year period, between the years of 1970 to 1980. This period of ten years saw a change in KDW from a group of individual designers and craftsmen, focussing their attention on traditional skill and labour-intensive industries, to a multi-disciplinary design team active and influential in most sectors of industry. This change in structure and direction lead to a series of slow changes in the ownership of the organisation. The first of these occurred in 1974 when KDW was made directly responsible to the Minister for Industry. As the work of KDW broadened over the years its responsibilities also broadened to the point where in 1978 KDW was assigned primary responsibility for the advancement of design standards in industry.

Another four years followed before the responsibility was recognised in legislation, when the company's capital structure was adjusted to reflect the reality, and the Minister for Finance became the majority shareholder.

The seventies were definitely a decade of considerable growth for KDW in terms of the breath of scope of its design services the amount of aid it received and the extent of its influence. In 1972 for example the size of the Kilkenny shop was expanded from 140 to 250 square metres. This decade also saw the opening of a larger shop in Dublin, with a gallery, restaurant and exhibition area and an almost double increase in employees from 70 to 130. The increased popularity in the shops set up by KDW were viewed as an encouragement in the replications of "prototypes" as a source of revenue.

This emphasised the thinkings in the formation of KDW which had been towards a "turn-key" approach to new product developments; designs were to be fully detailed and technically debugged before they were handed over to manufacturers. This predicated fairly extensive prototyping facilities capable of small scale production. This called for the facilities of KDW to be expanded.

The resources of the textile department for example included tappet, dobby and jacquard looms, a 14-metre hand silk-screen printing table and screen making equipment. There were other departments that even though not as extravagantly equipped as the textile department, were well enough equipped for the needs of KDW.

An example of such a department was the ceramics department. This faculty not only had potter's wheels and small test kilns, but also had equipment for making plaster models and casting moulds, slip mixers and a large production kiln. In order to maximise the use of such equipment and to supply the growing stock demands of the shop, it was reasonable for KDW to become a small-scale producer. Not only did this generate revenue, but it also provided more training opportunities and enabled KDW to test-market new designs. Over the years as KDW found less of a demand for traditional industries and saw the growing independence of others, this had the effect of reducing the demand for craft prototyping. This coincided, due to other activities in KDW, with a growing demand for more space. Therefore just as a number of KDW's original craft workshops, such as candle making and wood turning were the seeds from which new private industries grew, so in the late seventies a further set of enterprises was established based on the shedding of KDW's batch manufacturing facilities, including slip-cast pottery, textile printing, and part of the weaving capacity.

The staff that KDW had trained helped to establish these small industries, and much of their initial production enjoyed the security of orders from the Kilkenny shops. This shedding of certain facilities allowed KDW to concentrate on one of the main reasons for its creation this was Industrial Design.

A couple of examples of work done during these stages was the street litter bin designed for Dublin Corporation in 1973. This project was run in conjunction with a manufacturing company called Irish Aluminium Ltd. It was one of KDW's first projects that was to do with street furniture and would be used by people all over Ireland. Some of the features that had to be taken into account in the design of the litter bin, was that it had to be easy to empty, secure to stop it from being pushed over and it had to contain a lid of some sort to protect the contents from scavengers and preserve the environment. The design was highly successful and widely copied. KDW was later commissioned to design some variations by Dublin Corporation.


Fig.7 Street litter bin, Dublin corporation.

A dentist chair was also designed by the KDW design team during this time. This product was commissioned by a dentist after a number of years of research.

The interesting factors about this design is that it pivots completely about the patients centre of gravity and therefore it needs no power assistance at all, that is apart from the standard pneumatic lift mechanism installed to adjust the chair to different heights. The dentist chair was made in mild steel and glass-reinforced plastics with vinyl upholstery by Mornington Engineering Ltd. in 1971. The design of the chair incorporates an adjustable head rest ergonomically shaped to relax and maximise the comfort of the patient. Designs like this although not made for mass production were very successful in their particular markets and helped to establish KDW's good name in design among the Irish people.

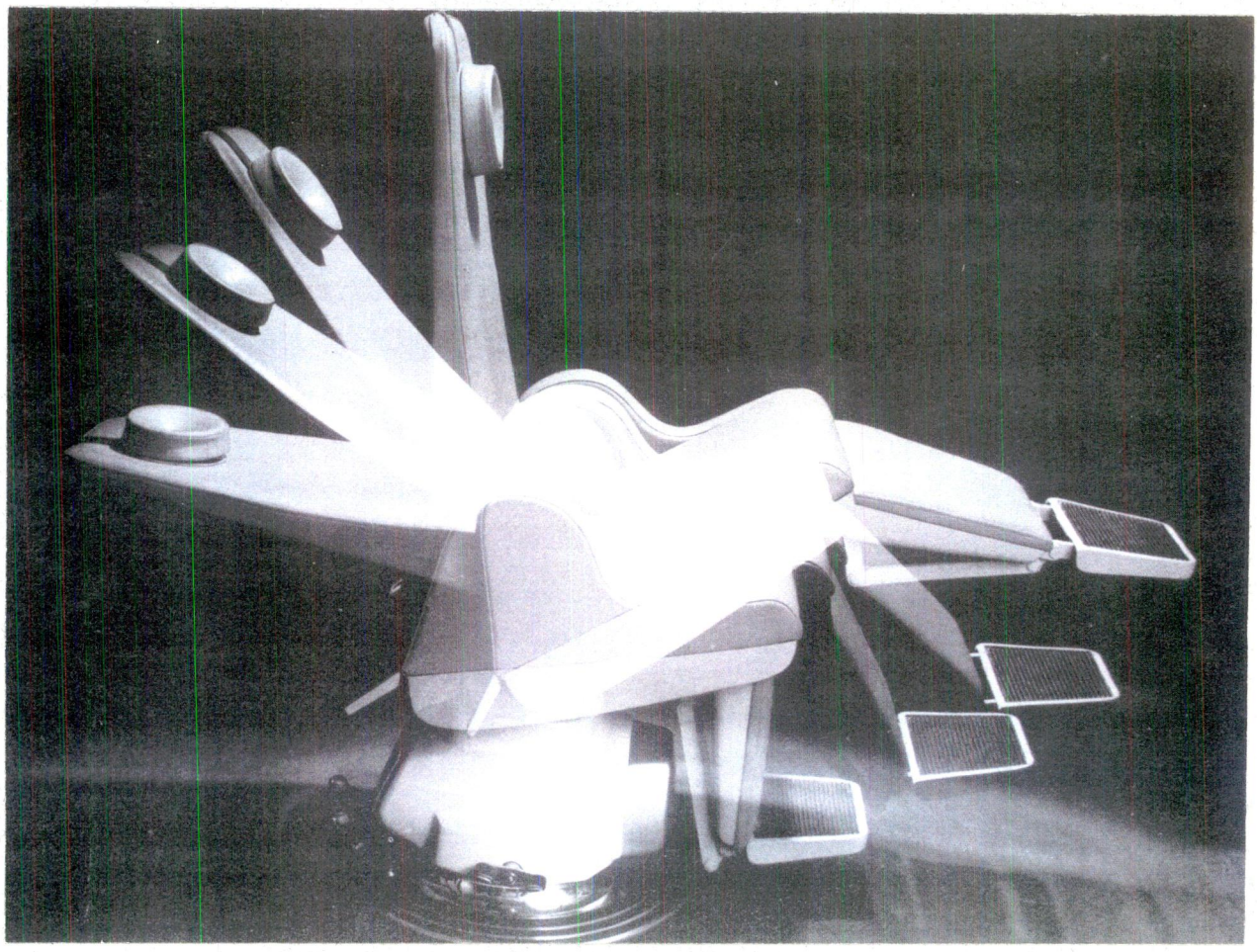


Fig.8 Dentist Chair.

KDW also design a number of furniture projects during the seventies, one such project was the Colour Set office furniture designed for C.A. Parsons of Ireland in 1974. This range of furniture was designed specifically to aim at the market of conventional steel desking. Before KDW started design work on the range a detailed research project was carried out on the existing ranges in this market. The research report from KDW revealed some interesting results.

Fig.9 Colour Set Office Furniture designed for C.A. Parsons.

These were that steel-tube construction, although apparently simple, incurred disproportionally high costs in welding and finishing.

In the designs by KDW the time of manufacturing was reduced by half and because all welds were concealed, finishing of the joints became unnecessary. Other interesting features of the design were the coloured end panels which were to be screwed to the leg frames of the desks to give a knock down construction with rigidity superior to all-welded frames. These considerations in the design of the range also facilitated procedures such as stock holding and transport. The pedestal, drawer and cupboard construction were similarly revised to provide practical benefits at reduced cost. KDW designed a range that comprised variations on up to nine main pieces of furniture. KDW also devised the name of the range to be coherent with the design of the range. They also used their facilities to design and write a brochure and directed studio photography for C.A. Parsons of Ireland. The work done was very effective and the ranges were highly successful for the company. The above ranges were just some of the furniture design projects that KDW were commissioned to do during the late sixties, and early seventies.

Another such project was done for the English furniture company, Heals of London. KDW accepted commissions like this from abroad because of the reluctance of Irish industries to take on new designs during this time.

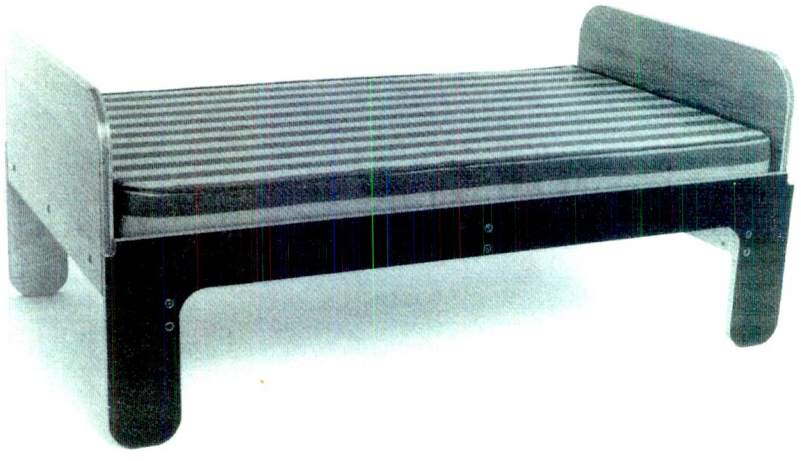


Fig.10 Child's Bed at its smallest size.

The product KDW designed was a child's bed which could grow with the child to adult size. This concept was accomplished by sliding an extension from underneath the bed to increase the surface area of the bed. Additional pieces of mattresses were also designed for addition onto the bed. The bed was made in England by Heals in plywood using pine veneer and plastic laminate.

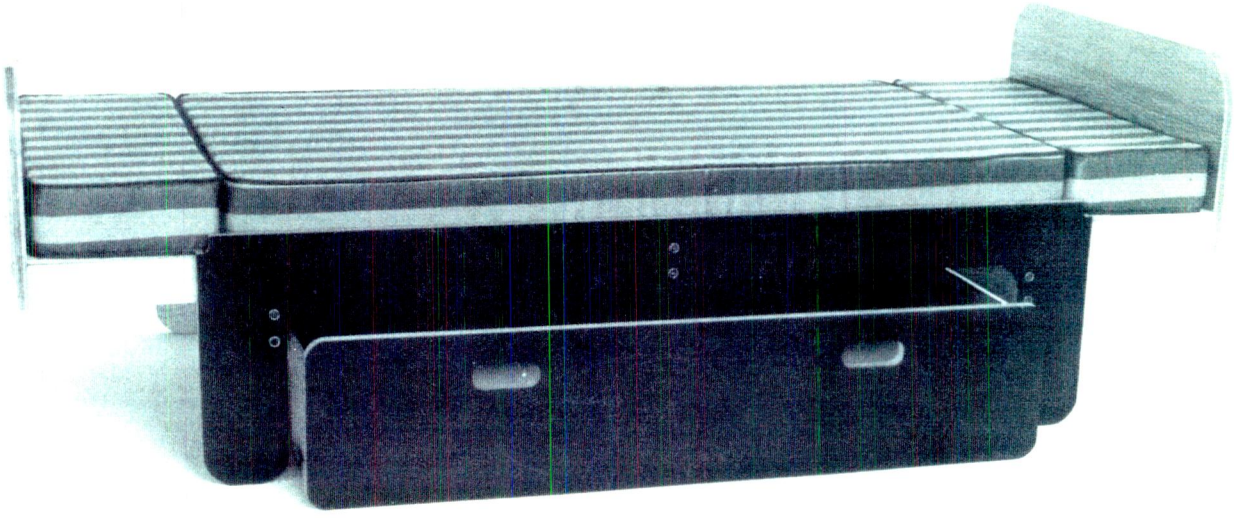


Fig.11 The Child's Bed at its Largest size.

The Kilkenny chair system, was first produced in 1974, this was a range of furniture that used modular units and shared end frames with visible steel connectors. This provided many permutations within the one range. There were a number of useful features added to the range through the design. Some of these features were the upholstery which was designed for washing and spin drying and offered a choice of polyethylene, denim or linen-nylon mix. The frame of the range was made from beechwood and offered a choice in finishing from clear varnish to any paint colour. The range was made by Metalwood Ltd. of Dublin for the Kilkenny Chair system.

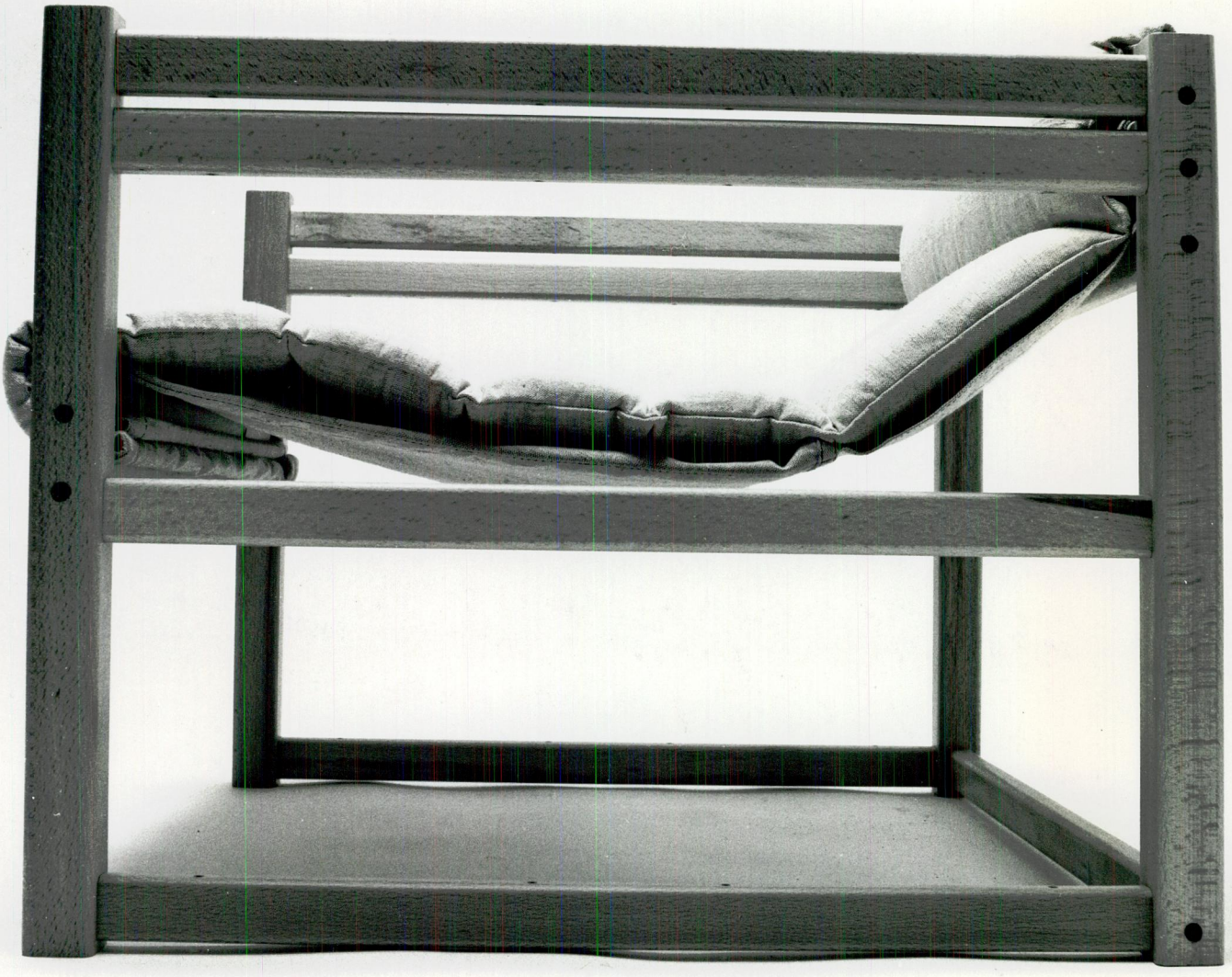


Fig.12 The Kilkenny Chair System.

KDW also concentrated on other industries besides furniture design during the seventies, the ceramic's prototype workshop at Kilkenny Design became a small batch-production pottery producing slip-cast stoneware and earthware, during this time. This workshop increased so much in productivity that by the late seventies members of its staff helped to form a commercial pottery with marketing support from the Kilkenny shop.

KDW went ahead with setting up this pottery through the selling of its machinery to the extent that KDW retained only the facilities required for prototype development, research and testing. An example of a small company that used KDW facilities for expansion and diversification was "Inisfree Pottery," in Sligo. This was a company that was set up primarily to produce figurines, but sought product design from KDW for diversification. Through this direction it produced a range of modular vases in black and white glazes which were marketed mainly through the Habitat shops in the United Kingdom.

There were other external influences felt by KDW that they had to adapt to. One example was the oil crisis, another, felt during the seventies, was the severe rise in the price of silver. This increase in price saw the demand for stock pieces to dwindle. Therefore in order for the KDW silversmiths to survive as a feasible part of KDW they needed to hunt for commissioned work. They designed and produced a range of candle holders for the mass in Dublin's Phoenix Park held in celebration of Pope John Pauls II visit to Ireland in 1979. Some of the ranges of candle sticks were made in conjunction with Waterford Glass which was commissioned to produce shrouds to shelter the candles. Another piece of art designed in honour of the momentous occasion was a figure of St. Patrick. This piece was for presentation to the Pope and incorporated the opening words of the "St. Patrick's Breastplate" prayer in Irish.

To accomplish this the silversmiths had to copy a copper marquette by Oisin Kelly. They did this by using wrought strips of sterling silver. During this period a number of commissioned and speculative jobs were designed, but because of the prices involved they could only be repeated when one of the products was sold.

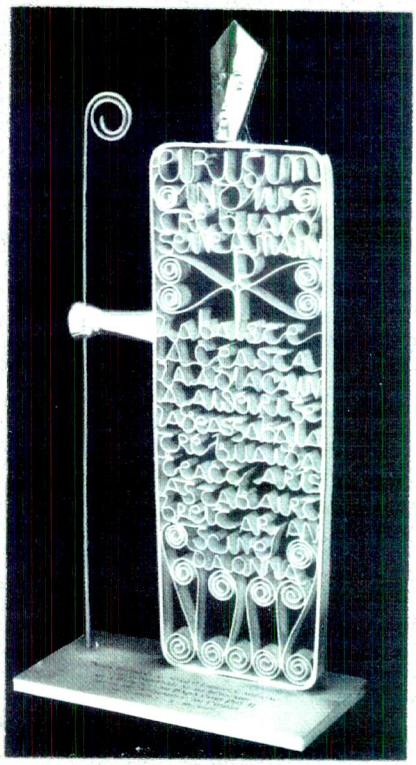


Fig.13 Figure of St. Patrick, for Pope John Pauls II visit

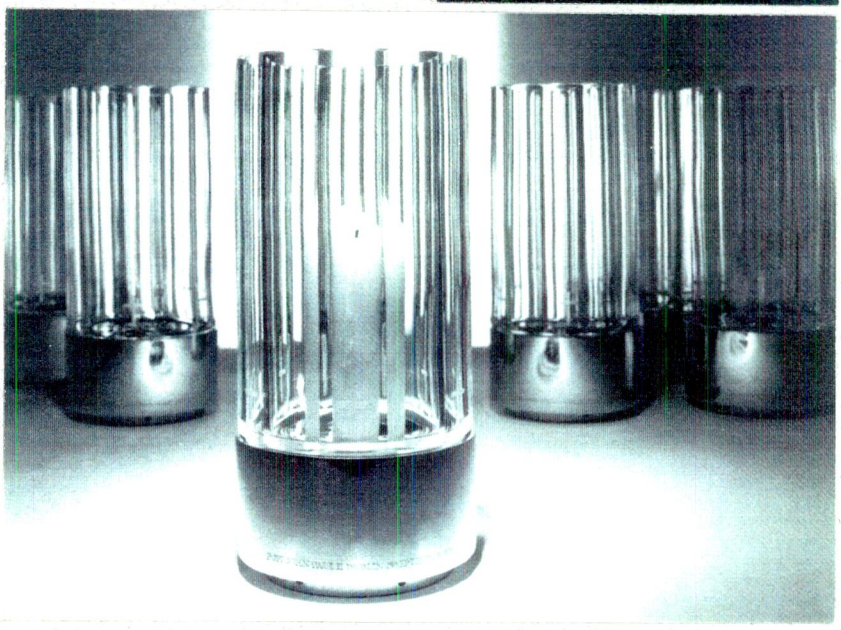


Fig.14 Range of Candle Holders designed for the mass in Phoneix Park in 1979.

Fig.15 Teaset in satin-finished silver with black acrylic fittings.

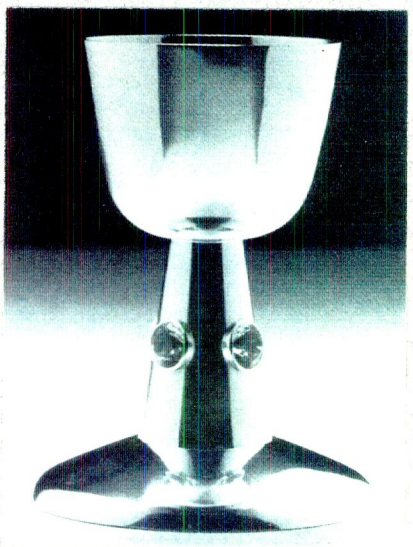


Fig.16 Speculative Job commissioned to KDW.

Telectron, was among KDW's first clients for the design of capital goods. Telectron was an Irish based company which made telecommunication equipment. It employed roughly around 500 workers, which though big by Irish standards at the time was small by the standard of its competitors. This set up although giving advantages in responding quickly to market opportunities came with the disadvantage of having to set design restraints in terms of short runs and low capital availability for tooling. KDW's work here was to design equipment for production on low technology machinery in such a way that it would compete with that made by more sophisticated techniques. The design work for Telectron was achieved in close collaboration between KDW's team of designers and with Telectron's electronics engineers. The commissioned work carried out took from 1974 to 1976 and included areas such as channel translation and pulse code modulation equipment for telephone exchanges and a PBX console.


Fig.17 PBX Console Designed for Telectron by KDW.

Another successful product designed for Telectron by KDW was the HLM 650 Level Meter. In this project, as was with the others, the designers of KDW worked with Telectron's engineers from the earliest stages of product development projects, so their understanding of ergonomics could help influence concepts long before products themselves began to take shape.


Fig.18 The HLM 650 Hand Level Meter.

For the HLM 650 hand level meter compactness and the distribution of controls for one handed use were the critical objectives of the brief. An example of the extent to which KDW designers became involved in the placing of components in the unit were apparent in the exploded drawings done for the product. This design, and other work that KDW did for Telectron proved very successful for them and created a lot of work for the company not only in Ireland but also through out Europe. But more importantly for KDW it drew Telectrons and other companies of its size, attention to design and how important a factor it was to success. It did this to such an extent in Telectrons case that the company commissioned a lot of work out to KDW over the late seventies and early eighties. They even commissioned a new graphic identity scheme for its divisions for which KDW produced a comprehensive manual, setting out application standards. This graphic design work was done in 1979.

Metal spinners Ltd. wished to distance itself from the competition with a range of aluminium pots coated in coloured polyamide. KDW specified phenolic handles with die-cast aluminium ferrules, and their cost was less than that of standard components from stock. The sale of the range was such a roaring success that Metal Spinners Ltd. were able to recoup the price of investment in design fees and that of tooling within a year.

KDW were slowly but surely securing the confidence of the manufactures in both Ireland and Europe. The designers were being commissioned to do some very interesting jobs and were themselves gaining a lot of experience and confidence in their own abilities. They majority of their product design work was yet to come.

CHAPTER 4:

## PRODUCT DESIGN IN KDW DURING THE EIGHTIES:

It was not until the late seventies that KDW industrial design department, truly got under way. This was because they had now built up a trust and a confidence with the engineering industries manufactures and with the public, not only in Ireland but also throughout Europe. This confidence in the abilities of KDW brought with it a number of very interesting and exciting commissions most of which will be the focus of this chapter.

The Institute for Industrial Research and Standards in Dublin commissioned KDW to assist them in designing an overhead projector for Bell-Howell. Bell-Howell was an American company which had recently established a factory in Dublin to make audio-visual equipment for the European market. The brief given to KDW was to design an overhead projector that they could target at the business market section of Europe. The projector had to conform with strict user and safety specifications. KDW introduced some innovative features such as the undercut-base which not only reduced the visual bulk of the overhead projector but also made the carrying and handling of the device easier.

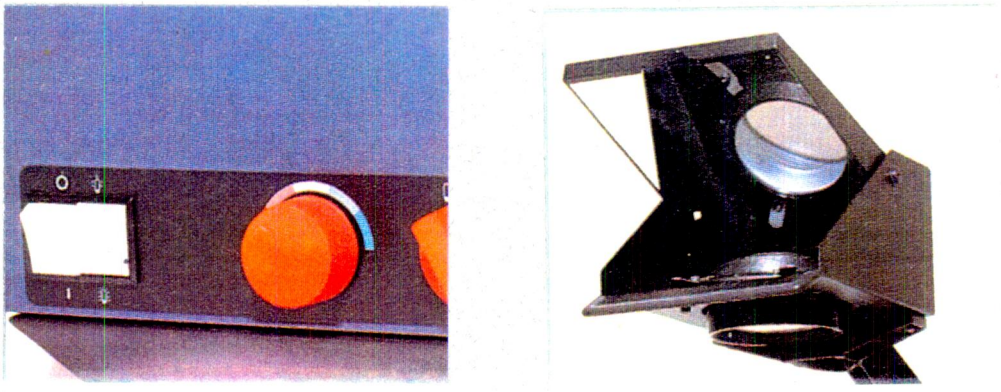


Fig.19 Details of the Bell & Howell overhead projector.

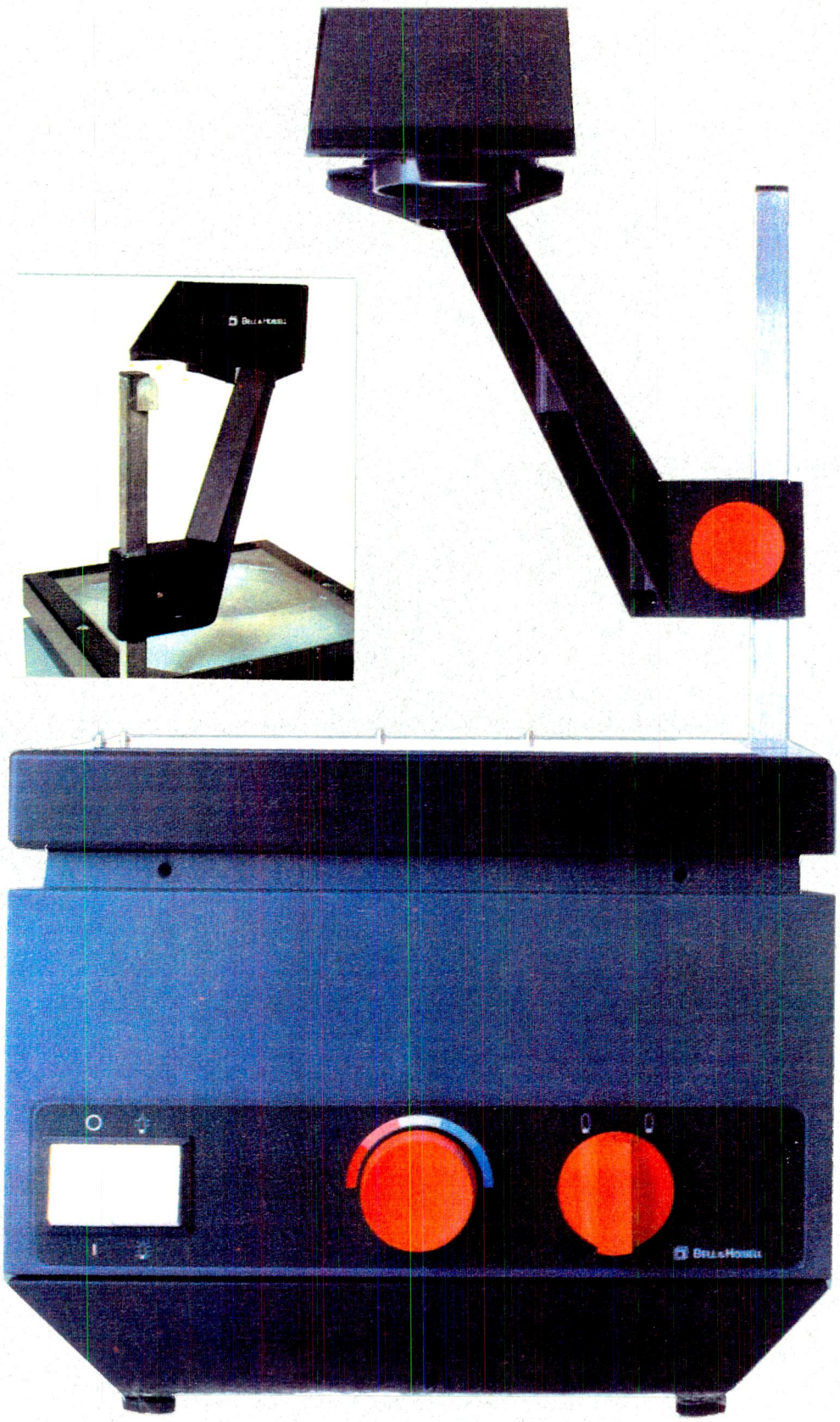


Fig.20 The Bell & Howell Over Head Projector.

The unit also incorporated features such as a low-cost cable storage unit, and integrated the support post into the sheet-metal case construction this made the unit stronger, cheaper and faster to manufacture. This was designed by KDW in 1978 and was very successful for the company.

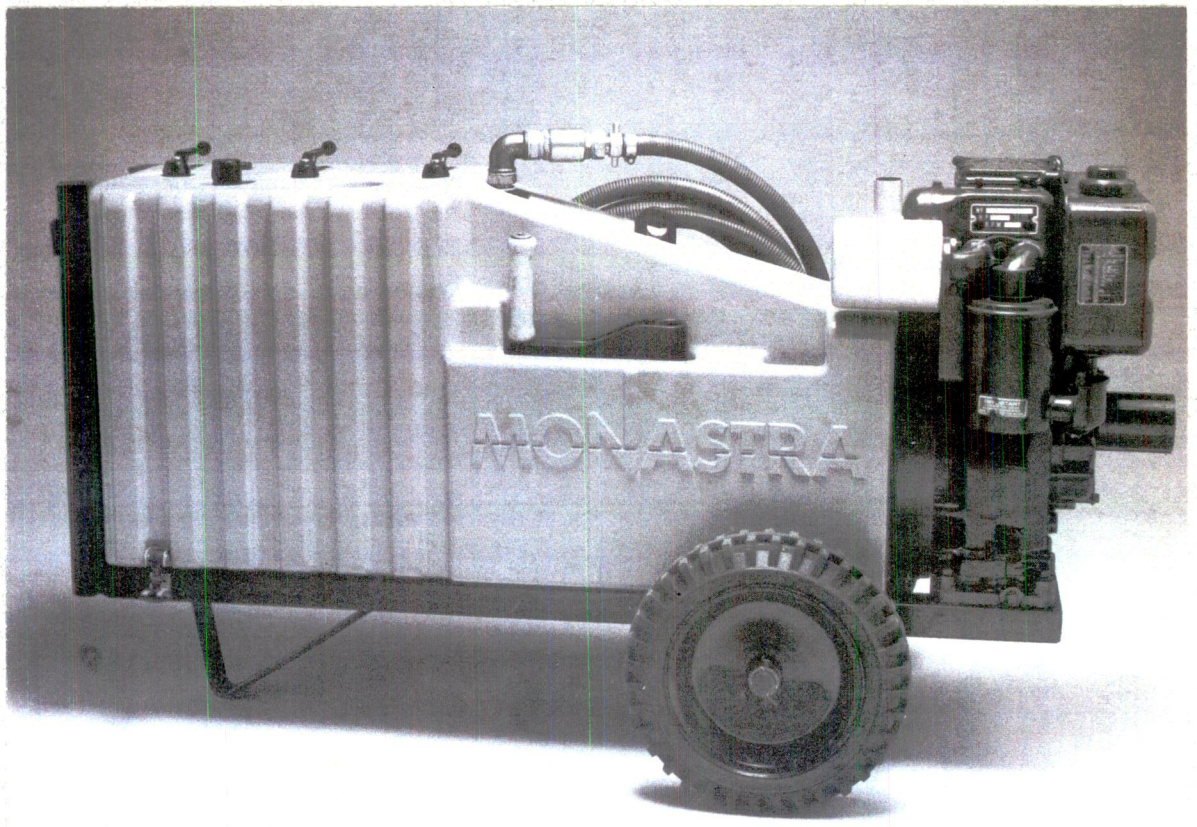
Another example of Industrial design that KDW preformed for a manufacturing company was in the design of the C1-10 for Laboratory Data Controls, this was a Shannon based subsidiary of an American company. The C1-10 integrator analyses liquids and was the first venture in volume producing for Laboratory Data Controls. As this was the first venture for the company in this area of manufacturing the company relied heavily on the expertise of KDW.

Fig.21 The C-10 Integrator for Laboratory Data Controls.

KDW had a lot of responsibility with this project as they had to balance anticipated production quantity with plant and tooling

costs, and also recommend a material for the casting of the device. Once this was done, they then had to find a suitable subcontractor to make the product. They were also responsible for the arrangement of components, which were mounted on the base moulding. KDW's finished design incorporated some interesting features such as the positioning of the place of access for adjustment to the logic, this was provided by a pull-out board at the back of the unit, making exposed circuitry unnecessary. This made the device not only safer and more asethicaly pleasing for its user's. This was one of the most significant features of design in the project as manufactures in this field did not usually pay much attention to ergonomics or appearance. Laboratory Data Controls had the vision to use these aspects of design, so that the C-10 integrator would have an edge on the competition in what was becoming an increasingly discerning market. This design work was done for the company in 1982 and was also highly successful for them proving that investment in design is essential if companies are to survive.

KDW were commissioned in 1977 by Astra Pump Hire to produce its first product which was to be called the "Monstra," high-pressure test pump. Astra Pump Hire was a company which supplied a variety of imported pumps to the construction business in both Ireland and Europe. As this was to be the companies first product, they wanted it to set a good name and reputation for the company and hoped that the investment in design would do just that. In designing the high-pressure test pump, KDW studied the existing pumps in the market and looked at the faults in their designs. Through their research KDW found that there was ample scope for improvement in this market, particularly in the user convience aspect of the design. The final design of the "Monstra," high-pressure test pump incorporated a number of interesting features of design. Here are a few examples of the improvements in design of these types of pumps, made by KDW.



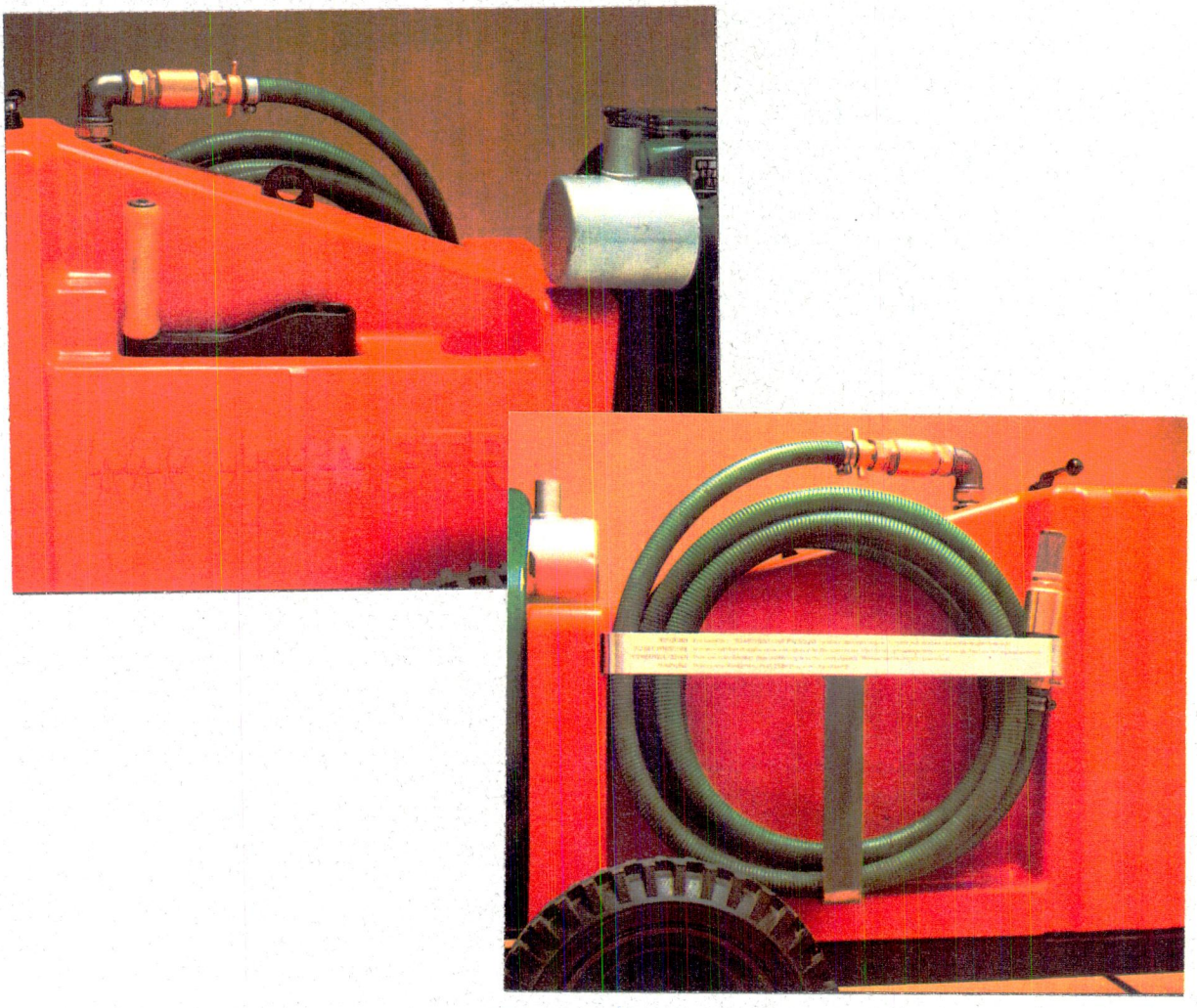



Fig.22 The "Monstra" pump.

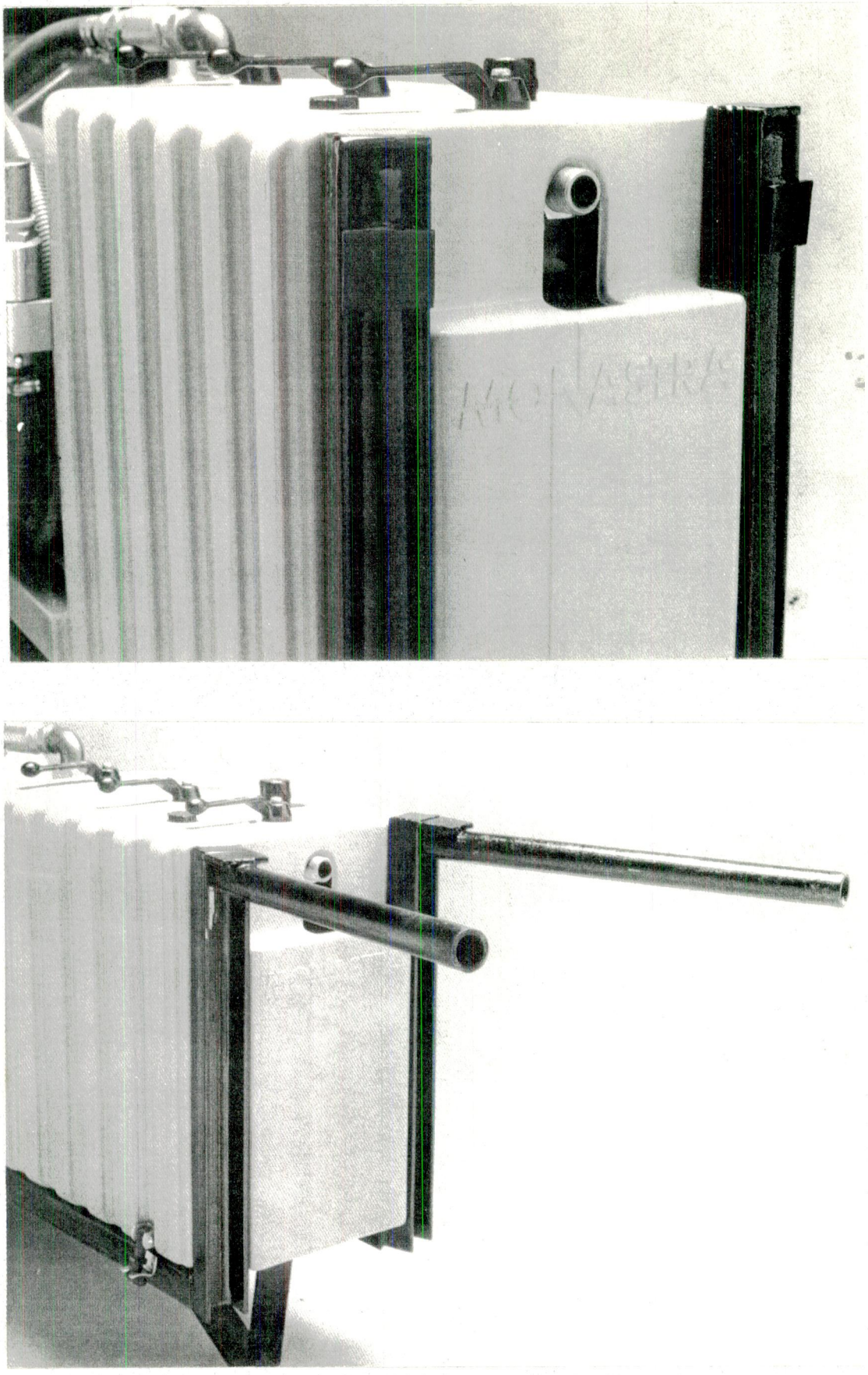


Fig.23 Details of the folding arms in the Monstra pump,
Designed by Oliver Hood.

The chassis rests on three points instead of four, this increased the stability of the pump on rough terrain. The design also incorporated a lifting eye at its centre of balance, and folding handles to reduce the overall dimensions, this was very effective as it cut down on the cost of transportation as it allowed the pumps to be more compactly stored. The fibre-glass cover also provided the storage space required for the hose and the starting handles and all the controls for the unit were located on the top of the pump, this was done to increase the ease of access. KDW's designers went as far as simplified the hydraulic circuit of the pump, they also sourced more efficient and less expensive values to be used in the device.

The namestyle and both the instruction and maintenance manual of the unit were also designed by KDW. They also built the tool from which the cover of the pump was made. Most of the new features gave the manufacturers demonstrable advantage over competitors without additional costs. This allowed Astra Pump Hire to compete in the European market as well as the Irish market successfully.

Another small company that looked to KDWs for help in its formation was Lake Electronics Ltd. This was a young Irish company that specialised in manufacturing telecommunications equipment for major customers all over the world. Their first products were a barring unit and a call meter device, both of which were designed by KDW in 1979.

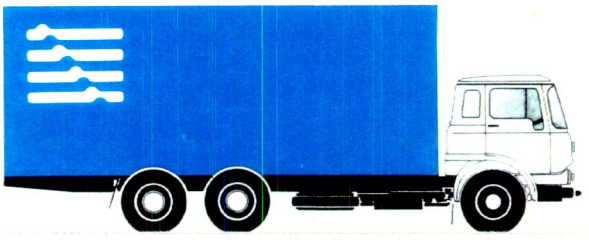


Fig.24 Graphic design work done for Lake Electronics Ltd, by KDW.

The brief given to KDW for both these designs called for minimal tooling to be used in manufacture and also had to specify processes approiate to short runs. These products proved very successful for Lake Electronics Ltd. and helped the company secure stable clients around the world. As the company grew and flourished in wealth and capacity, so to did its approach to manufacturing. During the early 1980s, it introduced a second generation of products which were KDW designed for high-volume production.

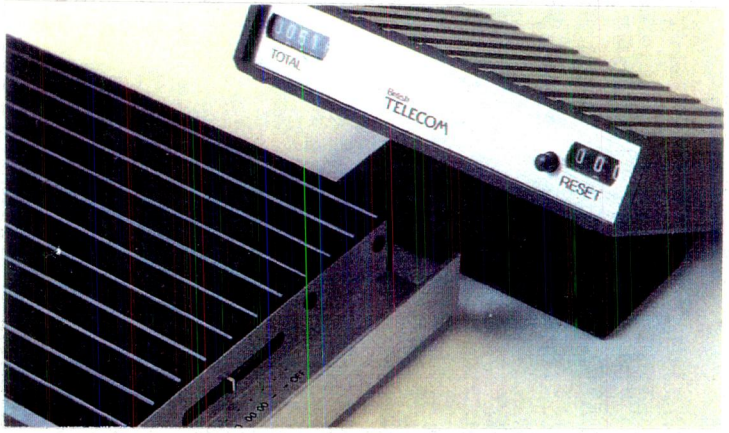



Fig. 25 Lake Electronics Ltd.

KDW built up a very strong and successful relationship over the years with Lake Electronics Ltd. and were commissioned to design a number of products for them. KDW during this period not only helped to develop these products but also to design communication material including stationary, brochures and packaging.

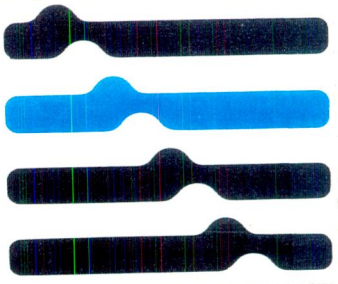


Fig.26 Graphic style used.

KDW made the design of these materials coherent and consistent by the applicating of a symbol and graphic style designed to reinforce the company's image among their customers.

The design work preformed for this company was a perfect example of the abilities of KDW. This was one of KDWs strongest assets, that it could provide so many different facilities to any company. This allowed the company to easily follow all design work done for it both industrial and graphic and helped to build a relationship between the design consultancy and the company.

KDW also had the facilities to work on any type of project independent of its size, in fact some of its smaller commissions were some of its most successful. One of these such projects was the dentist metal pin dispenser. This project is a perfect example of the designer working as an inventor. Up until 1977, small metal pins used in dentistry were supplied in expensive compartmented boxes with lids.

This system caused a lot of problems as it was expensive and slow as the dentist had to sort through the box of pins before he found the one he required. KDW was commissioned to design a faster, more practical and more economical way of distributing the required pins. KDW solved all these problems through there devised design of a flat plastic dispenser which had the following features. It was coloured coded for quick referencing purposes, cheaply manufacturable and contained a transparent rotating top which was divided into segments. This feature allowed the dentist to choose any pin he required and dispense it with one hand. The shape of the unit was not just asethically pleasing but also allowed for the dispenser to be posted in a standard flat envelope.

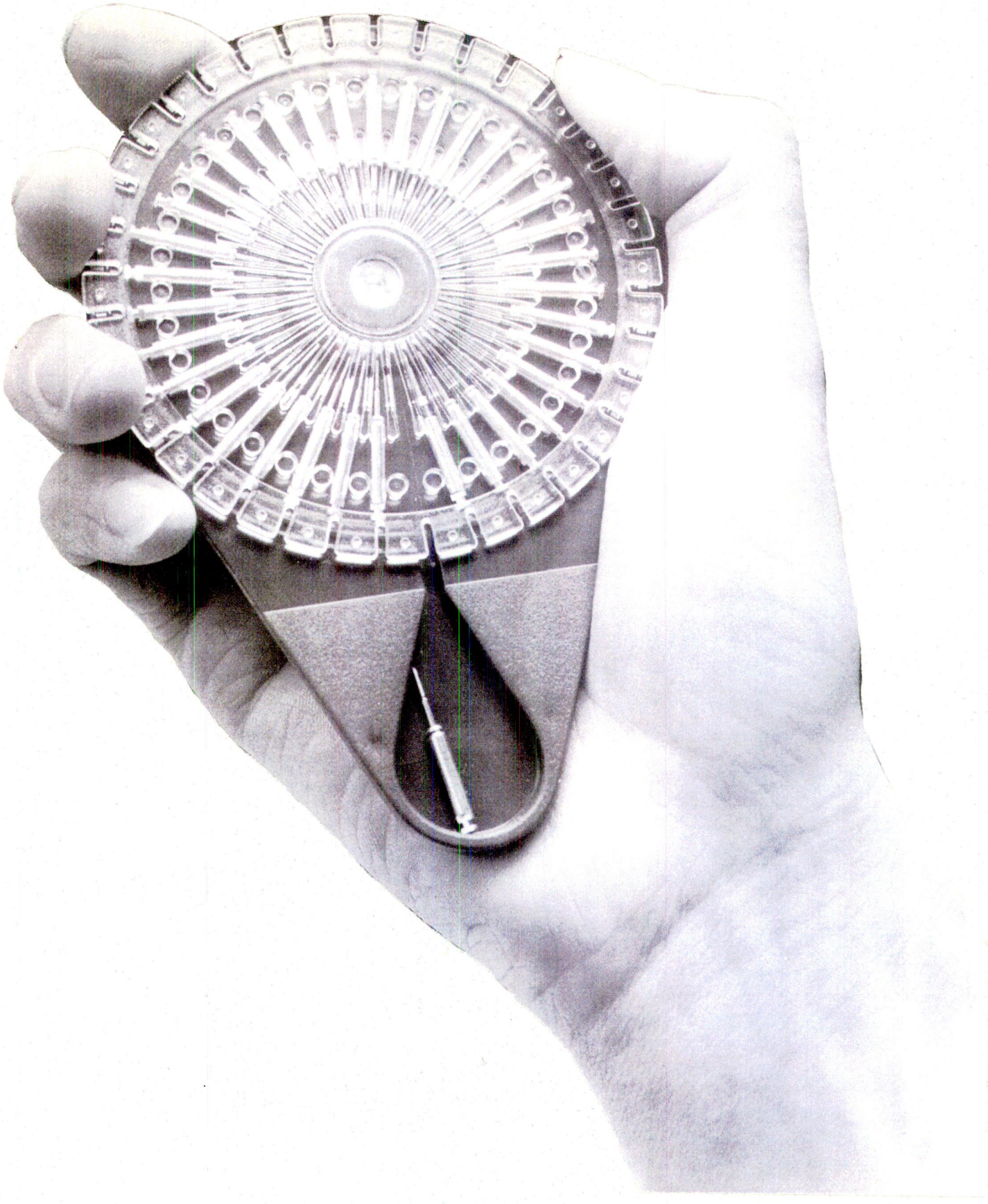


Fig.27 Dentist pin dispenser.

The dispenser came in a wide range of colours and remained in production until recently. It was through projects like the dentist pin dispenser that the designers whatever there specialisation, developed a capacity to analyse all sorts of problems and to conceptualise solutions which could satisfy quite different and even conflicting requirements.

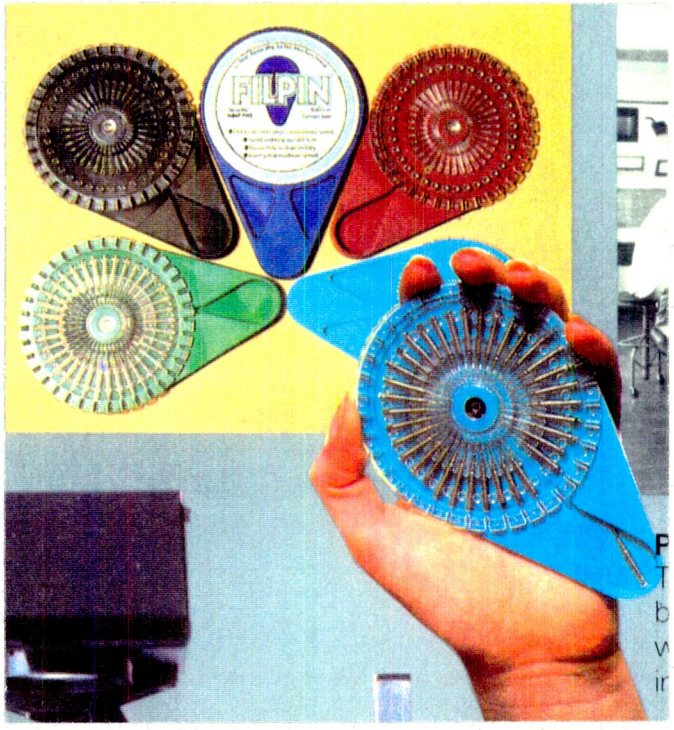



Fig.28 Range of colours that pin dispenser is available in.

The Elan Corporation project was one such project that required this capacity from the designers in KDW. Elan Corporation commissioned KDW for ideas on how drugs could be administered through the skin in ways that would be psychologically acceptable to the patient and also comfortable in its application. A multi-disciplinary team produced sketch ideas of practical ways of using bands, adhesive strips, liquid bandages and other expedients, analysing the human factors and production implications of each. Even though the project was in some aspects purely conceptual, the ingenuity and creativeness of the designs showed the capacity of KDW.

Another interesting project under taken by KDW in the early eighties was the design of a chef's hat for a company called Foodline. Foodline, was a distributor of catering accessories and had become dissatisfied with the high cost and poor quality of the imported paper chef's hats. KDW designed a hat that could be formed from flat cut-outs by a simple tool and was adjustable to fit different head sizes. The material KDW chose for the hats was a non-woven fabric, the reasons for this chose was because the material lasts longer than paper and is also more hygienic and a lot more comfortable to wear. These are very important features, and were put forward in the brief to KDW as there are essential in the hotel and catering business. The design was patented and is still being successfully exported through out Ireland and Europe (see figure 29).

KDW also around this time helped a lot of companies to get off the ground through incorporating different inventions and designs into their industries. One such company was Anti Skid Controls Ltd., this was a company which was set up to try and deal with the increasing amount of lorry accidents in Europe. Anti Skid Control Ltd. constructed a computer system which could monitor incipient wheel-locking and prevent jack-knifing or skidding by instanteously overriding the brake controls. KDWs contribution to this project was in the designing of the cab-mounted casing for the electronic circuits. The cab-mounting had to contain the following design features, it had to be inexpensive to manufacture, robust and tamper-proof. KDW also designed a symbol which had an application to the product and the graphics department designed brochures and stationery, a demonstrational vehicle and uniforms. The consistent use of the symbol through out the company helped to establish an identity in its required market. Anti Skid Control Ltd. found the device to be very successful and it was said to have a considerable influence on the drop in lorry associated accidents throughout Europe, at the time ( see figure 30 ) .

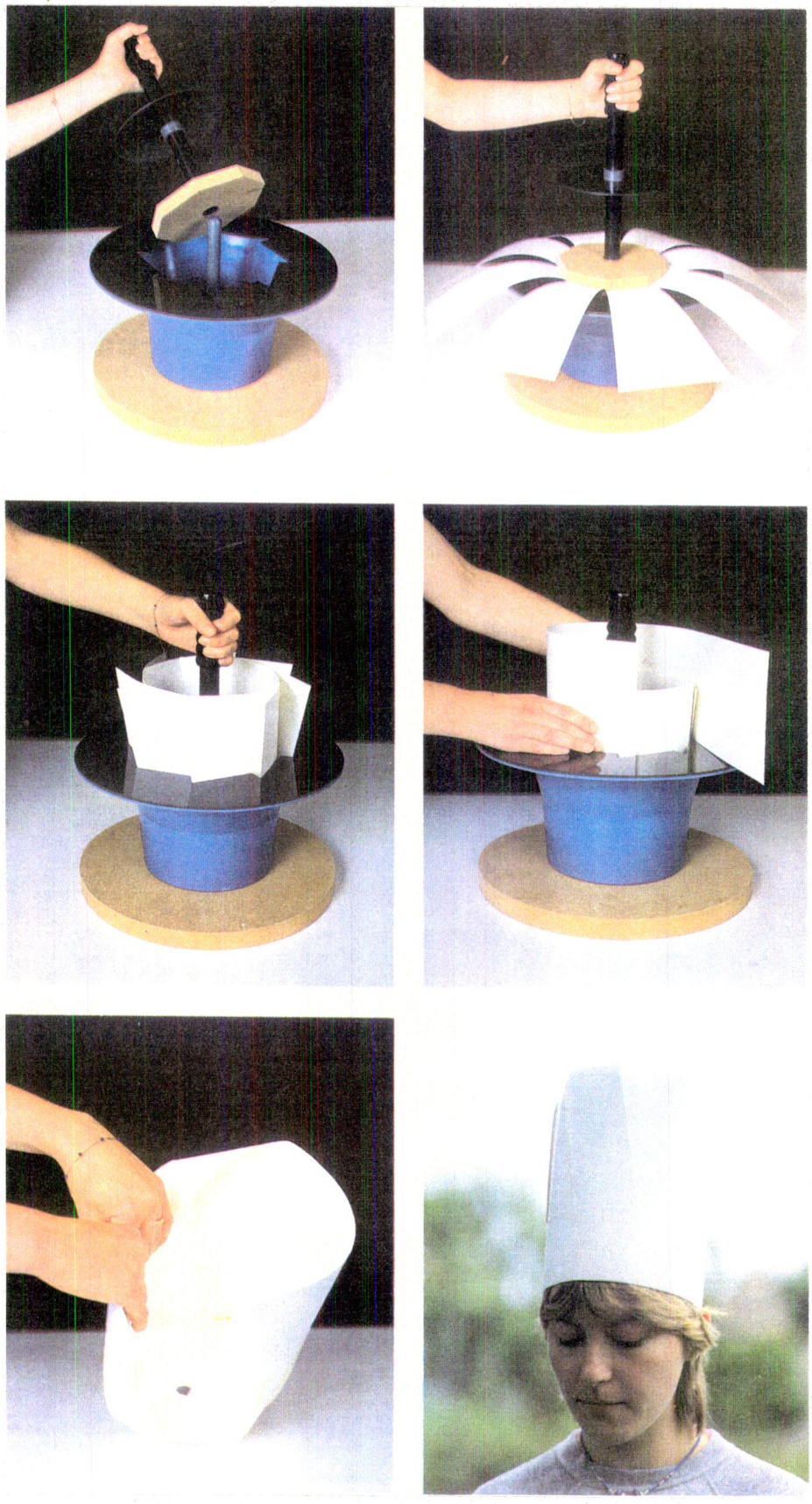
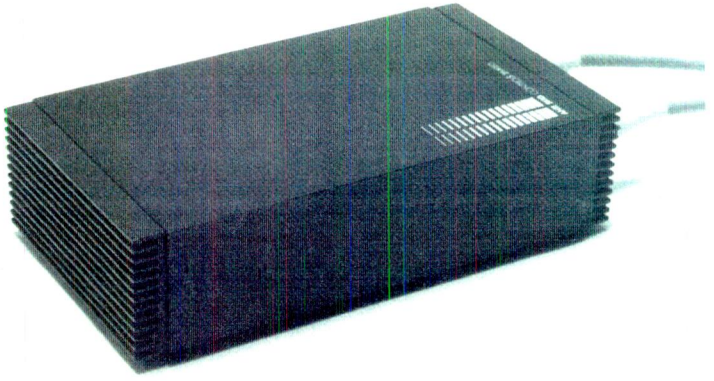


Fig.29 Foodline, Chief's hat maker.

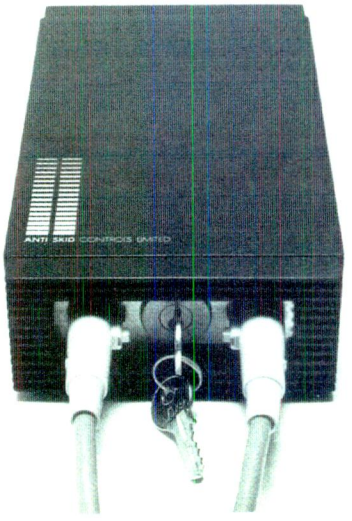



Fig.30 Anti-Skid Device for Lorries.

The old-established firm Waterford Iron founders took on new life under new ownership in the late seventies, early eighties, and determined to supply the growing North-American market for wood-burning stoves with its own version of the traditional Scandinavian box stove. Originally the company approached KDW to re-style the panels, but were impressed with the knowledge of KDWs design team on the different processes of manufacturing. They enlarged the brief when they encountered some constructive interest in cost-saving innovations from KDW. The first stove designed was the 102 stove. This stove worked like the Scandinavian models, but achieved airtight assembly by using multiple small panels, produced cheaply with automatic mould-making equipment. Some recognition of the level of design in the stove was the world-wide patents awarded to the details of the fire door and the four-way flue outlet. This design work was done in 1977. The 103 stove with double glass doors, designed in the following tear, was totally original in concept. Initially a multi-fuel design, it featured a novel grate which allowed adjustment of airflow for maximum efficiency with the fuel in use, and a modular plinth with provision for fan-assisted convection. Marketing strategies changed and many of these original features were lost in the final wood-burning version which nevertheless achieved high efficiency levels and was well received on the US market. General recession forced the foundry to close in 1981 but it was acquired by a new group in 1982 which has given KDW a design management role in the development of this and the other companies in the group.

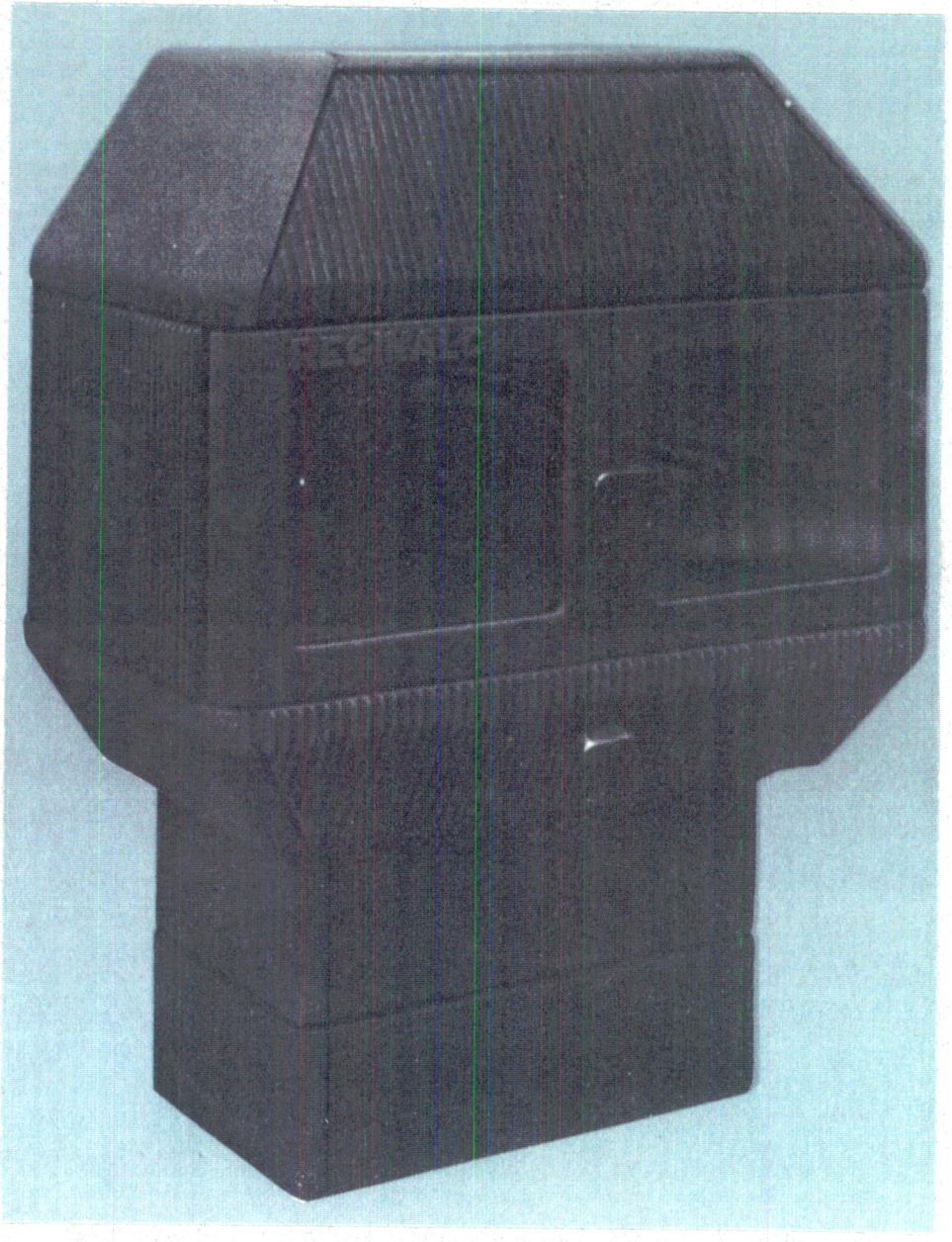


Fig.31 The 103 Stove with double glass doors.

KDW also did a lot of work in the field of packaging for a number of different companies across Europe. One such company was Tretorn, a swedish-owned company that manufactures tennis balls. Ireland is the world's largest exporter of tennis balls and KDW was commissioned in 1983 to design a packaging system and graphic identity to accompany a new tennis ball they were manufacturing. This new tennis ball was solid and matched the lively preformance of pressurised balls and lasts up to eight times as long. The packaging design, which Tretorn had always commisioned outside Ireland before, had to suggest the quality and technology behind the dramatic improvement in performance. The KDW design team also had to attempt to counter consumer assumptions that the expensive ball in the pressurised can was inherently superior to tretorns. Tretorns claimed that the sales increased by 50% in the first four months using the new pack, and KDW's success brought them a commission to study alternative ways of packing and dispensing balls for future packs.


Fig.32 Tretorn Tennis Ball Containers.

## CONCLUSION:

The variety of products and depth of detail and expertise in KDW's industrial design work has been shown through out this thesis. It has also focused on how KDW managed to turn the thinking and direction of a society, that had been left behind by industry and manufacturing into a now thriving commodity. Starting with craft-based industries in which they created and saved many small business and first caught the eye and respect of the Irish people. This was a stepping stone from which, KDW could move on to engineering industries both here and in Europe. This approach of design was essential, in order to make the break into industrial and engineering based industries. It was a slow process in which bit by bit manufacturers in Ireland and in part Europe began to realise the role of the designer in industry and realise that it is only thought good design that success is possible.

> Good design and a worthy environment are things that we owe to ourselves and it is, in any case, probably only out of this realisation that acceptable as well as exportable products can come ( Walsh, 1963, p. 7 ).

The development of product design in KDW, was on par with the development of product design and design awareness across Ireland. Through the opening of the design shops KDW gave the public an opportunity for the first time to sample what good and tasteful design was. They showed how the use of features such as ergonomics in the design of products can have devastating effects on its efficiency. KDW was confronted with the challenge of bringing design into Irish Industries and homes. They did this with the assistance of the Scandinavians. Scandinavian design had come and gone in Ireland and with it, the Kilkenny Design Workshops. Irish society in the 1960's was

not sure of itself and therefore could not have been sure of Irish design, but at least we became aware of modern design in industry for the first time. As yet the full advantage a designer can bring to industry has not been exploited in this country. What happened during the formation of KDW made a large inroad into the igorance of industrialists and the general public regarding design. But we still have a long way to go.

KDW was a excellent starting point for many a young designer, it was the perfect transition from college to industry. Unfortunately we the young designers of today do not have such a luxury. But we do have the passion that caused the formation of KDW, and the belief that we can take over from where KDW was stopped. It is with this passion and belief that we can express our national identity and individuality through our design. We have a platform of design before us that KDW constructed through there insight and knowledge of design.

These designers have developed design in Ireland to a World wide standard, it is up to us, to keep the proud flag of design flying inIreland.

THE DEVELOPMENT OF PRODUCT DESIGN IN THE KILKENNY DESIGN WORKSHOPS.

The following is a list of products and their designers and the year and companies that they were designed for by KDW during its existing years of production. The products covered are Industrial design and some craft-based products, the graphic and other departments of KDW have not being mentioned:

## LIST OF WORKS:

1. **Ashtray,** marble and cast iron, Kilkenny Marble Crafts,Bertil Garderg,
   1966.

2. **Ashtrays,** marble, Kilkenny Marble Crafts,Eric Herlow,
   1966.

3. **Relief candles,** KDW, Oisin Kelly,
   1967.

4. **Plain Candles,** Bormic, Cecil Hyde,
   1966.

5. **"Irish lace" tableware,earthware,** Carrigaline Pottery, David Reeves,
   1966.

6. **Chair, Beech and paper string,** Ardee Chair Co., Peter Lorenzen,
   1968.

7. **Folding chair, beech and leather,** Ardee Chair Co., Peter Lorenzen,
   1969.

8. **Child's table and stool,** Smurfit Corrugated Cases, Holger Strom,
1970.

9. **Post Office Sign,** Department of Posts and Telegraphs, Nick Marchant,
1974.

10. **Packaging,** Kilkenny Trading Company, Damien Harrington,
1968.

11. **Child's Extending Bed,** Heal & Co., Gerald Tyler,
1972.

12. **Cutlery, Stainless Steel and ceramics,** WMF, Gerald Tyler,
1970-72.

13. **"Kilkenny" Chair System,** Metalwood, Gustav Sauter,
1974.

14. **"Almo" coffee service,** Kilkenny Pottery, James Kirkwood,
1973.

15. **Pavement litter bin,** Irish Aluminium, Gerald Tyler,
1972.

16. **Parks and Monuments Signage,** Office of Public Works,Elizabeth Fitz-Simon,
1972.

17. **Dental Pin Dispenser,** S J Filnol, Oliver Hood,
1978.

18. **Waterford 103 stove,** Waterford Ironfounders, Nick Marchant, 1977.

19. **"Monstra",** pump and promotional material, Astra pump Hire, KDW team, 1977.

20. **PEBEX console,** Telectron, Nick Marchant, 1979.

21. **Lever meter,** Telectron, Nick Marchant, 1980.

22. **Bathroom scales,** Hanson, KDW team, 1980.

23. **Electronic anti-skid unit and promotional material,** Anti-Skid Controls, KDW team, 1981.

24. **Chef's hats, paper bibs,** Foodline, KDW team, 1980.

25. **Overhead projector,** Bell & Howell, KDW team, 1970.

26. **Tennis ball packaging,** Tretorn, KDW team, 1982.

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3. KENNEDY, Brian, "Dreams and Responsibilites", Dublin, Arts Council, 1990.

4. MARCHANT, Nick, Kilkenny Design Twenty-one Years of Design in Ireland, London, Lund Humpries, 1985.

5. TOBIN, Fergal, The Best of Decades, Dublin, Gill and MacMillan, 1984.

6. TURPIN, Professor John, "The Irish Design Reform Movement Of The 1960's", Design Issues, Vol III, No. 1, 1986.

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