

# MAZDA HOUSE NEWS

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**Veluria Reflector.**  
Intensive Type.

# Veluria Reflectors

The Veluria reflector is made of a beautiful translucent white glass. It reflects the light most efficiently, diffuses it thoroughly and effectively, and screens the brilliant lamp filament from the eyes. Mazda Lamps equipped with Veluria reflectors provide an attractive illumination without glare or harsh shadows.

The Veluria-Mazda combination is the best direct lighting unit on the market, and should always be used when the best results in illumination and appearance are desired. The nearest B.T.H. office will be pleased to show you samples of the beautiful Veluria glassware, and to demonstrate the kind of lighting it gives in conjunction with Mazda Lamps.

Catalogue No.	Lamp in Watts	Diam.	Height.	Lip.	Price each.
<b>Intensive.</b>					
S 5200	10-20	5"	4 1/2"	2 1/4"	s. d. 3 0
S 5201	30-40	6"	4 5/8"	2 3/4"	3 3
S 5202	60-80	7"	5"	2 3/4"	3 6
S 5203	100	8"	5 1/2"	2 3/4"	4 9
S 5204	100 R	10"	6 3/8"	3 3/4"	9 0
S 5205	150 R	11"	6 3/4"	3 3/4"	11 6
S 5206	200-300 R	12"	6 3/4"	3 3/4"	14 0
S 5207	400-600 R	14"	8 3/4"	3 3/4"	30 0
<b>Extensive.</b>					
S 5210	30-40	7"	3"	2 1/4"	3 0
S 5211	60-80	9"	3 3/8"	2 3/4"	3 6
S 5212	100-150 R	11"	4 3/8"	3 3/4"	6 0
S 5213	200-300 R	15"	6 3/4"	3 3/4"	19 0



*Three Circuit Switch for Automobile Lighting.*



*Motor Control Switch Triple pole or three phase, D.C. or A.C.*



*Series Parallel Three Heat Switch for electric heating.*

## B.T.H. ROTARY SNAP SWITCHES.

We stock a complete range of Rotary Snap Switches, comprising about 28 different patterns—single, double and triple pole, two and three circuit, with metal or porcelain covers, for voltages up to 600 and to carry from 2 to 20 amperes. A few are illustrated herewith. These switches are well and strongly made, thoroughly insulated, and give a rapid break. Sparking is impossible.



*Rotary Snap Switch with cover off showing details of mechanism.*

B.T.H. Rotary Snap Switches can be put to many and various uses—for radiators and cooking appliances, for automobile lighting, for controlling small motors, for tramway, railway and marine lighting service, and in other conditions where tumbler switches cannot or should not be used. Prices from 1/4 each. Please write for full particulars.



*Single Pole Porcelain Switch, Non-indicating.*



*Single Pole Porcelain Switch with Indicator.*



## Do you do your buying this way?

WHEN a salesman says "These'll cost you 10/-," do you insist on paying 20/- or 40/- or anything above his quotation? Of course not—it wouldn't be business.

And yet you are doing just that sort of thing—paying more than you need for your electric lighting—if there isn't a Mazda Drawn Wire Lamp in every one of your lampholders.

Light is important for your business—it's an absolute necessity—and that's the best reason why you should buy it wisely. You should be as keen when buying light as when buying anything else for use or resale.

Remember, that on the lamps alone depends the size of your lighting bills; it pays to use Mazdas because they give you the lowest lighting bill and the utmost brilliancy and durability.


# Mazda

The original  
**DRAWN WIRE**  
:: LAMPS ::





## CULTIVATION.

 **B**USINESS needs and repays cultivation just as a flower does. In the floral domain there is probably no better example of the results of cultivation than the rose. Careful budding, effective fertilizing methods, periodical pruning, and a suitable soil are necessary for the production of the finest roses.

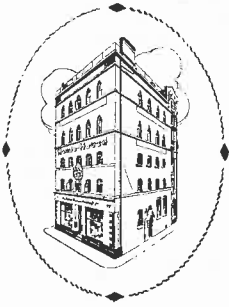
The commercial equivalents of these processes—the careful assimilation of new ideas and methods, the intelligent use of publicity, the pruning knife of enlightened economy, and a suitable area—are essential to the growth and development of a business.

The rose that is allowed to go out of cultivation reverts to the dog-rose; the business that is left to itself, or is unwisely conducted, goes to the “dogs.”

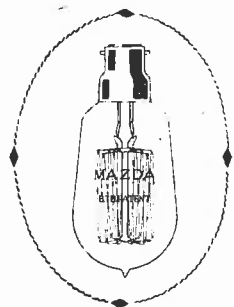
We are able to assist you with new ideas and methods for the sale of electrical material, and to provide you with attractive advertising matter and suggestions. This we call Mazda Service.

Take advantage of Mazda Service: As a business fertilizer it has no equal.





# MAZDA HOUSE NEWS



*Published to give information on Mazda House matters  
and to stimulate Electric Lighting business.*

No. 7.

MAY—JUNE

1914.

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Editor, "Mazda House News."*

## Our Futurist Cover.

**F**UTURISM has become fashionable. Whether it will ever become artistic or even sensible it is impossible to say. Certainly on the evidence provided by the cover of this issue of "Mazda House News" it does not seem likely. Our cover represents the first Futuristic wriggle of a hitherto respectable artist, who assures us that the design, although at first sight somewhat bewildering and meaningless, really has a most important significance.

Futurism in art (so our artist explains) is an attempt to record sensations and mental impressions. When a Futurist paints a picture of an outdoor scene—such as Upper Thames Street—he does not paint merely what he or any one else really sees (if sober). He produces a patchwork affair which is supposed to represent a skilfully blended mixture of what he sees, feels, hears and imagines. In other words, his finished picture summarises the thousand and one impressions—physical, mental and visual—which Upper Thames Street made upon his decadent mind; so that whenever he looks upon the picture all those impressions are repeated, in their correct proportions.

If you apply this theory of Futurism to our cover design, the thing becomes as plain as a pikestaff.

It should be explained that our artist had recently purchased his first Mazda lamp, and had fixed it up in his sitting room in place of the carbon lamp which he had used hitherto. Our cover is the result of this substitution, and represents the artist's first impressions of an *unshaded* Mazda lamp.

Light is surging out in all directions; it strikes the walls and rebounds in luminous lumps. An intricate network of filaments form themselves into the word MAZDA. In

one corner there is a huge irregular splash of light. This was due to a slight rake in the floor which caused the light to run in that direction. In another corner a Futuristic face is fatuously smiling at the ridiculous lowness of the electric light bill. That suggests Mazda efficiency. Elsewhere may be discerned the symbol of strength and durability—a collision between a Mazda lamp and a tram, in which the latter is obviously getting the worst of it.

All this is what our artist felt when he switched on his Mazda lamp, and he has tried to show it in his picture. Whether he has succeeded or not we are not competent to decide. Anyway, he says that whenever he looks at the picture he wants to buy another Mazda, so that, as far as he is concerned, the effect is quite a salutary one. We are arranging



MAZDA "HALF-WATTS" IN LEEDS.

This picture, which is reproduced from an untouched night photograph, shows the lighting of Leeds City Square with Mazda "Half-Watt" lamps in ornamental lanterns. Put your hand over the top half of the picture and you get the effect of brilliant sunlight.

to supply him with a wall-paper of the same design. Mazda lamps may not, and we hope will not, make you paint or even think Futuristically, but they will certainly produce all those impressions of brilliance, durability, and economy which the artist has attempted to blend and portray in the cover design of the present number of "Mazda House News."



## The Comparative Efficiency of Indirect Lighting.

SO much has been written and said anent the efficiency of indirect lighting that the following results of some tests recently made will no doubt be of interest to our readers. These tests were all taken in the same room under precisely similar conditions, apart from the artificial lighting. In each case the lighting units were arranged in a manner calculated to give the most efficient results, and the tests show, under the heading "Average foot candles," the average intensity of illumination on the floor. Mazda lamps were used in all the tests. The 100 per cent. efficiency of Holophane does not, of course, represent the actual efficiency, but is a purely arbitrary figure assumed for the sake of comparison.



**A GOOD EXAMPLE OF "EYE-REST."**  
Untouched night photograph showing "Eye-Rest" lighting with Mazda lamps in north country Restaurant. The illumination is efficient, effective and extraordinarily beautiful.



**"EYE-REST" LIGHTING IN CLUB SMOKING ROOM.**  
This is the kind of illumination that makes a Club seem a haven of retreat and rest from the garish lights and discordant noises of the outer world.

It will be seen from the table below that, light for light, "Eye-Rest" indirect lighting is appreciably more efficient than direct lighting with frosted glass shades, as ordinarily carried out. When we come to the question of visual efficiency, "Eye-Rest" lighting romps ahead in a most astounding fashion. In comparing one system of lighting with another, people are too fond of leaving out of account the actual visual effects and of concentrating their attention on illumination intensities. After all, the object of artificial lighting is to enable us to see, and if one system of lighting can do this with a lower intensity of illumination and a higher degree of comfort than another, it is obvious that a mere comparison of intensities will be misleading.

The test, of which the results are shown in the accompanying diagram, was for the purpose

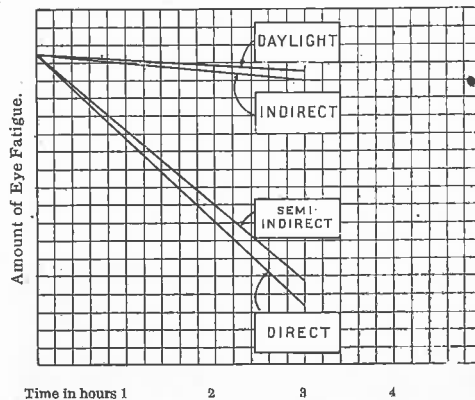
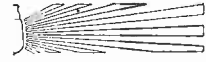
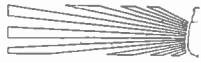


Diagram showing how the efficiency of the eye falls off with various systems of lighting as compared with daylight.

	Watts	Area sq. ft.	Watts per sq. ft.	Average ft. Candles	Lumens per Watt.	Relative per cent. efficiency.
B.T.H. Holophane	480	336	1'43	4'23	2'96	100'0
B.T.H. "Eye Rest" System	480	336	1'43	2'96	2'07	70'0
Ordinary Frosted Shades	480	336	1'43	2'68	1'88	63'5

of ascertaining the degree of visual fatigue involved by working for a stated period under different systems of lighting. It will be seen that, whereas indirect lighting is very similar to daylight in its effect upon the eyes, and reduces their efficiency very slightly in three hours, both



direct and semi-indirect lighting entail a very marked decrease of visual efficiency in the same period. The moral of this article is that in the



A COMFORTABLY LIGHTED OFFICE.

This is another example of beautiful and economical illumination with "Eye-Rest" fittings and Mazda lamps

"Eye-Rest" lighting is efficient, and it provides an illumination as visually harmless and comfortable as daylight. If you are an architect or engineer, please tell your clients this; if you are a light-user, use the information for your own advantage.

The Sun's  Only Rival

### The Lighting of a Squash Racket Court.

**H**ITHERTO the artificial lighting of squash racket courts has not been very successful. Squash rackets is an indoor game, and can therefore be played all the year round whenever the weather is unsuitable for outdoor games.

Many country houses and schools possess racket courts, and although one does not hear very much about the game, it is nevertheless fairly popular amongst certain classes.

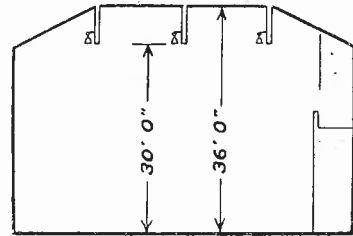
Squash racket courts are usually fitted with skylights which provide a uniform and properly directed light in the day-time. The game, however, is played at all hours of the day and night, and it is therefore necessary to provide artificial illumination as nearly as possible like daylight.

A very successful installation of Mazda

lamps and direct lighting X-Ray reflectors has recently been made in a squash racket court, and we give the details below in the hope that they may be of assistance to those of our readers who wish either to equip a new court, or to improve the lighting of an old one.

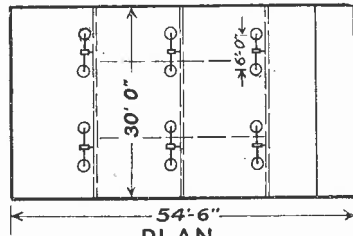
The installation consists of 12 X-ray (Beehive type) silvered glass reflectors, each containing one 250 watt clear Mazda lamp. The dimensions of the room are 54' 6" x 30'; ceiling height 36'. The lighting units are fixed in pairs on the sides of the ceiling beams, which are about 6' deep. (See Figs. 1 and 2).

An illumination of high intensity and perfect uniformity is provided, and it is impossible for the players to see the lamps (unless they look vertically upwards), or to cast inconvenient shadows. Squash rackets is



SECTION

FIG. 1.



PLAN

FIG. 2.



Night photograph of Squash Racket Court lighted by Mazda lamps in X-ray reflectors.

The game is an exceedingly fast and strenuous one, and the

niciest accuracy is required in placing the ball. It will be appreciated that for a game of this sort the standard of illumination must be very high indeed.

The slightest flickering (such as is unavoidable with arc lamps) would be a fatal objection. Gas cannot be used, because the provision of sufficient burners for adequate illumination would heat the room excessively.

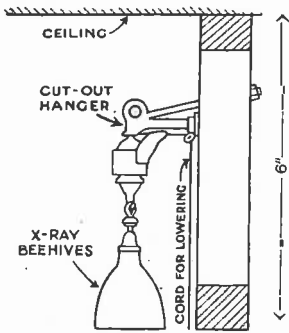
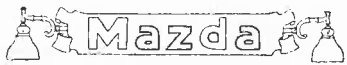


Fig. 3.  
Diagram showing how the X-ray units are suspended. The reflectors are hung on special cut-out hangers, which enable each pair to be lowered for cleaning or lamp renewals.

The only perfectly satisfactory method is the one described above, which, it is interesting to note, was adopted in place of the four arc lamps (two enclosed and two flame) which were previously used.

The photograph is somewhat deceptive, and does not show up the room in its true proportions. It looks a small room; but as a matter of fact it is quite large (see dimensions given above).

There may not be many squash racket courts in your neighbourhood, but there are probably one or two, and it is more than likely that the present lighting is unsatisfactory. If you will suggest an installation of Mazda lamps and X-ray reflectors, such as that described above, to the owners or managers of these courts, you will be sure of a patient and interested hearing. If you get the job, it may not be worth a great deal in money; but to be able to devise a satisfactory installation where everybody else has failed will secure you an enviable reputation as a surmounter of apparently unsurmountable difficulties.

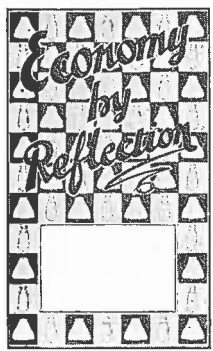


**Economy by Reflection.**

**W**E have made another addition to our excellent series of folders on lamps and lighting appliances. The new folder is entitled "Economy by Reflection" (see the *double entendre?*) and deals with all our most important types of

scientific glass reflectors for direct lighting—Veluria, Holophane, Opalux and Sudan.

The folder illustrates and prices all these reflectors, and gives particulars of suitable galleries. The three general distributions of light (Extensive, Intensive and Focussing) are shown by diagrams on the back cover, which also contains recommendations for their use. A popularly written introduction explains why scientific reflectors are necessary, how they protect the eyes, increase the useful illumination, and save money.



Cover of Folder No. 10300.

This folder (No. 10300) is intended for the man in the street, who may learn therefrom of the advantages of good lighting, and the way to achieve it. Would you like some of these folders for distribution in your neighbourhood? We shall be pleased to overprint with your own name and address.

As you doubtless know, the business in scientific lighting appliances is increasing daily, but in order to get your share of it you must advertise the fact that you stock the best and most effective shades and reflectors. Circularise the folder to a selected list of people and see your business grow.

The Sun's  Only Rival



"DO IT ELECTRICALLY."

We do not recommend this application of the Mazda "Half-Watt" lamp. The object of the artist was rather to warn absent-minded parents against confusing the two bulbs, which, although similar in appearance, were designed for totally different purposes.



### Facilitated Osculation.

If you want to kiss her neatly,  
 Very sweetly and completely,  
 If you want to kiss 'er, and to kiss 'er right,  
 Get her—that is your "only"—  
 In a room that's nice and lonely,  
 And see just where to kiss—by Mazda light.  
 If perchance she is not willing,  
 Do not say that you're for billing;  
 Try to hide your wicked purpose with a grin.  
 Tell her—to cast her eyes up  
 At the Mazda lamp and size up  
 What its c.p. is: then kiss her on the chin.



LOCAL AND GENERAL LIGHTING WITH AN "EYE-REST" TABLE STANDARD.

The "Eye-Rest" standard was described on page 20 of the March-April "Mazda House News." The left hand picture shows the standard used for the local lighting of a writing desk. The right hand picture shows the standard used as an indirect unit for the general illumination of the room. In the latter case all the light—and it is both adequate and uniform—comes from the X-ray reflector and Mazda lamp concealed in the top of the silk shade. A very novel and adaptable unit!!

### Art and Light—or Mazdafied Masterpieces.

**A**RTISTS paint by daylight, and if one wishes to appreciate the colouring of their pictures it is necessary to view them either by daylight or by an artificial light which is absolutely colour true.

Various methods of obtaining artificial illumination of daylight quality have been invented, but they are mostly unfitted for use in picture galleries or studios, either by reason of their cost or the difficulty of adapting them to this particular purpose.

At a meeting of the Illuminating Engineering Society some little time ago, Dr. Sylvanus Thompson gave a very interesting demonstration of a method which would seem to be successful from every point of view. The

method is simple in the extreme—all that is necessary being a standard Mazda lamp, dipped in a special daylight varnish supplied by us.

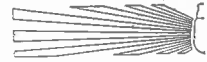
In the demonstration a picture was shown, first by the light of a clear tungsten lamp, and then by the light of the daylight Mazda lamp. The contrast was astounding. In the first case the whites were tinged with yellow, and all of the colours were modified to a very considerable extent.

Under the light of the "dipped" Mazda lamp the colours assumed their correct daylight tones. This was particularly noticeable when a picture of a snow scene was shown. It looked like the Sahara Desert or a sand dune when lighted by an ordinary tungsten lamp. The "dipped" Mazda lamp gave the colours

their original values, and the snow appeared absolutely snow-white.

This demonstration was interesting, because it indicated a very simple solution of the problem of picture lighting. No special types of lamps or colour screens are necessary. Standard or tubular Mazda lamps dipped in the B.T.H. daylight varnish (at a small extra charge) will give an illumination in a picture gallery or studio which is the absolute equivalent of daylight so far as colour rendition is concerned. These "dipped" Mazda lamps can be substituted for ordinary lamps in picture lighting fittings without any alteration or rearrangement of the existing equipment.

We have given a good deal of attention to the question of picture illumination and shall be pleased to put our experience at the disposal of contractors, lighting engineers, and architects who may be interested in the matter.



# MAZDA LIGHTING IN A

## AN EX INSTAL

THE pictures of various departments in this factory on the left and B.T.H. reflect to lay special emphasis on the graph solely by the light and have not been

With the exception of all the rooms are lamps in Mazda. The Drawing Office by means of Mazda Trough reflectors for cross beams, and saw-tooth roof. This is illuminated by Mazda phane glass reflect

This installation is the latest and most efficient illumination. Our clients will be pleased to see this efficient installation in a mill in which you will send particular attention shown on the back



Small Assembly Room.



Stores.



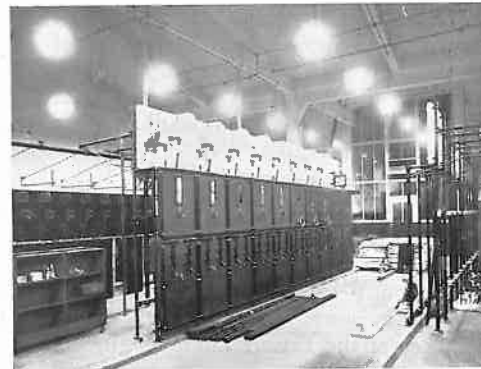
Milling Machines.



Machine Shop.



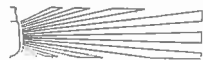
Experimental Section.



Switchboard Panel Assembly Room.



Capst



# LARGE LONDON FACTORY.

## EXCELLENT ILLUMINATION

This page shows the interiors of a large factory in London, with Mazda lamps. We would like to point out the fact that these lamps were taken at night, and the Mazda lamps, touched in any way.

One of the two offices, lighted by Mazda lamps and metal reflectors. The office is lighted indirectly by Mazda lamps in Mirolux reflectors pointing towards the ceiling. The Engineers' Office is lighted by Mazda lamps in Holo-lux reflectors.

This page presents all that is effective in industrial illumination. Engineers design an equally effective system for any factory or office interested, if you write to the nearest office for a copy.



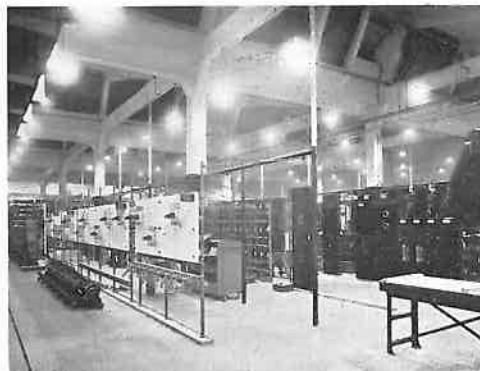
Drawing Office.



Multiple Drills.



Heavy Assembly Room.



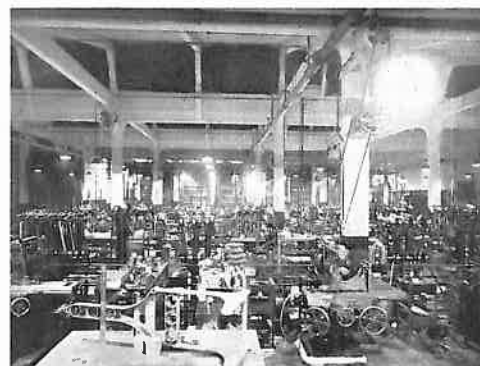
Switchboard Panel Assembly Room.



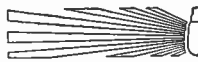
Lathes.



Engineers' Office.



Small Machines.



**Mazdafied Mines.**



Mazda Lamp  
for Miner's  
Lantern.

**T**HERE is probably no branch of industrial lighting which has received so little consideration at the hands of the illuminating engineer as the lighting of mines. Mine foremen and superintendents will claim that little or no light is required, just as the officials of the steel mills a few years ago ridiculed the possibility of a relatively high standard of illumination ever being considered necessary in their work. Careful investigation, and tests of actual installations, however, quickly reveal the advantages of good lighting.

Recent improvements in the construction of the Mazda lamp have made it sufficiently strong to withstand the shocks and vibrations incident to ordinary mine service.

Owing to the line losses and poor regulation, which are the general rule in a mine electrical distributing system, the actual voltage at the lamp holder varies widely at different points on the line, and fluctuates from time to time.

Under conditions of varying and fluctuating voltage, the Mazda drawn-wire tungsten lamp has one quality which alone gives it preference over the carbon. Owing to its characteristic positive temperature coefficient, at voltages so low that a carbon lamp is practically extinguished a tungsten filament lamp of the same rated voltage will still emit a relatively high percentage of its normal candle-power. It is therefore customary to select a lamp of the highest rated voltage at which, when operated at the minimum voltage of the circuit, sufficient light will be emitted for the particular process to be performed. To meet this condition, the Mazda lamp has been developed in a range of voltages especially adapted to mine lighting.

*Adequate Light as an Accident Preventive.* Ignoring the humanitarian phase of the subject, recently enacted laws have made accidents an expensive luxury, and but little study of the question is necessary to make it apparent that

it is more economical to take advantage of every reasonable method of preventing accidents than to pay for damages to persons and property, and suffer the delay in output resulting from neglect. Light of sufficient intensity and proper quality to permit quick, clear and accurate vision is one of the most efficient safeguards, and, correctly used, will go far towards minimising preventable accidents in mines, as it has in other branches of industry.

It is not, of course, either necessary or practicable to illuminate a mine tunnel throughout its length at a high intensity. Therefore a method similar to that sometimes employed in country roads has been evolved. The walls of the passageways at curves, crossovers, and junctions, and at intervals of from 500 to 750 ft. on straight tracks, are coated with a band of white-

wash 15 to 20 feet wide, and a Mazda lamp, with proper reflector to reduce glare and direct the light where required, is so installed as to illuminate this whitewashed area at a relatively high intensity. Thus persons in the passageway, or objects on the track, may readily be distinguished at long distances by silhouetting against the brightly illuminated white background, and signals are easily seen by the engine driver, who is enabled to travel at higher speed with a greater degree of safety.

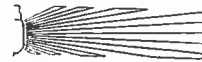
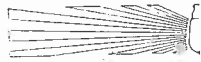


**THE "CEAG" ELECTRIC SAFETY LAMP.**

This lamp has been approved for use in gaseous mines. The following description applies to the "Bullseye" type. Accumulator (2 volts, 19 7/8 ampere hours) is mounted in a cylindrical steel container 2 1/2" in diameter and 5 1/2" high, and the total weight of the lantern is about five pounds. The hood of the lantern, which is detachable, has a brass handle with a hook so that it can be carried on the belt if so desired. Electrolyte can be added to the battery or its specific gravity ascertained by means of two holes fitted with rubber plugs in the top of the glass container of the battery. The hood of the lantern, containing the reflector and lamp, is attached to the lower part by a thread. Contact is made by means of steel springs attached to the hood, which press against the battery electrodes. To switch on and off it is simply necessary to turn the hood of the lantern through an angle of about 60°. The safety of the "Ceag" lamp lies in the fact that the bulb and reflector form a separate unit, held in position by the contact spring at the base of the lamp. This spring presses the lamp forward against the outer lens. Should the lens be accidentally broken, the spring will force the lamp and reflector forward, and so break contact.

*Miners' Hand Lamps.* In view of the tremendous popularity of electric hand lamps and torches for all sorts of "above-ground" purposes, it is somewhat strange that these devices are not more generally used in mines. It has been calculated that out of the 750,000 miners' safety lamps in use in the United Kingdom not more than 10,000 (less than 1 1/2 per cent.) are electric.

Recent mine explosions have raised the question in a very tragic form, and it is likely that, in the near future, the law will insist upon what has long been recommended by mining experts—namely, the exclusive use of electric hand lamps in coal mines. The majority of mine owners will undoubtedly anticipate legislative action in this matter, so that there



is likely to be an ever-increasing demand for these lamps from now onward. The special types of Mazda lamps for use in miners' hand lamps are extremely strong and durable, and are undoubtedly the best electric lamps for this purpose. These lamps can be used in any of the approved forms of lanterns, one of which is illustrated on page 12.



### Shop Window Lighting with Mazdalux Reflectors.



**W**E have recently carried out, through contractors, a number of very effective window lighting installations with Mazdalux metal reflectors (angle type). In view of the enormous amount of business which remains to be done in this direction, the following notes and diagram may prove useful to those who have to design window lighting installations.

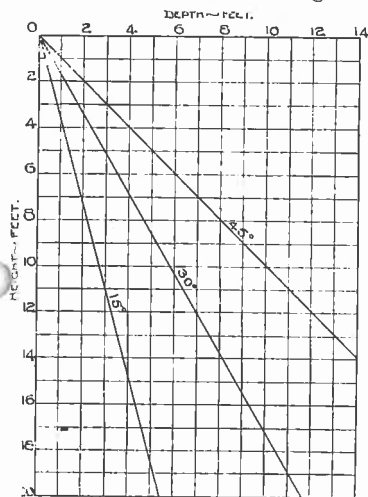


Diagram for determining the most suitable type of Mazdalux reflector for lighting a shop window of known dimensions.

Mazdalux reflectors are too well known to need detailed description here. For shop window lighting the angle type may be arranged in the same way as X-ray reflectors, that is to say, in a row along the ceiling close to the glass, with their mouths pointing down and back into the window.

Although not quite so efficient as X-ray reflectors, Mazdalux reflectors are highly effective, and the fact that they are considerably less expensive than the former will ensure for them a ready sale in conditions where the initial cost of the installation is an important factor.

The accompanying diagram shows which of the three types of angle Mazdalux reflectors (15°, 30° or 45°) should be used for a window of given dimensions. Reading from the top of the vertical scale the figures represent the height of the window from the floor to the lamp-holder, and horizontally is plotted the depth, front to back. Where these two dimensions intersect indicates the type of reflector for the window in question, that is, if the intersection falls on one of the three diagonals. If, however, it falls between the diagonals, a mixture of the reflectors represented by the adjacent diagonals should be used. For example, a window 10 feet high by 4 feet deep requires a mixture of 15° and 30° reflectors in about equal proportions, since the intersection falls midway between two diagonals; while a window 8 feet high by 4 feet deep would require a preponderance of 30° reflectors since the intersection is nearer the 30° diagonal.

Of course, in using this chart one must take into consideration the method of window dressing employed, but when the goods are displayed on the floor and about half-way, or two-thirds of the way up the back, the chart will be found sufficiently accurate.

The provision of a time switch will increase the value and effectiveness of the window display immensely, because the shopkeeper can leave his lights on after closing hours, and thus gain a considerable advantage over his neighbours whose windows are in darkness.

Need we say that Mazda lamps must be used with Mazdalux reflectors if the best results are desired?



**A WELL-LIGHTED WINTER GARDEN.** This is the winter garden of a provincial hydro, and it is lighted in a novel and interesting fashion by means of Mazda lamps and X-ray reflectors fixed above the tinted glass roof. The light is diffused through the roof and produces a soft and very beautiful illumination throughout the room.



**AN IMPLIED COMPLIMENT.**

**MAZDA SALESMAN:** "And what lamps are you using in your Church now?"  
**VERGER:** "Well, sir, most of 'em be Mazdas, but some be 'Fragiles.'"

The Sun's  Only Rival

## The Lighting of a Modern Hospital.

(Reprinted from the "Hospital.")

**W**OT least important among the many considerations which enter into the design of hospitals is the question of artificial lighting. It is only within recent years that the connection between illumination and health has been adequately realised; and the lighting of the majority of the older hospitals indicates the ignorance on this subject which existed amongst doctors and architects of the last generation.

The Chiswick Cottage Hospital is a new building and represents all that is latest and best in the design and arrangement of such institutions. The architects, Messrs. Scott & Fraser, have done all that was possible to ensure per-

fect cleanliness and comfort, and generally to render the conditions as hygienic as possible.

The electric lighting installation at the Chiswick Hospital is in keeping with the other features—which is saying a good deal. In the design and arrangements of the lighting appliances, four main considerations were kept in view:—Cleanliness, convenience, comfort and adequate illumination. The comfort of the patients demands that there shall be no brilliant light sources in sight, that the general illumination of the wards shall be so perfectly diffused and distributed as to be entirely free from glare and harsh shadows, and that local bedlights shall be out of the range of vision and throw a suitable illumination on a book or paper held at a convenient angle by the patient.

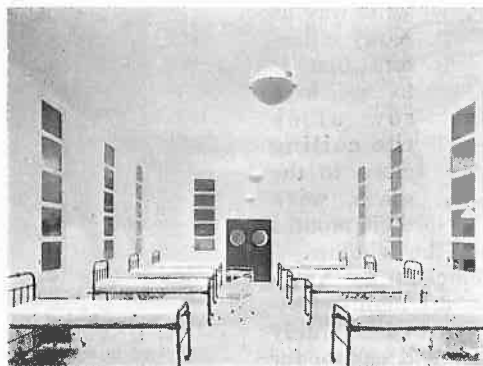
### GENERAL LIGHTING.

The general illumination of all the wards is provided by a special form of B.T.H. "Eye-Rest" fitting designed for this hospital. The Mazda lamps are contained in a metal bowl fitted with X-ray reflectors, which direct the light on to the ceiling, whence it is reflected downwards in a perfectly diffused and mellow radiance.

The fitting is suspended by metal tubes attached to the ceiling plate by a universal joint, so that it shall not be too rigid. The bowl is fastened to the fitting by two spring clips, and the bowl and reflector can be removed together and taken outside the ward for cleaning. The bowl is provided with a dust-proof glass cover, and all metal parts are white stove enamelled.

It is interesting to note that all contours of these "Eye-Rest" fittings are rounded, and there are no sharp corners, shelves, or orna-

mental mouldings where dust might collect. This "no-corner" practice has also been applied to the wards themselves, and walls, ceilings, and floors join one another in graceful curves. All windows have rounded junctions. All the fittings and decorations are white, which fact not only encourages scrupulous cleanliness, but also assists the illumination. The ward tables which are made of



One of the Wards of the Chiswick Cottage Hospital, lighted by means of special dust-proof "Eye-Rest" fittings equipped with X-ray reflectors and Mazda lamps.

oak with glass tops give the necessary relief.

### LOCAL LIGHTING.

Over each bed is fixed a specially designed white enamelled bracket, with no ornamentation or dust collecting surfaces. The brackets are equipped with Mazda lamps and Mazdalux metal reflectors with porcelain enamel finish. These reflectors are opaque and completely cover the lamps. The patient in the bed underneath cannot see the lamps unless he moves into a most uncomfortable position to do so. Moreover, the opacity of the reflector makes it impossible for patients in the opposite beds to see the lamps or to experience unpleasant glare. This system of local lighting permits an individual lamp to be kept burning without interfering with the comfort of other patients. In these fittings, as in the "Eye-Rest," there are no sharp corners or ledges.

Under each bracket is a wall-plug to which a portable bedside examination lamp can be connected.

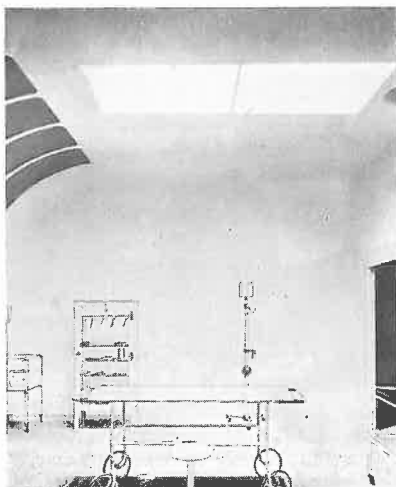
### OPERATING ROOM.

Naturally the lighting of the Operating Room was given very careful attention, and as a result of a series of conferences between the architects, the British Thomson-Houston Co., and Messrs. Donnison & Sillem, the electrical contractors, a jointly designed fitting was

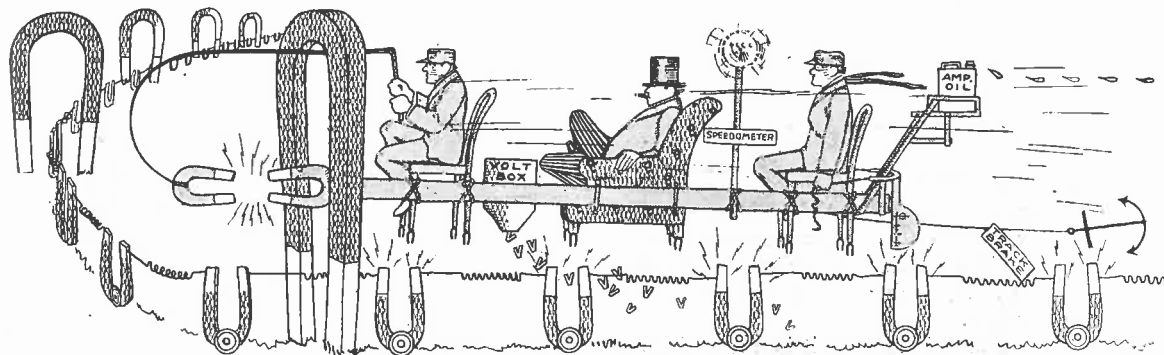
arrived at, which it is believed is a new departure in the illumination of operating rooms, and has proved eminently satisfactory. The intensity of light on the operating table is very high, and there are no harsh shadows. The fitting consists of an equipment of 24 concentrating type prismatic glass reflectors, each containing a 40 watt Mazda lamp. These are fixed at a height of 10 ft. above the surface of the table and give an illumination intensity of 30 foot candles.

In order to avoid the risk of dust dropping from fittings placed immediately over the Operating Table, the whole equipment is covered on the underside with a sheet of polished wired plate glass flush with the ceiling, and on the outside by a water-tight casing. This arrangement not only ensures absolute freedom from dust-collecting surfaces, but also allows the engineer in charge access to the whole lighting equipment of the Operating Room from the outside, thus obviating any undesirable traffic through the room. Further, if any part of the equipment should fail during an operation, it can be attended to from the outside without interfering with the case in hand.

The lamps are wired on four separate circuits, so that every precaution is taken against total failure of light.



The Operating Theatre, Chiswick Cottage Hospital, lighted by means of 24 Mazda Holophane units contained in a recess in the ceiling directly above the operating table. The under side of the recess is covered with plate glass to prevent dust dropping on to the table. The illumination on the table is 30 foot candles.



THE ADVANCE OF SCIENCE.

This picture represents our Artist's idea of the new Levitated Railway. Pretty "répulsive," isn't it? THE ILLUM.

### A Book Worth Writing For.

**I**N the last issue of "Mazda House News" we described our recently issued Shop Lighting booklet. That announcement has brought in many hundreds of requests for copies, which we have gladly supplied.

Have you written for a copy yet? If not, write at once. It is certainly a book worth having, because it contains the very essence of our experience in shop lighting; and we have had a wider and more varied experience in this phase of lighting work than any other electrical firm.

The booklet is one which (if you are an electrical contractor) you can place in the hands of a shopkeeper with the absolute assurance that, if he doesn't give you an order on the spot, he will at any rate be sufficiently interested to ask your advice when he does want to change his lighting.

We don't propose to supply quantities of this booklet for distribution, but we shall be pleased to let you have one or two copies to give to the most important shopkeepers in your district. And you can always write in for more copies if you require them.

As we stated before, there is only a limited edition, so don't miss your chance of getting the best booklet ever published on the subject of shop lighting.

vide a general illumination of daylight quality. In any case, the process of modifying ordinary artificial light so that it approximates to daylight colour is not always possible.

Someone has recently designed artificial daylight spectacles which seem to meet all the requirements of colour-matching in a most satisfactory and convenient manner. The daylight spectacles consist of specially formed goggles, of which the eye-pieces are composed of glass and dyed gelatine. These spectacles can be made up with glasses suitable for modifying incandescent electric, or any other light source.

With this device it is possible to match colours anywhere without interfering with the Mazda units which provide the general illumination.

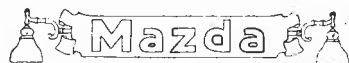
Where it is desired that the lamps themselves should give a light of daylight quality, they should be dipped in the special daylight varnish mentioned on page 9. A daylight dipped Mazda lamp will provide an ideal colour-matching unit, and it can be enclosed in a box on the counter or desk, so as not to interfere with the general illumination of



**ALBA LIGHTING IN RESTAURANT.**  
Electric Restaurant in Earl's Court Rd., London, lighted semi-indirectly by means of Alba glass bowl fittings. This is the sort of lighting that rests the eyes and sharpens the appetite.

the shop or mill.

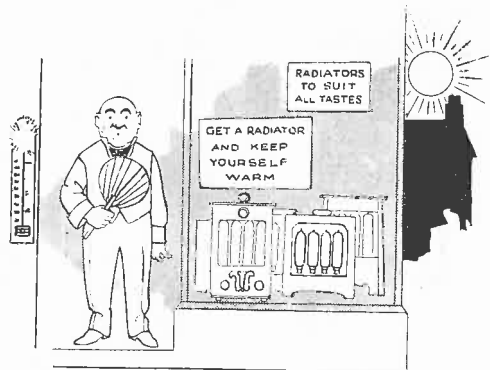
The purpose of good lighting is effective vision.  
The basis of good lighting is Mazda.



### Artificial Daylight Spectacles.

**A**PART from colour-matching requirements, artificial daylight is not greatly in demand; indeed, most people prefer an illumination considerably warmer in tone, such as is given by Mazda lamps.

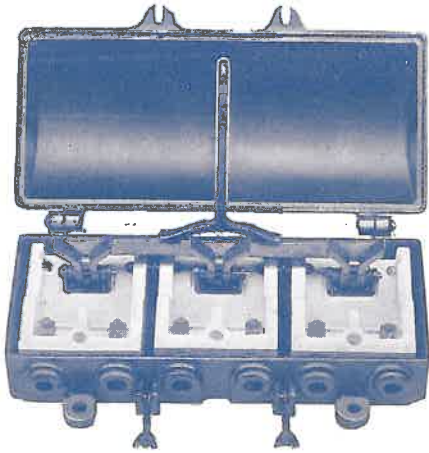
For this reason, it is not desirable, even in shops and textile mills where colour matching has to be carried out, to pro-



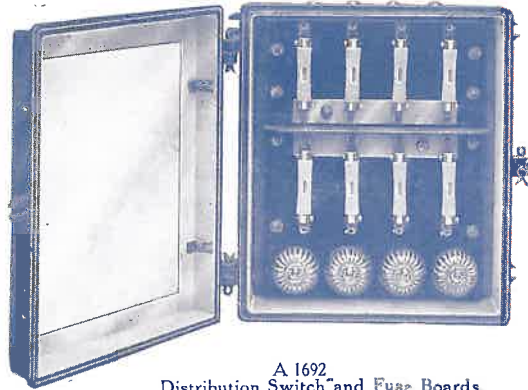
SILLY ASS!



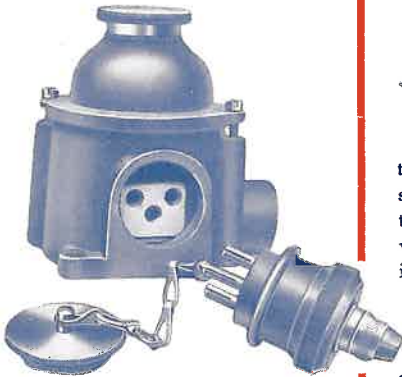
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A 1305  
Laminated Contact Type Switches.  
Triple-pole. Prices from 10/9



A 1692  
Distribution Switch and Fuse Boards.  
Prices from 32/-



A 1040  
Combined Switch and Plug.  
Price 13/3



WE list a complete range of ironclad switches, fuses, distribution boards, plugs, etc., suitable for use in factories, aboard ships, and wherever else such material is specified or required. A few of these articles are illustrated on this page. Many others are shown in our price lists. The quality of our ironclad accessories is of the highest standard—

and the prices are the lowest possible. Send us your orders or enquiries when you want ironclad switches, etc.—we hold large stocks, and can supply on receipt of order.



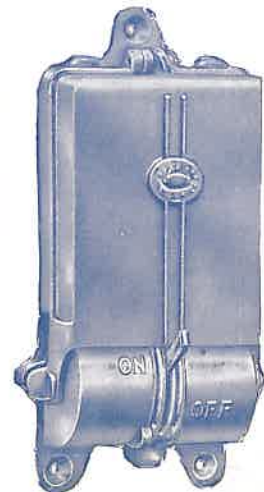
A 1030  
Tumbler Switches.  
Prices from 5/-



A 1533  
Distribution Boards.  
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A 1301  
Laminated Contact Type Switches.  
Double-pole. Prices from 5/3



A 1309  
Combination double-pole  
Switch and Fuse,  
12 amp. Price 13/-



Five Light Mazdafier with Veluria Reflectors.

PRICES OF ROUND TUBE TYPE, \*

F 9050 one light	...	...	...	...	8/6
F 9051 two light	...	...	...	...	20/-
F 9052 three light	...	...	...	...	27/6
F 9053 four light	...	...	...	...	35/-
F 9054 five light	...	...	...	...	45/-

\* Prices are for Brushed Brass fittings complete with holders, galleries and wiring, but without lamps or reflectors.



The Mazdafier is a scientifically designed fitting for use with Mazda Drawn Wire Lamps. The scientific design consists in the correct spacing of the arms and the anti-vibratory method of suspension.

Mazdaliers are the most inexpensive *effective* lighting units on the market, and are suitable for the illumination of shops, offices, stores, etc.

From the seller's point of view the Mazdafier has the advantage that it comes *folded up and packed in a neat carton* which is not only convenient for storage but prevents the fitting from deteriorating while in stock.

## B.T.H. "EYE-REST" WALL BRACKETS

fitted with X-Ray reflectors and Mazda lamps.

These Flambeaux Wall Brackets represent a new and very beautiful application of the "Eye-Rest" principle. Each flambeau of a one, two or three light bracket is fitted with a small X-ray reflector and a 40 watt Mazda lamp, and the light is thrown up on to the ceiling in the same way as with the ordinary Indirect fitting.

There should be a very considerable demand for these novel "Eye-Rest" units. Will you write for full particulars and prices?



Two Light Wall Bracket.

WHITE COMPOSITION, SHERATON DESIGN.

Also made for one and three lights, and in other designs. Prices from 42/6.

Brass Brackets for one, two or three lights, and in several styles, from 50/-



## Wires, Cables and Flexible Cords

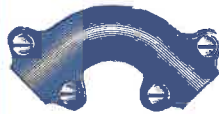
Are in constant demand for Lighting and Power Installations. They are made in several grades, and in accordance with the

CABLE MAKERS'  
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Best in quality, lowest in price, and *immediately available from stock*, Paramho Wires and Cables are offered with the absolute assurance that they will satisfy the most exacting requirements, in every phase of installation work. Send us your orders.



## B.T.H. STEEL CONDUITS, FITTINGS, AND TOOLS



Screwed.



Plain.



Light Gauge Conduit (Close Joint).

We hold, at all of our branches, large stocks of plain and screwed Steel Conduits, together with the necessary fittings and bending, cutting and tapping tools.

May we quote you?

Our prices, quality and delivery are beyond competition.

## B.T.H. Primary Batteries

Are unsurpassed for bell and telephone work. They last a long time, and quickly recover after use. Write for prices—you will find them attractively low.



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London	Mazda House, 77 Upper Thames St., E.C.	Bank 5561 (3 lines)	Mazdalux, London	South and West of Eng- land—i.e., South of a line drawn from Ipswich to Bristol
Birmingham	Daimler House, Paradise Street	Midland 2401 and 2402	Asteroidal, Birmingham	Leicester, Stafford, wick, Hereford, North- ants, Huntingdon Bedford, Cambridge, Norfolk, Suff- olk, Worcester, Shropshire
Manchester	National Buildings, St. Mary's Parsonage	Central 6636 (3 lines)	Asteroidal, Manchester	Lancashire, Isle of Man, Cheshire, and North Wales to Aberystwyth
Newcastle	Collingwood Buildings	2142 and 2343	Asteroidal, Newcastle	Northumberland, Cum- berland, part of Westmor- land, Durham and North Yorkshire
Middlesbro'	Prudential Chambers, Albert Road	814	Asteroidal, Middlesbro'	Sub. Office to Newcastle —same territory
Sheffield	8 East Parade	Central 4669	Asteroidal, Sheffield	Yorkshire (South of Thirsk), Derbyshire, Lin- colnshire, and Notting- hamshire
Leeds	Standard Buildings, City Square	Central 3244	Asteroidal, Leeds	Sub. Office to Sheffield— same territory
Glasgow	91 Wellington Street	Central 4840 and 4841	Asteroidal, Glasgow	Whole of Scotland
Cardiff	Royal Chambers, Park Place	4392	Asteroidal, Cardiff	Monmouth and East half of Glamorgan
Swansea	Castle Buildings	Central 123	Asteroidal, Swansea	Cardigan, Pembroke, Carmarthen and West half of Glamorgan
Dublin	25 Suffolk Street	1557	Asteroidal, Dublin	Whole of Ireland

We have prepared the above tabulation for the convenience of our customers and prospective customers in all parts of the United Kingdom. We shall be grateful if you will kindly communicate with whichever Office is shown to be in your area. By so doing you will minimise delay and generally help matters along to our mutual advantage.