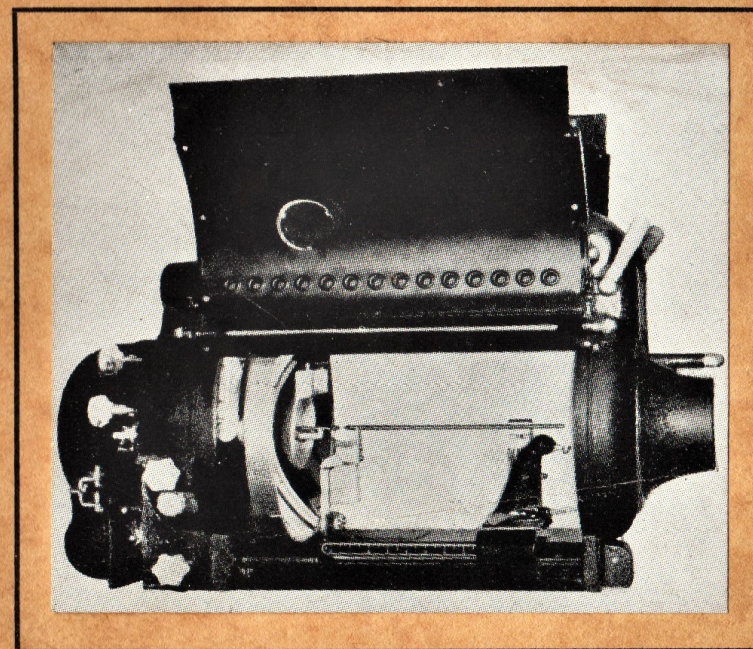


THE ASHCRAFT
“SUPREX”
ARC



THE LAMP of TO-MORROW for the PROJECTION of TO-DAY !

SOLE CONTROL U.K. :

JACK ROE

8, NOEL STREET, WARDOUR ST., LONDON, W.1

Phone : Gerrard 5171

and at 87, Donegal Street, Belfast

A NEW LIGHT ON THE IDEALS

of

PROJECTION

ASK — NOW
FOR A
DEMONSTRATION

FOREWORD

Suprex projection is new—radical—revolutionary—fast becoming universal in use. Never before has a system of projection been developed, having such a wide scope.

It is, therefore, proper that a mechanism be provided for this marvellous new arc that will produce and maintain it to the best advantage—a mechanism that is modern, accurate, dependable—of a design in keeping with the projection booths of the best theatres.

While other concerns were exploiting and flooding the market with the now defunct AC lamp, the Ashcraft Mfg. Co. were developing and perfecting the Suprex arc.

The C. S. Ashcraft Mfg. Co. are the oldest concern and operate the largest factory devoted exclusively to the manufacture of projection arcs and number among their users the largest Theatre circuits, Motion Picture Studios and Laboratories.

The purpose of this booklet is to explain the operation of the Suprex arc in detail, showing the manner in which the projectionist may obtain the best results from his arc. It also contains a comprehensive description of the Ashcraft Type "E" Projection Lamp.

WHAT IS SUPREX ?

There is no more similarity between the old type so-called High Intensity Arc and the Suprex Arc than between the old carbon filament electric light globe and the modern tungsten lamp. Suprex represents the acme of perfection in the Art of Arc illumination. It is the result of infinite study—tireless experimenting—months of moulding it into practical form and application to projection of motion pictures. Suprex designates a definite and specific system or method of causing and controlling the action and flow of incandescent gases from the crater of the positive electrode, but is almost diametrically opposed to the system used in High Intensity.

Extensive studies were made to determine the cause of varying brilliancy and why the arc increased to such intensities at times and then faded and decreased in intrinsic brilliancy to a degree less than one-half the peak light. Careful observation proved that when the light was most brilliant a distinct halo appeared around the periphery of the crater in the positive electrode. This halo was found to be the outer gases of a disc-like plane of flame which was formed directly in front of the

crater area itself. It was found that as the halo disappeared, the light immediately decreased in intensity. By impressing various currents on electrodes of various diameters, varying the arc gap and the pressure or voltage across the arc itself, it was discovered that the disc-like shape and halo could be made to appear and disappear at will, it could be controlled in size and in intensity.

The Suprex method or process of controlling the action and flow of luminescent gases to obtain a stabilising effect was developed by the C. S. Ashcraft Mfg. Co., U.S. Letters Patent No. 1983439, which covers the use and operation of this arc, was issued to and are the sole property of the C. S. Ashcraft Mfg. Co. under date of December 4, 1934 ; therefore, all users of Ashcraft Lamps are protected from future patent litigation.

DESCRIPTION OF ASHCRAFT TYPE " E " SUPREX LAMP.

The Lamphouse.

The Ashcraft Type " E " Lamphouse is very large, massively constructed and beautifully designed. On the normal installation the lamphouse top is horizontal. The design gives the lamphousing a streamlined appearance which is very pleasing.

The large volume of the interior of the housing facilitates ventilation, preventing overheating of the various parts and keeping the exterior of the housing cool.

Doors.

The doors are large and when raised expose the entire interior to the projectionist, making the cleaning and care of the lamp an easy task. The doors lift vertically and are provided with handles. No catches are necessary to hold the doors up or closed in the down position.

Rear Door.

At the rear of the arc is a door which, when opened exposes the entire negative assembly for trimming the negative carbon. The arc control is also exposed for oiling or cleaning. No parts are located or hung on the outside of the lamphousing. Everything is enclosed in the rear chamber which is entirely separated from the arc chamber and is well ventilated.

The base of the lamphouse is designed to fit any Simplex projector but may be used with other makes by using an adaptor.

The finish of the housing is black frostine and black baked enamel finished with chromium fittings. All knobs and lever handles are onyxite, the whole giving a very beautiful and completely finished appearance.

The Reflector.

The ASHCRAFT Reflector is correctly and carefully designed to collect the maximum of light and project it upon the aperture with a minimum of loss. It is 14 in. diameter and of elliptical curvature. The collecting angle is 140 degrees—the distance of the front surface from the crater is $4\frac{7}{8}$ in. and the distance from the front surface of the reflector to the film is 33 in.

The magnification of the reflector is such as to give a large aperture spot of great intensity. Due to the size of the spot there is no tendency for the projected light to have discoloured sides or corner, the field being extremely flat under all operating conditions. The reflector is placed a sufficient distance from the arc as to minimize pitting, and to eliminate breakage from contact with the arc flame. All ASHCRAFT REFLECTORS have a white heat-resisting backing, which does not peel or allow moisture to attack the silvered surface.

Carbon Guides.

The positive carbon is supported near its arcing end in a fixed and non-adjustable guide, which holds the crater in the exact geometric focus and optical centre of the large reflector. The guide is supported by a heavy bracket mounted on the left hand side of the lamphouse and thoroughly insulated. This position eliminates any tendency of copper drippings collecting on the insulation thus "shorting" it out. The guide is made of heat resisting metal and is non-magnetic in order that the arc will be unaffected by any magnetic influence caused by the passage of current through the carbon. The negative carbon is also guided at its tip so as to always be directed in alignment with the positive carbon.

Independent Feed Control.

The Speed control of both positive and negative carbon feeds can be adjusted independently, while there is separate accurate adjustment of the negative carbon in relation to the positive. These latter controls are set conveniently external to the lamphousing.

Motor Control.

A dual rheostat control gives a wide range of speed of feeding and is actuated by a single knob.

Electro-Magnetic Arc Stabilizer.

Located to the rear of the large reflector and above the optical centre of the lamp is placed a shunt connected magnet coil. The purpose of this coil is two-fold. It prevents the flame emitted by the negative carbon from spreading excessively over the outer edge of the positive crater, also to the rear of the crater face ; in other words, it localizes the negative flame to the crater face. The second function is to bend the tail flame away from the mirror in order to eliminate undue heating of the mirror surface and smoke deposit.

Accessibility of Controls.

One of the main features of the ASHCRAFT Type " E " Lamp which will appeal to the projectionist is the fact that all of the operating controls are placed in one section of the lamp housing, that is, on the operating side near the rear of the housing, the projectionist will appreciate this fact after examining other machines in which some of the controls are placed at the front of the housing, some on the operating side and others on the " off " side of the housing.

Chain Drive of Carbon Carriages.

There are many advantages to this type of drive, the chief of which are : Positive motion to carbon carriages, no lubrication whatever used ; lack of wear over long periods of use ; no lost motion or back lash after hand adjustments. All chain used is tested at 500 pounds tensile strength.

Mirror Protecting and Light Douser.

An inherent characteristic of the Suprex Arc is the emission of flame and smoke upon striking the arc. Also there is a tendency for liquid carbide, under certain conditions, of operation, to be projected toward the mirror. In order fully to protect the reflector from these damaging agencies, a clever shield is used of cuplike form, which folds around the arc when it is established, which precludes the possibility of damage to the reflector. When not in use the douser swings upward, out of the light beam, to the top of the lamphouse. All parts of the shield subject to deterioration are easily replaceable.

Ease of Trimming.

Rapidity and ease of trimming is of great importance in the selection of a projection arc. ASHCRAFT Type " E " lamp accommodates the full 12 in. trim of the positive carbon and an adequate length of negative carbon, the method of readjusting the carriages is ultra-rapid.

COMPLETE PROJECTION EQUIPMENT

WORKSHOPS UNDER PERSONAL CONTROL

**JACK ROE,
8, NOEL STREET, WARDOUR STREET,
LONDON, W.1.**

Telephone : GERrard 5157

Night 'Phone : CLIsold 2614

IMPROVED SAFETY SHUTTERS

**MADE TO ORDER
IN A FEW HOURS**

SWITCHBOARDS RESISTANCES TO SPECIFICATION ON SHORTEST NOTICE