



TABS

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by
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EDITORIAL

Her Majesty's Coronation is now but a memory but we will long remember with pride that we were entrusted with the wiring of Westminster Abbey for the special sound system required for the ceremony, and the installation of about 300 loudspeakers in the Abbey itself and about a further 400 in the vicinity. Over nine miles of cable were involved. The system provided amplification within the Abbey and the same service was also taken by both B.B.C., and Television.

A member of our staff and his wife were honoured by being allotted one of the four pairs of seats which were made available at Her Majesty's command to persons who had been actively engaged in preparing the Abbey for the Coronation.

A Recipe we havn't tried

Speaking at a Variety Club luncheon, A. E. Matthews, the veteran actor, stated that he had always followed the advice of a famous uncle to read the obituary column of *The Times* every morning, so that, on not finding his name there he would know he was alive! "I still do it every morning," he said. "As soon as I find my name is not there I jump out of bed and have a large double gin. The effect of that soon wears off, so I have another." Mr. Matthews' recipe for longevity certainly seems to suit him—he is 84—and it was noticed that he scornfully declined to use the microphone provided, his unaided voice filling every corner of the room. Certain actors and actresses of the younger school might well take note, gin or no gin!

The Ghost Walks

One of our friends writes :

... "Your publication does help me as a very ignorant amateur to at least understand stage jargon of which the lighting department seems to have its own particular brand.

My first experience of taking a Youth Group through 'Scrooge' brought this point home to me in a rather amusing manner.

I was certain the 'ghost' had made a correct entrance on the stage but after a while noticed that he was missing. He was in fact sitting in the hall. When I patiently explained that he should still be on the stage he equally pointed out to me a stage direction in his copy which read

'FLOATS SLOWLY OUT'

He had taken it literally! ..."

SHAKESPEARE RETURNS TO AUSTRALASIA

Peter Paget Smith, Chief Electrician, Shakespeare Memorial Theatre, Stratford-on-Avon, gives a technician's viewpoint of the New Zealand-Australian 1953 Tour

For the second time in four years a company from the Shakespeare Memorial Theatre at Stratford-on-Avon has set sail for the Southern Hemisphere, on this occasion taking three plays, namely *Othello*, *As You Like It* and *Henry IV (Part I)*, for a thirty-eight week tour of New Zealand and Australia.

The Company, which is a companion one to that playing the 1953 Shakespeare Festival at Stratford, is headed by Barbara Jefford and Anthony Quayle, the Theatre's Director, who was prompted to make this second and more protracted tour by the overwhelming enthusiasm accorded the first, made in 1949.

At the time of writing, the tour is more than half completed and is playing at Melbourne. Previously the Company has been playing in Auckland, Christchurch, Dunedin and Wellington in New Zealand, and since arriving in Australia has played Sydney and Brisbane. In each town visited the reception given the company has been magnificent, but the tour cannot be prolonged as the Company has to return to England by Christmas to make preparations for the 1954 Festival.

A tour of this nature involves many months of preparation and reveals many staggering figures. For instance the financial outlay, before the public begins to return it, approaches £160,000. The forty actors and technicians will each have travelled over 33,000 miles, 6,300 of them by air, by the time they return to England; the costumes, carried in 40 baskets, number nearly 400, and the Strand Lighting Equipment worth £5,000 and packed in 38 large cases, form major items in the transport problems, for here in Australia transshipment from one State to another invariably means changes of railway gauge, and "double handling"—and double damage—to the equipment, whilst in New Zealand, sea transport has to be used between the two Islands.

Electrically, as well as theatrically, the tour is creating something of a sensation, for amongst the equipment carried can be counted twelve interlocking dimmer boards, seventy spots, twenty-four floods, four spotbars, four booms with their fittings, twelve pageant lanterns, acting area lanterns, sets of colour frames for each play, spares of all kinds in case of damage—no ringing up Temple Bar 4444 here!—stands, cable, over 300 sheets of Cinemoid, plus cue lights and sound equipment.

All this is necessitated by the fact that it is the policy of the Company to finish the stay in one town on Saturday night and open with another play on Monday in the next city, perhaps 1,000 miles distant. Thus there are for all purposes two sets of electrical equipment, one set travelling ahead to the next city, where it is

built ready for setting and rehearsal when the rest of the company arrive.

It is generally assumed by the uninformed public that all time outside of performances during the tour is occupied in swimming, sunbathing and sightseeing, and although it is true we try to do as much as possible during our stay in each town, the writer thinks it may be of interest to describe the usual routine during the frequent two-week visits to the smaller cities.

Let us take a look at, shall we say, Brisbane. A lovely city of 400,000 population on the East coast of Australia, 500 miles north of Sydney, and in the sub-tropical belt. The theatre we are to play in is Her Majesty's. At the moment films are being shown here, very conveniently for us, as it means we can do some assembling of sets and lighting equipment, providing we don't make too much noise behind the movie screen.

The advance party consisting of our Stage Director, Master Carpenter or Chief Mechanist, and myself, fly up from Sydney five days before we open. We fervently hope all the scenery and equipment we sent by rail has arrived safely, and to schedule. On this occasion it has, although in some places we have had to waste a whole day whilst it was located in the railway yards and brought to the theatre.

The staff of four electricians and ten mechanists are assembled to meet us at the theatre, and have very kindly unpacked a great deal of the props, scenery and lighting gear. This is going to save a lot of precious time, and so while our Chief Mechanist is sorting the scenery "Packs" on each side of the stage, I take a look at the theatre switchboard, and decide that I shall have to use seven 6-way portable dimmer boards to control our equipment. I can very often manage with six, but in this theatre the dress circle is very low and the permanent Front of House spots are too central and too low for our use. We can make use of them for *As You Like It* in the "Summer Forest" so I have them coloured in three circuits of 52, 18, 52. Meanwhile we will rig our own spots, Patt 43's, three each side of the circle, on some special brackets I had made in New Zealand, and we will feed them from the seventh board.

One of these boards is still in use in Sydney finishing the season there, and arrangements are made to fly it with the Company on Sunday along with some special cables and one or two drapes needed for masking the Cyclorama.

The "Perches", three a side, are to be worked off the theatre switchboard and a hasty consultation with the electricians ensures that they will be grouped to work in pairs, P and OP. In Australia it is common to use dimmers of 3 KW. as standard, and although not much use for our type of work with single units, they are very useful for such jobs as the problem of the perches.

The battens will have to be re-coloured before the enormous and heavy cornice used in *Othello* is assembled and "flown" and I start this going. Reflectors are unknown in battens and footlights

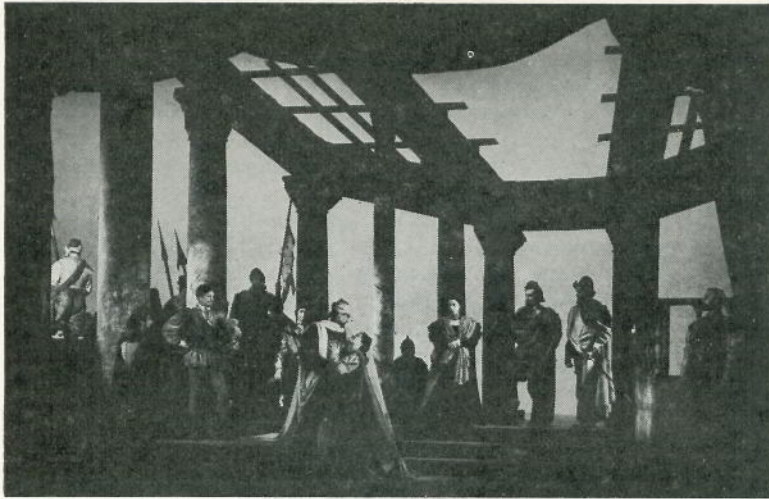


Photo: Angus McBean

A scene from Anthony Quayle's production of "Othello" now touring New Zealand and Australia. Othello arrives at Cyprus; Anthony Quayle as Othello and Barbara Jefford as Desdemona. Settings and costumes by Tanya Moiseiwitsch.

out here and problems of light distribution present themselves if the battens are too close or too far away from the cloth one wishes to light. For our Cyclorama I shall be hanging a barrel of twelve Strand Patt. 60 500 watt wide angle floods fed in four circuits from one of my boards fitted with 2 KW. dimmers.

This job will likewise have to be complete before the flies become jammed up with scenery. It is very easy on occasions like this to end up with a dozen men standing idle while they wait for "The Electrics" (said with the same scorn that old-time sailing skippers used when speaking of steamship engineers) to hang some bulky piece of apparatus.

These urgent jobs having been disposed of, the set begins to fill the stage behind the movie screen as the heavy rostrums and steps are assembled. By the end of the second day the cornice will also be complete and occupying the centre of the stage and all hanging of cloths, drapes and tabs will be finished. By this time also I shall have had a temporary 3-phase supply run in to feed the seven portable boards, and the "booms" used downstage, prompt and O.P. will be in position, with their lamps grouped around the base ready to be fitted. Part of the time has been spent in aligning the mirrors and repairing any minor damage sustained on the journey from Sydney.

The 12 way spotbar has been opened out and coupled (it is normally travelled folded in half) and the lamps are all ready to be fixed to the bar when Sunday comes and we have a clear stage.

The third day is spent running awkward cable runs under the stage into the flies, to feed two pageants and an acting area lantern each side. This always leads to confusion. One always finds great beams and stanchions, ropes, and cloths just in the only position where one can make the best use of a lantern, and the shouting all over the stage from people trying to talk to people in the flies, and the muffled replies from those who are up there, all add up to a very exhausting hour!

Six of the dimmer boards will now be complete and can be used to test out circuits, and the cue-light system we carry will be run out to positions on both sets of switchboards, flies, P and O.P. and to the sound equipment position.

Sunday comes and with it the rush. Up goes the cornice, with much creaking and groaning, both from the cornice itself and from the eight men up in the flies! Lamps are hung on the booms, and now the stage is clear of the screen the spotbar is hung and tested. Spots and booms are coloured and floor and fly equipment prepared. The stage cloth is laid and the partially pre-prepared set falls rapidly into position.

By mid-afternoon the plane carrying the company has arrived and also the extras like drapes and the seventh switchboard, and these are quickly placed and connected.

The mechanists depart and comparative peace descends upon the stage, welcome at this juncture as the time has come to set the lights. All spotlights, etc., have a charted "position" on the stage: "focus", which implies the divergence of the beam or position of the lamp tray within the housing, and colour number used, thus: "Spotbar 3. 17 Blue. Focus $\frac{1}{2}$. Position; standing on O.P. steps, first tread, 4 ft. in from O.P. proscenium."

The stage manager stands in the above position while spot No. 2 is focused by one of the theatre electricians. This arrangement ensures that the original lighting layout is reproduced accurately in every theatre we visit. Unexpected difficulties do arise, sometimes architectural features in the building, such as buttresses or lack of wing space, or too much distance between the fly rails prevent the correct placing of some light doing a vital job, and compromise is reached by spreading some other spot or changing the plot.

And so the setting goes on. Spotbar, Booms, F.O.H. spots, Flyrails, Groundrows, miscellaneous, equipment either on the floor or built into the set—all are treated similarly, and with luck this operation takes about two hours.

The next day, despite the mutterings of the mechanists and cleaners in the auditorium, the theatre is blacked out and, with a pre-typed lighting plot which gives a reasonably full reproduction of what the effects should be, the cues are set up one by one and

passed by the stage director. Sometimes there are small additions and subtractions to the plot such as "Let's try a touch of Prompt boom 6 here, and while you are at it, take the Number Five Batten Blue down a point." . . . *ad infinitum*. Also, tricky timings in cues have to be tried out in order to co-ordinate the house board and four men working on our temporary boards; maybe it is preferable to make one board lead or lag behind the others to avoid heavy shadows or unbalanced lighting during the execution of cues.

This takes until the early afternoon and then the remodelled plots are taken away to be re-typed. Apart from clearing up the masses of cable and coping with minor emergencies, the afternoon is then free, for we always insist on two things. A rest before the first performance, for it is hopeless to expect technicians who are *playing a part* in the performances to give a *lighting performance* if their minds are not composed, and secondly, clean freshly typed plots free of alterations help to avoid confusion and together with clean switchboards help to create the right approach to the tense atmosphere of an opening night.

That this method of working is justified cannot be disputed, for the lighting has been one of the most frequently praised facets of our productions out here, and by lighting is implied not only the pictorial quality of each scene, but also smooth transition from scene to scene, with the changes emotionally keyed to the situations which precede and follow them.

This tour also gives New Zealand and Australia an idea of modern trends in British lighting technique and an opportunity to see and handle the latest in lighting apparatus and control equipment. In this aspect alone it will help considerably in developing technical standards within the slowly, but surely, growing theatre in Australasia.

NEW PUBLICATIONS

1. Further Advice on Stage Lighting

Shortly after the war we published a twenty-two page booklet entitled "Some Advice on Stage Lighting" which quickly ran through several editions and has been out of print for some time. The general idea of this booklet was to give help on the choice of the correct equipment for specific purposes and it has for some time been our intention to add a second part giving advice on the use of equipment once it had been chosen.

Every time the new booklet seemed ready to go to press a new lantern had been added to our range or an existing one redesigned and indeed this has happened so often that we nearly despaired of the whole project. At last, however, under the title of "Further Advice on Stage Lighting" the new booklet sees the light of day.

The original booklet forms Part I of the new publication with such chapter headings as The Problem; The Approach; Colour; and Control. The new section includes chapters as follows:

Chapter 1—Electric Lamps

General Service type; Filament location; Effects of Voltage; Projector type; Lamp caps; Miscellaneous types.

Chapter 2—Standard Lighting Equipment

Footlights; Battens; Hanging Lengths; Footlights, Stage; Footlights, Stage, large; Lanterns, Arena; Lanterns, Acting Area; Lanterns, Pageant; Spotlights, Float; Spotlights, Miniature; Spotlights, Baby; Spotlights, Stage; Spotlights, Mirror type; Spotlights, Baby, Mirror type; Spotlights, 2 K.W.; Adjustment and Focusing; Maintenance, general.

Chapter 3—Fixings

Barrels and Clamps; Safety Chains; Ceiling Saddles; Wall Brackets; Boomerangs and Arms; Stands and Bases.

Chapter 4—Connections

Plugs and Connectors; Cables.

Chapter 5—Electric Supply and Control

Supply; Control; Dimmer Boards, Temporary and Portable; Dimmer Boards, Permanently installed.

Chapter 6—Carbon Arcs

Arc Lanterns; Arcs, Trimming the; Arcs, Connecting and Striking.

Chapter 7—Optical Effects

Effects Lanterns; Effects Slides; Moving Effects and Drives; Objective Lenses and Coverage.

Chapter 8—Fluorescence and Black Light

Equipment; Treated Paper; Treated Fabrics; Fluorescent Paints; Application; Use in Theatre.

Chapter 9—Pyrotechnics

Smoke Powder, Slow Burning; Smoke Powder, Naked Ignition; Transformation Powder; Flash Paper; Flash Powder; Maroons; Pyrotechnic Fuses.

Chapter 10—Colour Mixing and Mediums

Primary and Secondary Colours; Range of Standard Filters; Three-colour Systems; Samoiloff Effect.

There are over fifty diagrams and illustrations while appendices in diagrammatic or tabular form give the relative performances of various lanterns and the correct carbon combinations and burning rates for arc lamps. Certain appendices appear on pages 30-32 of this issue. The whole booklet runs into nearly a hundred pages and is priced at 2s. 6d. post free in the British Isles.

2. Black Light

A booklet on the use of Ultra Violet and fluorescence inside and outside the Theatre. The necessary electrical equipment is described and the paints and other fluorescent materials set out with some helpful notes on their use. There is also a sample booklet showing the colour range of individual paints but of course most of these can be mixed to produce a large number of intermediates. Both booklet and colour samples are available now, free and post free.

A STAGE DIRECTOR LOOKS BACK

MR. CHARLES LA TROBE, Stage Director of the Haymarket Theatre, London, recalls some of his experiences.

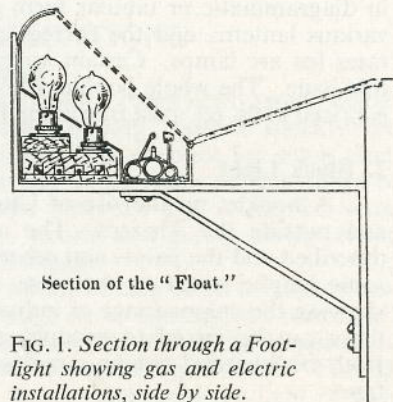
One of the first out-of-the-way incidents that comes to mind occurred in Newcastle about 1898. In those days it was the usual thing for Stage Managers to "walk on" in small parts, very often as footmen. The flunkey's uniform of those days was usually heavily decorated with gold epaulettes and so on. Where electricity had been installed in provincial theatres it usually ran alongside the remains of the gas installation and, owing to faulty insulation and earthing, there was not infrequently an unofficial "connection" between the two systems. On the occasion in question I had been leaning against the gas control panel in the wings awaiting my cue to go on, but when the moment came there was a miniature fireworks display and I found that a considerable proportion of my metallic accoutrement had melted and disappeared.

It is perhaps understandable that for some years certain theatrical managements were distinctly nervous of their electrical installations and retained the gas lighting system in working order as a standby. Such was the case for some years at the Shakespeare Theatre, Liverpool.

On one occasion when the electricity was in use under this dual system the gas footlights were inadvertently turned on. The audience was so alarmed at the smell that they left hurriedly.

Gas jets in footlights and battens were usually 2 or 3 in. apart and when the supply was turned on each one lit itself quite quickly from its neighbour, the first being lit from pilot or flash jets at intervals, these remaining alight throughout the time the audience was in the building. Dimming was, of course, achieved by means of taps on the control panel or "gas plate". Glass colours were used but seldom overhead owing to the danger of breakage and injury to actors below. The present-day dips or electric plugs in the stage floor had their counterpart in the gas days, a water joint sometimes being used to provide a speedy means of gas-tight connection. The gas was taken to the lighting equipment by means of rubber tubes but I do not remember that these were reinforced in any way in case they were trodden on.

As far as stage staff were concerned, the gasmen usually graduated to electricity by way of a technical school. A head gas man and the early chief electrician usually earned £6



Section of the "Float."
FIG. 1. Section through a Foot-light showing gas and electric installations, side by side.

per week and no overtime. Night men, that is to say those stage hands working the shows, would earn 2s. 6d. per night with an additional 2s. 6d. after midnight. This was really only "beer money" for the great majority of them in London used to go on to Covent Garden when the play was finished and work all night as porters in the vegetable market. There was, of course, no trade union such as N.A.T.K.E. for stage hands in these days.

Limelight was in use both in the days of gas and early electricity. Here at the Haymarket in London we had gas pilots fed from the main gas supply. From these the lime men lit spirit torches from which they relit their limes after putting in a new calcium block or when their lime had been extinguished for any other reason. The lime men also earned 2s. 6d. per show.

It is surprising really that there were not more serious fires in those days. I personally was only involved in two, both being caused by draught blowing scenery within reach of overhead battens. On one occasion the curtain was down and the audience were therefore in blissful ignorance of what was going on, and on the other occasion we were only setting up preparatory to a first night. The fly-man cut everything down and the damage was so slight that we were able to open on time. There were, however, a number of serious fires abroad in the earlier part of this century. One was in a circus in Paris and another was at Iroquois, when 350 people died in the ensuing panic.

When I was touring in the U.S.A. in 1904 with Marie Tempest I remember that the fire regulations caused us a considerable amount of trouble. The chief of the Fire Brigade in each State we visited insisted that our scenery was not fireproofed in accordance to his own particular requirements. In order to save time on the Monday when we were busy setting up, we used to write ahead and obtain the formula of the fireproof solution which would be acceptable at our next port of call. Nevertheless, almost invariably our scenery

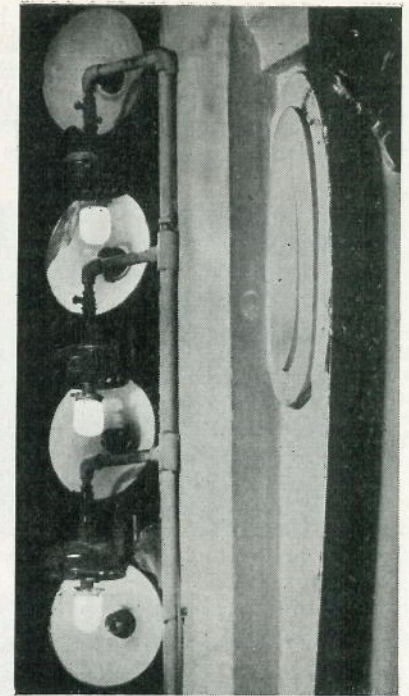


FIG. 2. Vertical proscenium strips, gas and electric. Glass Globes have been removed from the gas strip and the lamps from the electric strip.

was subjected to treatment by a blow lamp on arrival, with the inevitable results. By a most remarkable series of coincidences the local fireproofing expert in each town was invariably at hand while these "tests" were carried out. Obviously if we were to be allowed to open that night, there was no option but to avail oneself of his not inexpensive services. The cost was usually about 30 dollars a time.

So far I rather seem to have overlooked the audience. Only one or two things occur to me. In the early days of electricity it was common practice, in the provinces at any rate, to surround the proscenium with a number of red lamps facing

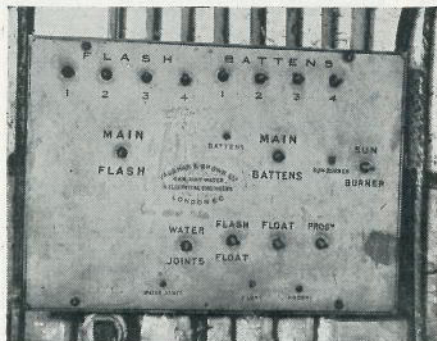


FIG. 3. A "Gas Plate" or Control Board. The tap handles are missing.

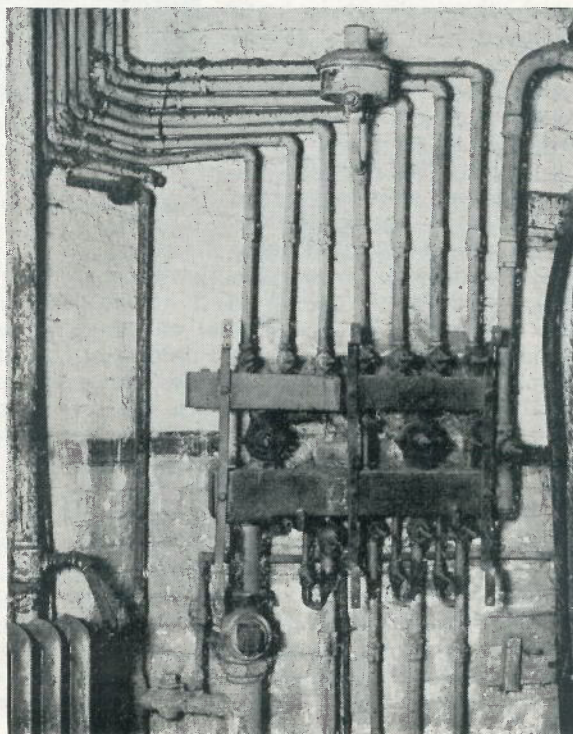


FIG. 4. As Fig. 3, but with the front removed.

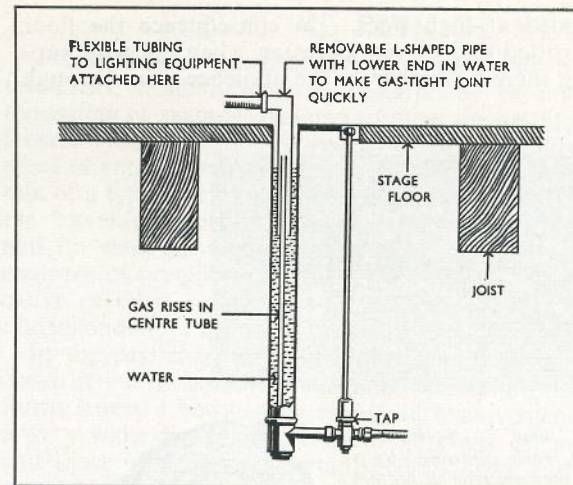


FIG. 5. Section through a water joint; used to make speedy gas-tight connections for portable equipment.

directly into the audience's eyes. These were "blinders" which were switched on to dazzle them during scene changes which usually took place without the curtain being lowered. Incidentally, the cue to stage hands for change was usually given on a whistle. No one imagined that the audience did not hear it but it was just accepted as part of the show.

I have no fault to find with the rules and regulations of the Licensing Authorities to-day because although strict in general I do not find them unreasonable. I wonder, however, whether they would have foreseen the following had they been in force at the time. Before the present Putney Bridge was built and the northern bank of the Thames raised at the same time, the cellars of the Grand Theatre,

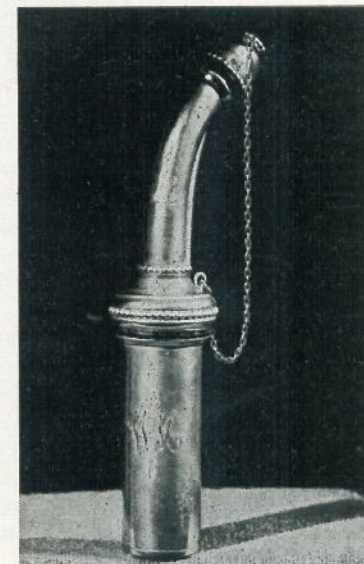


FIG. 6. Spirit torch used by head gas-man for lighting gas jets. Under the removable top cap was a wick which ran down to the methylated spirit container at the bottom. The torch was ordinarily kept upright in the breast pocket, in which position the wick tended to become dry. A small secondary tube allowed the spirit to run straight up to the top of the wick when the torch was tilted.

Fulham, were flooded at high tides. In consequence the floor of the auditorium rotted and on one occasion when my wife happened to be playing there a number of the audience went through the floor.

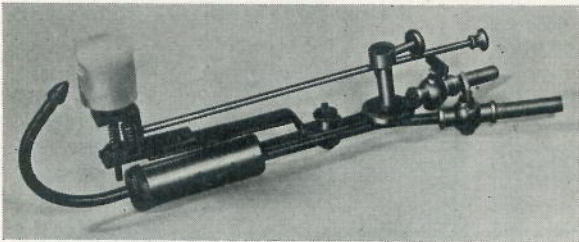
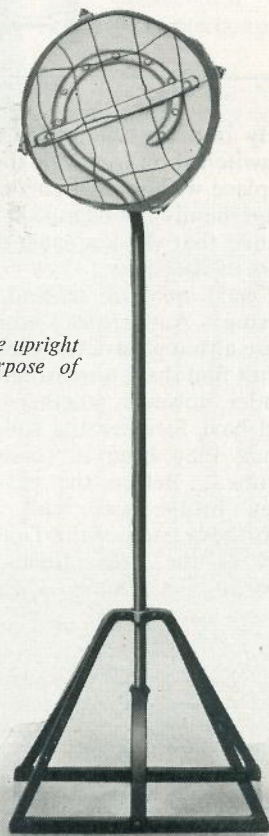


FIG. 7. A simple "lime" mechanism. Oxygen and hydrogen, each controlled by a separate tap, mixed in the container at bottom left and the flame from the jet impinged on the block of lime heating it to incandescence. As the lime burned away the block was rotated and at the same time raised or lowered by the handle at the right.

FIG. 8. A gas wing flood. The upright member served the dual purpose of gas pipe and stand.



The illustration on page 10 is taken from an old catalogue of Messrs. Verity who used to inhabit some of the same premises now occupied by Strand Electric. The building has not always been associated with either theatre or lighting as the last occupants were Messrs. Dean's, who dealt in rag books and dolls for infants.

A TYPICAL SCHOOL STAGE

This subject was chosen by a reader who is apparently quite interested, academically, in descriptions of installations costing thousands of pounds, planned to meet the ambitious needs of professional companies, but wishes to learn something of the equipment of stages more nearly related to that on which he works. To talk of a typical school stage, however, is rather like discussing what the "average man" thinks, does or feels. None of us is average and no stage is really typical. One can only select a reasonable example of present-day school stage planning and regard it as indicative of what is being done by those architects who have some understanding of the needs of stage producers.

In the past there was no uniformity at all in the planning and construction of assembly halls and, as a result, their stages or platforms betray a bewildering variety of inconveniences. There is still a very wide divergence between the plans of one local authority and those of equally important neighbouring authorities. There is a much greater general knowledge of the needs of play producers but those needs are often imperfectly catered for. The lay-out of equipment cannot be standardized; it must usually be planned for each school independently since it is often necessary to compromise with the ideal to meet the ideas or, possibly, prejudices of those responsible; and budgetary limits can be very limiting.

A plan and section are reproduced to show the lay-out of a stage designed in the office of a City Architect in the West Riding of Yorkshire. It will be seen that the stage is much more generously planned than are most school stages; it was planned for community drama as well as for school purposes. There is an overall width of 42 ft. and the proscenium opening of 26 ft. leaves wing space of 8 ft. at each side. There is a depth from proscenium to cyclorama of 22 ft. with an apron of 6 ft. From the section it will be seen that the limited height of 4 ft. above the proscenium opening has been extended by the introduction of a proscenium border: this reduces the effective proscenium opening from 16 ft. to 13 ft. 6 ins.

The equipment was kept to a reasonable standard of essentials and cost. The scheme agreed after discussion of various alternatives represents a justifiable compromise.

The lay-out of the lighting equipment is examined, with appropriate comment:

F.O.H. Spots. Two Baby Mirror Spots are provided, one fixed to each side wall of the auditorium. There should be two at each side, of course. The additional two will doubtless be installed at some later date.

Footlights. The stage is not suitable for the use of footlights in the conventional position. Owing to the depth of the apron, footlights would light the proscenium front extensively. A footlight is provided for the base of the cyclorama. If any producer insists on

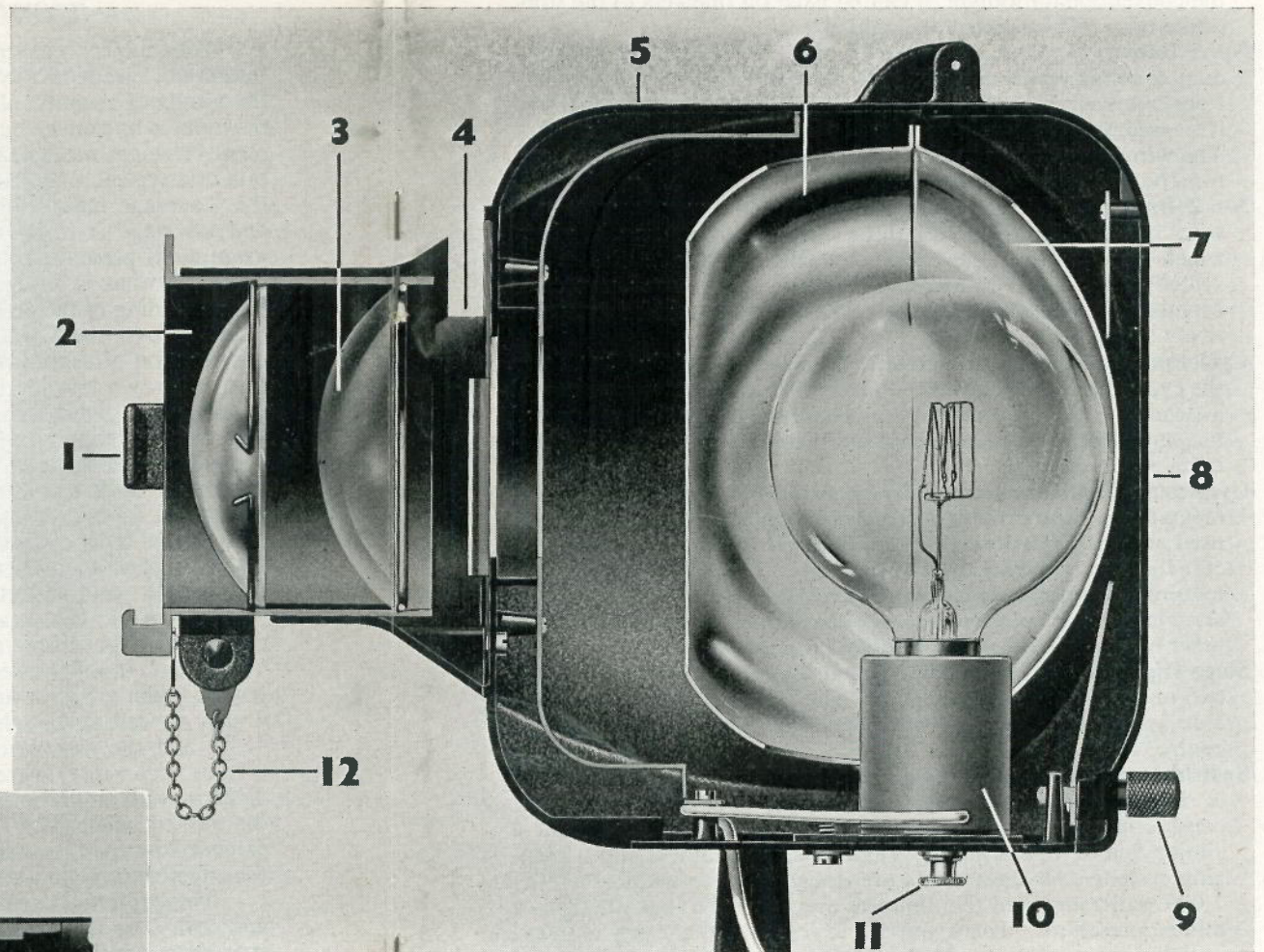
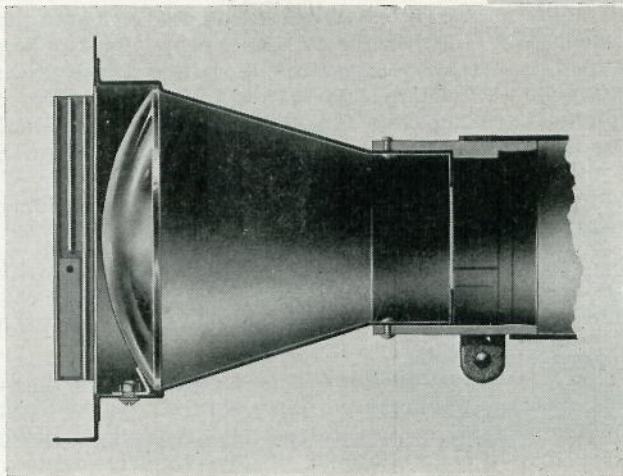
(continued on page 18)

**PATTERN 23
BABY MIRROR SPOT**



The Pattern 23 Spot can be suspended from barrel or used with telescopic floor stand as illustrated.

(Below) Narrow angle lens front replacing part 2 on standard and wide angle versions.



1. Runners for colour medium frame.
2. Front draw tube containing one lens only on standard lantern.
3. Second lens added for wide angle spotlight.
4. Gate for shutters or iris diaphragm.
5. Die cast aluminium housing. Weight of standard and wide angle types 7 lb. approx. narrow angle type 8½ lb.

6. Frontal reflector.
7. Rear reflector.
8. Rear door for relamping, cleaning, etc.
9. Door handle.
10. Prefocus lamp holder.
11. Light intensifying knob.
12. Safety chain for front lens draw tube.

(continued from page 15)

the conventional footlight, it can be fixed on brackets to the front of the stage. This seems to be unlikely.

No. 1 Batten. An internally wired barrel provides for eight individual lanterns, but only six switchboard circuits are provided. Four 500 watt Floods and four 500 watt Spots are indicated and it is assumed the floods will be the lanterns connected in pairs. The wiring terminates in plug-sockets and the lanterns can, therefore, be varied to suit the need.

No. 2 Batten. An 18 ft. Magazine Batten (24 compartments, each with 100 watt lamps) is in three circuits terminating in plugs, which connect with the sockets attached to the wiring to the switchboard. If it is desired to use Spots, Acting Area Lanterns or Floods, as it might well be, their substitution would be comparatively simple.

Cyclorama Batten. As it is possible to place the lighting 8 ft. from the cyclorama, six 500 watt Floods in three circuits were suggested instead of a three-circuit batten. These floods are also connected by plugs and may be detached and used elsewhere if the cyclorama is not required.

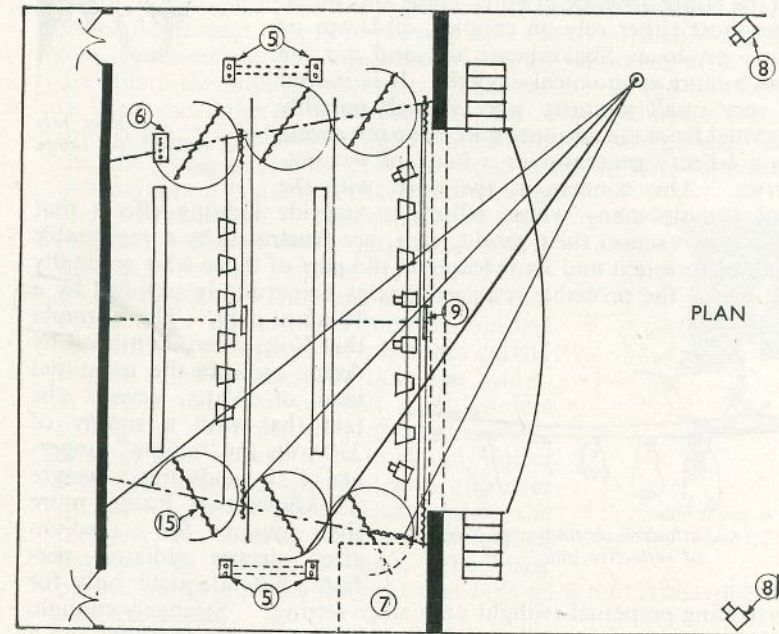
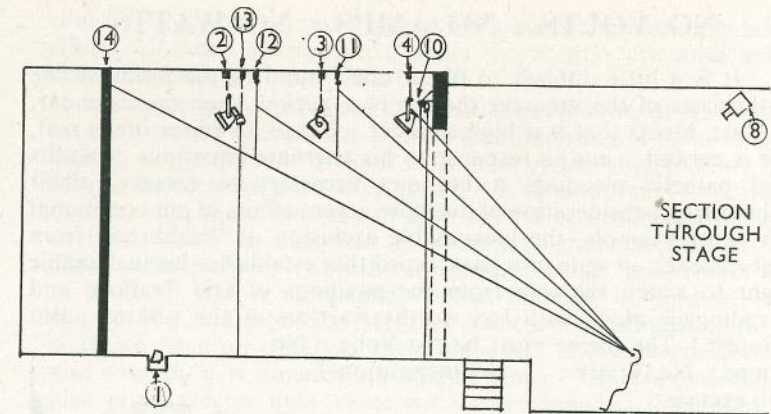
Cyclorama Footlight. An 18 ft. magazine Footlight (24 compartments) is in four circuits, instead of three, as 150 watt lamps are used and it was desirable to keep each circuit within the range of 500/1,000 watts owing to dimmer rating. The 150 watt lamps are required as primary colours are likely to be used. The circuits are connected by plugs to a 4-way stage dip which can be used for other equipment when the cyclorama is not required.

Stage Dips. In addition to the 4-way dip there are four 2-way dips, two on each side, wired in pairs. There are eight plugs for portable apparatus, therefore, but only four switchboard circuits to control them.

Switchboard. The choice of the switchboard is always a matter that is seriously affected by the total expenditure permitted. After considering the various alternatives it was decided to install a Junior Sunset Board having 30 circuits, 18 dimmers and a plugging system. All the circuits are designed to be within the 500/1,000 watt range and the dimmers are rated at 750 watt, plus or minus one-third. There are more circuits than are required initially but slightly fewer dimmers than would be necessary if each circuit were to have its own dimmer. The plugging system for dimming is an economical method and it was considered preferable to provide for an ultimate total of 30 circuits with this system; this was cheaper than providing a board with a separate dimmer for each of the 24 circuits initially required.

Not all schools are fortunate enough to have an installation as comprehensive as this. Many of them have not the necessary space to accommodate the equipment. Their needs have to be adjusted to the design and construction of the stage and many are faced with spending restrictions that make any such scheme prohibitive. We can perhaps deal with such an example in a subsequent issue.

P. C.



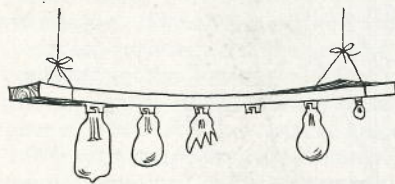
KEY

- | | |
|-------------------------------------|------------------------|
| 1. Cyclorama Footlights and Trough. | 8. F.O.H. Spots. |
| 2. Cyclorama Batten. | 9. House Tabs. |
| 3. No. 2 Batten. | 10. Proscenium Border. |
| 4. No. 1 Batten. | 11. No. 1 Border. |
| 5. Stage Dips. | 12. No. 2 Border. |
| 6. Cyclorama Dips. | 13. Rear Trailers. |
| 7. Switchboard Platform. | 14. Cyclorama Wall. |
| | 15. Swivel Legs. |

NO VOLTS : NO AMPS : NO WATTS

It is a little difficult to direct one's mind to the needs of the enthusiasts of the amateur theatre in a period when the calendar, at least, insists that it is high summer. But to an editor life is real, life is earnest ; and in response to his alternate imperious demands and pathetic pleading, it becomes necessary to forsake, albeit reluctantly, consideration of the more urgent affairs of our communal life : for example, the inexcusable exclusion of Washbrook from test matches, in spite of a past record that establishes his inalienable right to watch the rain from the pavilions of Old Trafford and Headingley, along with less worthy warriors of the willow. But enough ! The theme must be No Volts : No Amps : No Watts . . . No inspiration ? . . . No excuses !

The negatives are, of course, rhetorical. In the entire absence of volts, amps and watts, one must either rely on candles, oil-lamps or gas ; or do as Shakespeare did and use the much more economical daylight. It is indeed a very small minority who, though possibly isolated from the national grid, have not access to a wheezy generator or a bank of wet batteries. Our concern is, therefore, with the unfortunate many whose efforts to provide lighting effects that assist (or excuse) their productions, are frustrated by a regrettable lack of foresight and knowledge on the part of those who originally estimated the probable requirements as being amply supplied by a



" . . . attached to timber and devoid of reflective aid . . . "

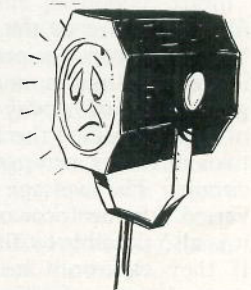
10-amp plug. The formula that Volts when multiplied by Amps produce the permitted load of Watts, reveals the fact that with a supply of 230 volts the "ample" amperage of 10 yields only a meagre 2.3 kilowatts. Rather more than required for a medium sized electric radiator, perhaps, but adequate only for providing perpetual twilight on a stage setting. Strangely enough, this inadequacy is usually emphasised by the use of a footlight and a couple of battens, each consisting of about a dozen 60-watt lamps, in an embarrassing state of nakedness, in lamp-holders attached to strips of 2 in. by 1 in. timber, and devoid of any reflective aid. The light from the suspended lamps dissipates wanly over an area that is filled with costume, drapery, scenery and furnishings that effectively absorb most of the illumination, leaving the actors under the handicap of being heard (we hope) but not seen at all clearly. Hardly the best of conditions for the presentation of a sparkling



" . . . one must rely on candles, oil lamps or gas . . . "

comedy, or to make humanly bearable some of the more lugubrious efforts of those unrecognised minor poets who are addicted to dramatic uplift in sombre shades.

It must be remembered that visual perception depends more on the presence of contrasts than on great intensity of light. Nevertheless, if the amount of light is limited by the susceptibility of a fuse to disintegrate when overloaded, it is of paramount importance that the maximum intensity of light should be obtained from each available watt. It must also be possible to graduate the light and shade sufficiently to create the essential contrasts, and obtain light of a colour that is acceptable. Great intensity of light per watt can be obtained from the Mercury Vapour or Sodium lamps but since we have all observed their diabolical effect on complexions and colours, it is unnecessary to add more. The fluorescent tube also gives greater light value for watts expended than does the tungsten lamp and by sacrificing some of the extra light a certain amount of colour correction is possible. But a fundamental purpose of the fluorescent tube is to provide light that is so evenly dispersed that it reduces almost to imperceptibility any contrasts of intensity. To obtain the required contrasts on the stage it would be essential to use focus lanterns of an intensity that would compete with the intensity of the fluorescent light. The tungsten lamp, therefore, is the one which at present provides the greatest facilities for suitable control : but it is necessary to avoid wasting any of its radiation. The naked lamp without any reflector when suspended above the stage wastes most of its illumination on the borders. They might be very nice borders, for not all, not quite all borders are intrusive abominations ; but they should not be more intensely lit than the actors. A strong reflection of light from borders will create a contrast that makes the actors at stage level appear to be in gloom, unless they are independently lighted at a greater intensity. By the use of black borders, the intensity of contrast can be diminished but only by wastage of light. The black border simply absorbs the light that falls on it and is thus merely a negative virtue.



" . . . make many a spot blush with shame . . . "

Each lamp should earn its keep. It can best do so when fixed in a lantern which has an efficient reflector. The Baby Flood is designed specially to make life easier for the unfortunates who are starved of surplus watts. It has now been joined by another infant prodigy, the Baby Mirror Spot, which provides, with the aid of a 250-watt projector lamp, an intensity of light that would make many a spot lantern requiring double the wattage (and a larger hole in the bank balance) blush with shame. Even though a state of penury excludes all Spot lanterns, it is still possible to achieve some

degree of contrast by use of the Baby Floods alone. Their tilt and direction can be individually varied; a hooded mask can create a concentration of intensity, by contraction (same intensity but less spread); also the colours can be graduated. Obviously, with no wattage to waste, the deeper colours must be avoided and even the



“... poor apparatus can produce exciting results ...”

paler colours used with discretion. The contrast of intensity is of greater value than the contrast of colour in the lighting provided there is no basic distortion of colour. The colour contrasts should be carefully contrived by a sensitive selection of the costumes, scenery and furnishing. All these are themselves reflectors of light and their choice must be related to the contrasts they will create. Those contrasts will vary with the direction, intensity and colour of the light that is projected on them.

Those unfortunates who possess only the despised open lamps *sans* reflectors, and lack the wherewithal to obtain efficient lanterns, should at least try to mitigate some of the worst evils. If coloured lamps are used, the colours should be pale tints.

The deep reds, blues, greens and ambers filter far more of the light than can be spared. It is sometimes better to drop the pretence that colour can be effectively used by inadequate means and use lamps that are not coloured but are grouped in such a way that the intensity can be graduated. Instead of evenly spacing the lamps of even wattage, in circuits of alternate twos or threes, arrange them in groups, each group being a separate circuit. The wattage of the lamps in different groups should be varied. Some form of reflector should be fitted to each group. If it is also possible to dim each group individually, so much the better. If they can only be dimmed collectively it is unfortunate but some dimming facility is better than no dimming at all.

Good lighting does not depend solely on having lots of amps and a grid full of equipment. Poor apparatus used with ingenuity and imagination can produce exciting results at times. And a little enthusiasm will go quite a long way.

P. C.

SOME OBSERVATIONS ON MANUALLY OPERATED STAGE SWITCHBOARDS IN THE PROFESSIONAL THEATRE

Readers of TABS have from time to time been acquainted with the various types of switchboards that have been designed for the control of Stage Lighting. In the layout of these the designer has to pay particular attention to the grouping of the circuits, particularly in the manually operated types of board on which the dimmers are worked by means of levers and a screw down type of handle or the clutch and wheel method. On this type of control it is usual to group the various circuits according to a definite plan.

To do this the designer and engineer who devises the scheme must have a knowledge not only of the working of the stage but also of the type of entertainment to be staged in the particular building in which the control is being installed, for the arrangement is not always the same for every sort of Theatre. Each type has its own problems; for instance the layout of the ordinary theatre in London or the provinces would differ from that of a repertory theatre. Taking the average theatre first, many of the circuits are arranged in “colour groups.” Such circuits are referred to as being on the Red, Blue, White, Amber (or sometimes Green) bank but it must be emphasized that this is *no* indication of the particular colour that is used in the apparatus connected to these circuits. The calling of a group or row of circuits by a colour name is purely to differentiate that group or row from another. Letters or numbers could be used for the purpose but coloured switch labels and coloured dimmer handles provide a more ready means of identification. Batten, Footlight, Stage Plug or Dip circuits are placed one in each colour row so that the switches and dimmers for each are in one vertical line on the board. There is a master switch for each horizontal row and the dimmers are all carried on “colour shafts,” each of which in turn has its own master hand wheel at the end.

There are other circuits which are not arranged in colour banks and which are consequently referred to as “independents.” This time the grouping is different, all the Spot Bar circuits being placed in one horizontal line, the Front of House circle Spots in another, and Fly Plugs in a third, etc. Layout along the various shafts themselves also has to be studied. If the Board backs on to one of the side walls of the Stage, the colour groups are fitted on the upstage side of the centre control (if there is one) so that the dimmers run on the shafts in the same order as most of the apparatus is situated on the stage. Supposing the Board were situated on the actor’s right side of the stage, then, the Operator having his back to the stage, the footlight would be the first dimmer, then the dips and then the battens, one to, say, six or however many there were, running in numerical order with No. 1 Batten next to the Dips. Thus the

batten furthest away from the Operator (to his right as he faces the Board) has the switches and dimmers furthest away from the centre of the Board and to the right of it.

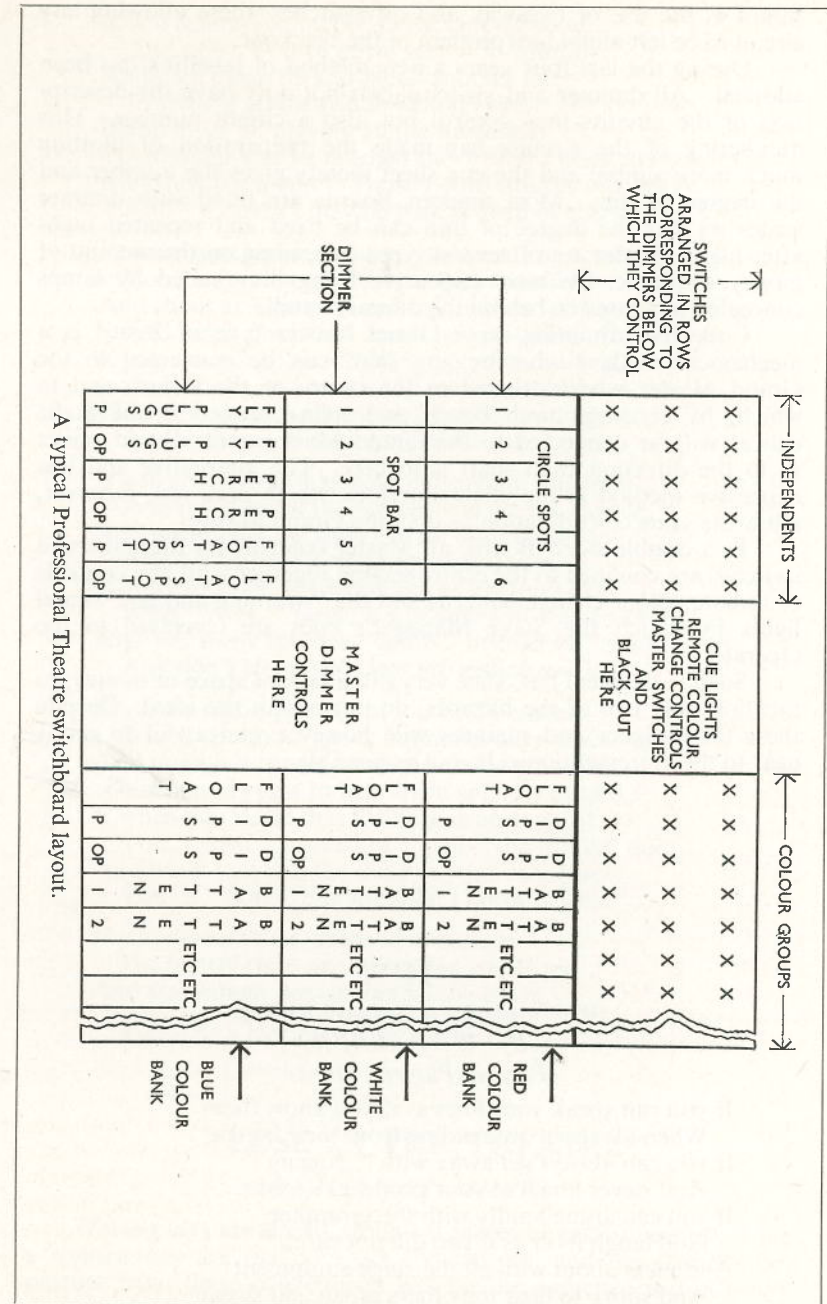
The independent groups are usually situated on the down stage side of the centre control and here again the arrangement of individual dimmers and switches on each shaft is carefully considered. There will be many dimmers and switches that are controlling apparatus either on the prompt or opposite prompt side of the stage and, as in all scripts the P. side is the actor's left. These dimmers and switches are fitted so that the P. controls are on the left of the O.P.

Sometimes it occurs that an independent group has several circuits that are widely apart on the stage. Here one tries to group them in the best operational positions. Perch plugs for instance should always be on the same shaft and this should also accommodate the Float Spots as they often work together, particularly at the end of an act. When the curtain comes down all these circuits should be dimmed out together with any Front of House Spots to avoid blobs of light appearing on the curtain. Once the curtain is down all these circuits should have faded out. If they are allowed to remain on, audiences are given a sense of artificial lighting which they are not aware of when the curtain is up. It is obvious that the grouping of such circuits under a single master dimmer control will enable this to be carried out by the Operator with a minimum of effort. As the float spots often work with the footlight itself, the dimmers for the former are usually kept to the end of the shaft nearest the centre control so that the Operator can control them with his left hand and the footlight with his right hand simultaneously.

Theatres with a repertory policy seldom work on colour groups but more on "families" which are sets of circuits required to be adjacent to one another for group control of dimming. Most important in this category are those controlling cyclorama lighting both top and bottom. The most usual method of colour mixing for cycloramas is the additive method whereby combinations of three specially selected colours are used and by varying the relative intensity of which, any normally required hue can be obtained. In order that the results may be quickly arrived at by the Operator it is essential that the dimmers should all be next to one another.

On Repertory Switchboards and Dimmer Regulators the main blackout is usually a contactor fitted in a soundproof situation—often the stage basement—to avoid noise of operation being heard by the audience. The control of this is by a small tumbler switch fitted on the centre control panel. In the case of other types of theatres there is usually a master switch on each colour and on the independents with a main blackout. These are also frequently contactor switches.

A most important feature of the modern manually operated



Board is the use of two-way and off switches, these allowing any circuit to be left alight independent of the blackout.

During the last four years a new method of labelling has been adopted. All dimmer and switch labels not only have the description of the circuits they control but also a circuit number. This numbering of the circuits has made the preparation of plotting much more simple and the cue sheet merely gives the number and the degree of dim. Most modern Boards are fitted with dimmer scales so that the degree of dim can be fixed and repeated night after night. Scales are of several types depending on the amount of money available, the most expensive being illuminated by lamps concealed in a housing behind the dimmer handle.

Collective dimming on a Grand Master type of Board is a mechanical method whereby any shaft can be connected to the Grand Master wheel situated in the centre of the Board, and to which, by constant mesh bevels and spline operation, all shafts can at will be connected to the Grand Master control, and preset as to the direction each shaft is to take. The alternative and less expensive method is the chain interlock which does not, however, allow the same co-ordination as that of a Grand Master.

In a double sided Board, all Master controls for dimmers and switches are confined to the centre section together with any controls of remote colour change lanterns and the "warning and go" signal lights by which the Stage Manager's cues are conveyed to the Operator.

Such is the ideal but, alas, very often lack of space or money, to mention only two of the hazards, do not permit the ideal. Despite these the designer and engineer will, however, endeavour to get as near to the aforementioned layout as possible.

L. G. A.

"IF"

(With apologies to Rudyard Kipling)

By W. R. PRICE

Phœnix Players, Pinner

If you can speak your lines as if you know them
When all about are reading from their books,
If you can always get away with "gagging"
And never flinch at your producer's looks.
If you can argue loudly with the prompter
And laugh it off as if you did not care,
And mess about with all the stage equipment
And smirk to hear the others groan and swear.

If you can take somebody else's greasepaint
And say "You've never seen it in your life,"
And then creep up and pinch another liner
In spite of all the pandemonium rife.
If you insist on playing all the juveniles
Although you've reached the "fifty" mark and more,
And then complain "Those floods are far too heavy"
And "Couldn't they be pink instead of straw?"

If, when you know the stage is cleared for action
You give advice on how the flats should set.
And shout at "props" and call him an old fogey,
And never mind how much he gets upset.
If you can stamp about the wings when waiting
And smoke and cough and make a horrid row,
While all your pals are out in front declaiming,
And then ignore their homicidal vow.

If you contrive to take your colleagues' limelight
And try to mask them when you get the chance,
And never pick the right cue for your entrance
And walk about as if you're in a trance.
If you can smile at friends across the footlights
With "N.H." teeth, a wig and well rouged cheek,
And kid them you are "lamb" instead of "mutton,"
And don't let on your legs are getting weak.

If, on the night, you put in lots of "business"
Which you think good, but never have rehearsed,
And though it causes someone else to stumble,
You simply grin to hear them soundly cursed.
If when you make that thrilling sweeping exit
You "push" instead of "pull" the flippin' door,
And when you jam the thing in your excitement,
You're "Sorry, but you didn't know before."

If you assume that, at the final curtain
The hearty claps are meant for you alone
And strut about demanding all the credit,

You'll be a blooming "AMATEUR"—my son!

VERSE IN THE THEATRE

By HEWETT MINOR

Verse plays are highly technical pieces of craftsmanship. Like a sonnet they are tied to strict conventions, and the slightest departure from these conventions will hit the audience with a heavy deadweight thud. Even the slightest distortion of a play's rhythm

or outline can lead directly to disaster. Of what use then is verse in the theatre?

This is the question that must come to the reader's mind after studying Mr. Harold Downs' article: "Changing Conventions," for there is a school of thought predominant both in the amateur and professional theatre that the difference between prose and verse is not as great as we think, "both being the means to the same end." An outlook that stands dangerously near to being called a half truth, unless we are competing with prose plays *on their own level*.

In verse plays we emphasize, and draw out from its natural convention one of the primary means of expression: Speech. It is therefore essential that the other primary means, such as movement and gesture, should be developed to such a degree that they harmonise with the poetic language. In doing this—and it varies with the imaginative needs of each play—we display to our audience a different set of conventions from those which they are normally used to. Exactly as in warfare, so it is with the stage. The author's individuality allows him to develop his ideas and material along whichever convention he cares to choose, for an audience is quite willing to enter into any realm of imagination chosen provided nothing is done to break the barriers set in the opening act.

The very fact that a verse play allows within its structure this wide range of colourful probabilities is its greatest advantage. Thus we can have ghosts, witches, spirits, and creatures undefined, all alongside every-day-to-day characters without wrenching plausibility. We can, if we so wish, forget our unities of time and place, and move wheresoe'r we please. In short, we open up to our audiences a wider range of incident, a greater variety in pace and movement, as well as subtle shades of difference in timing of action and climax.

One might go further, and ask how this will affect the present day methods of staging, assuming that a complete change in style of writing must mean a new approach in method of presentation.

It is obvious that with all our twentieth century technical accomplishments the Shakespearian convention of poetically painting the scenic surrounds by glowing passages of descriptive verse is obsolete. Therefore it may be fair to assume that stage lighting will become a predominant factor, with emphasis on "the concentration of an audience's attention towards particular areas"; for I firmly believe that the box set as we know it is on the way out, and in its place the composite set (parallel to the style of studio staging done by television in their more elaborate productions) will become the accepted convention.

This then is the possible future, and if the contemporary theatre hasn't made full use of these weapons yet, it is because her poets have had to capture their audiences by present day conventions before embarking on their great journey into the unknown. To say that we are about to have plays in verse is a complete understatement. We have plays in verse with us *now!*

The poet in the theatre is an accepted thing. Let us hope his work will produce a younger school of writing that will break the barriers as we know them, to lead us to fresher fields of creation, where imagination and ingenuity are the key words, and the "cup and saucer" style of presentation that has become endeared to so many will become a page of the past, forgotten, cremated—and buried.

"GLARING MISTAKES"

Not long ago the following paragraph appeared in the *Spectator*:

"I went to a concert last week. It was held in one of the better-known London halls, and I was greatly interested by my first view of the conditions under which musicians perform in public. The platform was lit by—in addition to footlights—one powerful bulb suspended centrally and encased in a large shade shrouded in black. Flanking it on either side, and facing the audience, were two doors over which appeared the illuminated legend EXIT, in massive capitals; and at the side of each door shone a small but brilliant light rather like a gas-mantle. The effect of all this was naturally to distract the eye and to make it less easy than it should have been to concentrate on the central figure of the musician; and I came away wondering whether in all concert-halls there is the same lofty disregard for the elementary principles of stage-lighting; and, if so, why."

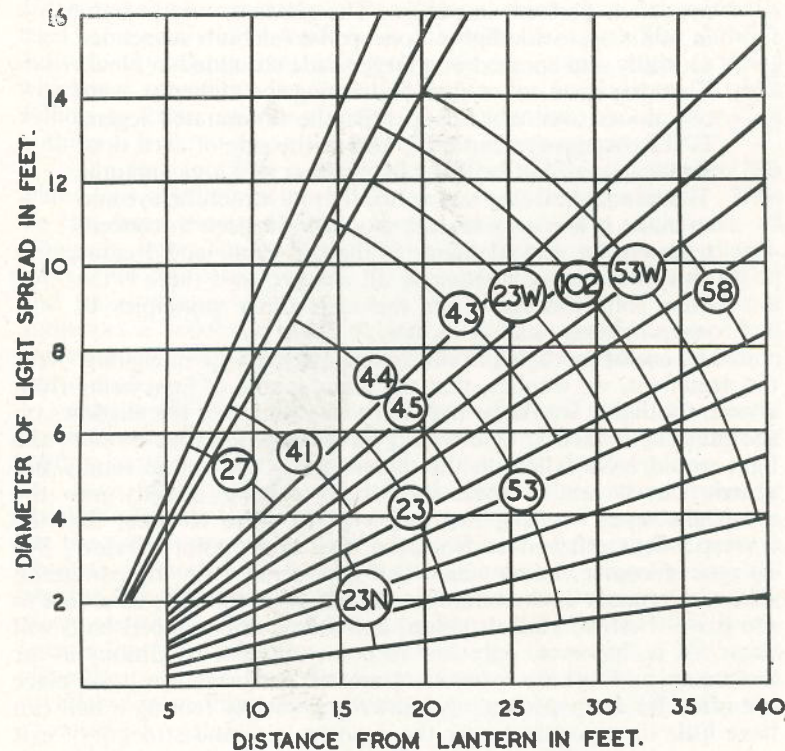
The use of footlights in this case is particularly intriguing. Was the argument, we wonder, that the main source of light being from above, footlights would be necessary to counteract the shadows on the musicians' faces? One would have imagined that most of the light would have fallen on the undersides of the music stands and scores, but if not, it must have been shining directly into the musicians' eyes, causing the very type of glare to them that the correspondent referred to from the audience's point of view. We do not, of course, know which hall is referred to in the paragraph above. Certainly such conditions do not need to exist, as a visit to the Royal Festival Hall, London, and many other concert halls will show. It is, however, only fair to point out that conditions in far too many auditoriums wherein dramatic performances take place are often far from perfect. Admittedly a society renting a hall can have little or no control over the position, size and strength of exit notices and secondary lighting. On the other hand, how often is the light from footlights or front of house spots allowed to spill over on to the edge of the proscenium arch, and how often do shafts of daylight slide round the edges of curtains and blinds at matinees! In lighting matters, attention to detail should begin at the Pay Box and not just at the proscenium line.

RELATIVE LANTERN PERFORMANCES

The information on this and the two following pages is reprinted from an appendix to *Further Advice on Stage Lighting*, which is mentioned on page 8 of this issue.

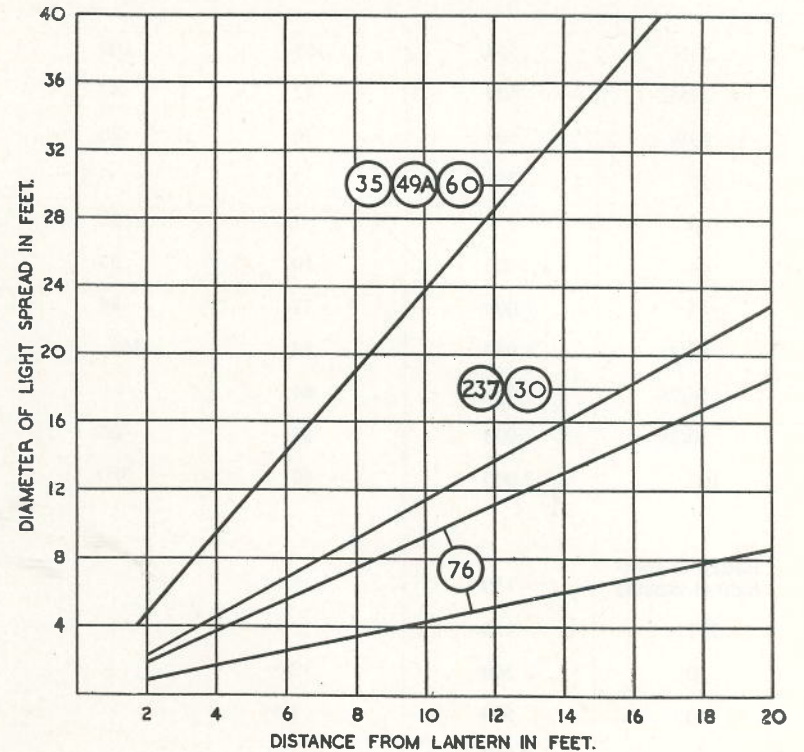
Coverage

The diagrams on this and the next page show the area covered by lanterns at various distances, within the maximum and minimum spread of each. The pattern number of lanterns are shown in circles. The diagrams are for comparison only and do not indicate beam angles in degrees.



Example.—At 15 ft. throw a Pattern 43, spotted right down, will cover about 3 ft. If widened right up, it will cover about $11\frac{1}{2}$ ft. at the same throw, or, of course, anything between the two according to adjustment.

Pattern numbers of lanterns are shown in circles. This diagram and the one on the preceding page are for purposes of comparison of coverage only and do *NOT* indicate beam angles in degrees. For the purposes of convenience and clarity the two diagrams have different units of distance and light spread, and this should be taken into account when comparing a lantern in one table with another in the other table.



Example.—At 10 ft. throw, a Pattern 49A (fixed angle) will cover 24 ft. throw, a Pattern 76 will cover from 4 ft. to 9 ft. according to how it is focused.

(See overleaf for Table of Relative Intensities)

Relative Intensities

The table below shows the relative intensities of various lanterns. The figures are foot candles read at 20 ft. throw. The actual values are unimportant theatrically, but are useful for purposes of comparison.

Pattern No.	Watts	Maximum Spread	Minimum Spread
23N	500	109	109
23M	500	42	42
23W	500	20	20
27	250	2.5	3.5
45	250	2.5	12
44	500	10	25
43	1,000	17	84
53/73	1,000	84	168
56/76	1,000	84	—
50/58	1,000	35	400
102	2,000	60	350
Batten or foot-light (1 circuit)	150	5	—
237	150	2.5	—
30	500	12.5	—
60	500	3.5	—
49A	1,000	15	—

This table shows clearly how intensity drops as the light available from a given light source is required to cover a larger area.