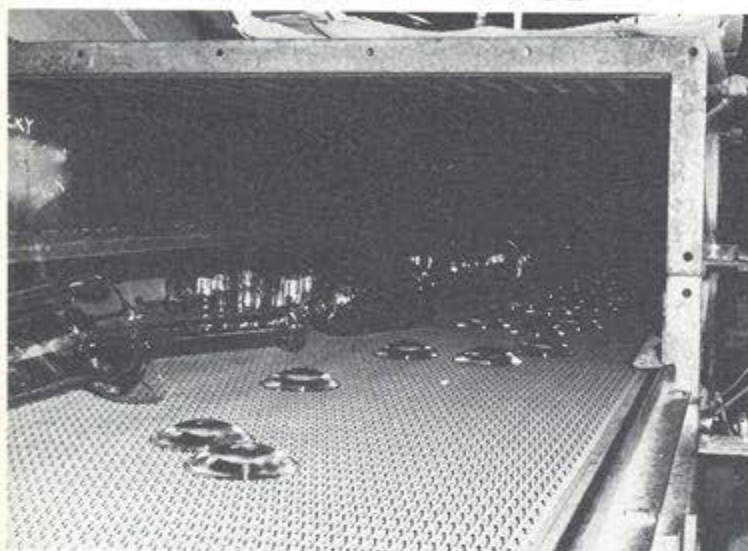


# 90 SECONDS

HOW STRAND'S NEW LANTERNS ARE MADE



Lenses — plus some other glassware — travel down the cooling tunnel.



This machine automatically puts terminals onto cables.

first put through a de-greasing, cleaning and phosphating tunnel. This process gives an ideal key for the paint which is to follow.

The paint itself is actually a dry and very fine powder, not liquid at all! The parts to be coated are given a negative electrical charge, while the powder is given a positive charge, so they rush together as nature intended. To aid nature's work automatic guns constantly move up and down both sides of the moving parts. The powder which does not manage to attach itself is carried by air currents through various large pipes and is filtered and put back into the system. There is obviously no escape.

Once coated, the parts go into a long oven, where heat transforms the clinging powder into a tough, even, matt finish. Black for lanterns, green for A.M.C. panels, red for Tempus

desks. Special colours can be catered for a good deal more easily than in a wet spray process, so the plant is flexible in use.

Your Editor brushed up against some sprayed but unstoved parts and acquired a fair powder coat himself. How I wish you could have seen him being vacuum cleaned by two delightful if giggling Scots lassies — of such incidents are fantasies made!

There are many other new things to see — electronic weighing machines that know precisely how many bolts of any particular size are on the scales at any particular moment — so no weary counting is needed, and a fantastic new machine that punches and shapes metal parts entirely automatically controlled by an electronic programme are but two of the many technical wonders on view.

Out of the factory gate, through Falkland, where Mary Queen of Scots

had a Palace, through Abernethy, famed as the first home of a particularly dull type of biscuit, and on to Perth to see the lenses being made.

Perth, according to a rather immodest notice as one enters via a rough expanse of grass over which muddy footballs fly to strike the unwary, is known as "The Fair City". Scottish towns, I fear, rather go in for this sort of thing. My favourite such notice is at Musselburgh, a smallish place where Edinburgh peters out to the east, which calls itself "The Honest Toon".

In Perth I quickly located our suppliers who, incidentally, have been converting sand, and a few miscellaneous chemicals, into quality glass for about 150 years. Rather fascinatingly the company started by making ink, and it was the making of the bottles for the ink which led them into specialist glassware although nowadays the technology is considerably higher! One story they told me has a real period charm. While still in the ink business the directors decided that they should make a long term quality check for shelf life. So in 1836 they sealed up a bottle of ink, and solemnly unsealed it for testing in 1886!

The glass used in Strand lenses is known as borosilicate. This was chosen from the various types available for a number of reasons. First, its colour and clarity. There is no greenish tinge, which is sometimes seen in lantern glassware. No de-colourisers are needed. Even though these agents work they are best avoided in light transmission applications because although glass so doctored appears clear, actually up to 20% of the light can be absorbed.

Borosilicate lenses are also mechanically strong, and have a much better resistance to thermal shock than for example, white plate glass. Thermal shock? This means the effect of sudden heat or cold on the glass. A practical example could occur in a theatre in say, Sweden. After the show there is to be an immediate get-out. The lanterns are turned off and within a few minutes the scene dock doors are thrown wide onto the arctic night. Thermal shock, dear reader, is inevitable. And Strand lanterns are sold in almost every country in the world — not that we can't get the odd thermal shock in Britain now and then.

I asked to see the process of making some Strand Prelude lenses. First I was given a sheet of dark glass, about No. 19 Cinemoid, and my guide, donning a massive asbestos glove, removed a brick temporarily lodged high in the furnace wall. I peered in at thousands of gallons of molten glass boiling and bubbling away inside, and promptly decided to lead a better life in future. I don't fancy even a few years in the hereafter spent in that environment.

Then steel rods were dipped into this molten lake, and dollops of white hot glass deposited in the stainless steel moulds. Tops were put on the moulds, a plunger descended to press the glass into shape, finally they were then slowly passed through a long tunnel that starts at about the melting temperature of lead and ends at about the heat at which the Christmas turkey is cooked. I was given a lens to examine but put it down very fast indeed! One man's 'fairly warm' is another man's 'hellish hot'.

Although our friends at Perth make the lenses and have designed the tools, the lenses are optically designed by Strand and are unique to us.

Somewhat heated by the glass furnace and exhausted with technical facts, your Editor sought a little refreshment as soon as he reached his hotel just outside Dundee, the next destination. "Ah," said Dr Johnson, as recorded by Boswell during their Highland jaunt, "so this is the drink that is strong enough to make a Scotsman smile." This rather double edged remark referred, of course, to what the Gaels call 'the water of life', which phrase we Sassenachs can only pronounce as 'Whisky'.

The evening in Dundee was spent inspecting the handsome, but as yet uncompleted, new Repertory Theatre — an article by its consultant, the elegant and accomplished Andre Tammes, will be in the next issue of TABS, and climbing the Law Hill. This is a fairly considerable protuberance that rises behind the city. I am a great looker at 'views' and never miss one. To reach the hill you pass the Dundee Royal Infirmary by driving along Dud Hope Road. What a sight to glimpse through the ambulance window as one is whisked thither for surgery! I would not be surprised to read of pyjama clad patients making a break for it at that stage.

After a good night's rest, off to the company who make the aluminium die castings for the new lanterns.

Their establishment, out in a residential street behind the city, could be either a small local school or a large local bungalow — in fact I drove past it once, so confident are the directors that their skill and expertise will bring the world to their door, without any unseemly advertising of their presence.

Rather like the glass makers, our die casters' products usually form a vital part of other people's products. In the entrance hall are several large glass cases, which hold examples of their work. There are the bodies of air pistols, and hammer heads from children's carpentry sets, as well as many familiar electrical parts, bearing such famous names as 'Reyrolle' as well, of course, as Strand.

I followed the progress of a particular casting, a Prelude end cover. The molten metal, injected into its mould, was taken out and shorn of extraneous bits and pieces on a press where a tool cuts the raw casting back to size, all the trimmings eventually going back to be re-melted.

After this there is a polishing process. The castings go into large vibrating open containers, rather like giant wash boilers, wherein lie several hundred small green plastic cones. Castings and cones are all shaken up together, and the familiar mottled dull shine of quality die casting emerges. I didn't dare tell my hosts that all their beautiful work would end up not only covered in paint, but 95% of that would be matt black — except of course, the earth terminal!

A good tour, and highly encouraging. Our suppliers, as well as our own factory, are determined that the quality which is at the heart of the new products will shine through as brightly as the lanterns themselves.

\*Actually a 'spot face cutter'