



MODEL ELEVEN
CINEMATOGRAPH
PROJECTOR

SPECIAL SOUND MODEL

"KALEE" MEANS "SERVICE"

KALEE Model Eleven Cinematograph Projector.

REVISED PRICES

as and from February 1st, 1935.

- Page 27. KALEE Model Eleven Projector Mechanism.
Code Word : "SONKA." Price ... £99 0s. 0d.
16 in. Fire-resisting Top Spool Box and Spool Arm.
Code Word : "SPOOX." Price ... £4 15s. 0d.
18 $\frac{3}{4}$ in. Fire-resisting Top Spool Box and Spool Arm.
Code Word : "LAROX." Price ... £6 15s. 0d.
- Page 47. Code Word : "WENZE." Price ... £125 0s. 0d.
When an allowance towards the cost of the Adapter Gear Drive is made
by the Western Electric Company.
Price ... £107 0s. 0d.
- Page 53. Code Word : "WONZA." Price ... £150 0s. 0d.
Code Word : "WEELA." Price ... £156 0s. 0d.
- Page 59. Code Word : "BEESA." Price ... £125 0s. 0d.
Code Word : "BILAR." Price ... £131 0s. 0d.
- Page 65. Code Word : "RARCA." Price ... £150 0s. 0d.
Code Word : "RILAC." Price ... £156 0s. 0d.
- Page 71. Code Word : "RAJAH." Price ... £150 0s. 0d.
Code Word : "REJAL." Price ... £156 0s. 0d.
Code Word : "RANEW." Price ... £150 0s. 0d.
Code Word : "RECRA." Price ... £156 0s. 0d.
- Page 77. Code Word : "BATAP." Price ... £104 10s. 0d.
- NOTE :—The above price is for Mechanism and Top Spool Box only. The
Stand, Lower Spool Box, ALL Adapter Gearing and accessories are
now supplied by B.T.P. Ltd., along with their Sound System.
- Page 82. Code Word : "PHONZ." Price ... £125 0s. 0d.
Code Word : "PHOLA." Price ... £131 0s. 0d.

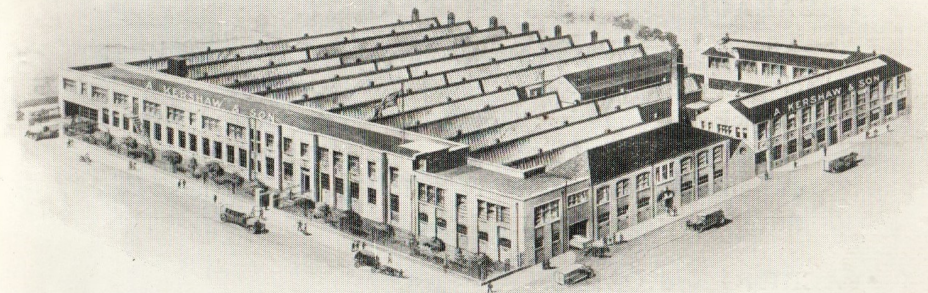
NOTE :—Amendment to all above specifications: Two *only* Steel Film
Spools (Metal Centres) are now supplied.

— THE —
Home of KERSHAW Productions

*Where the "Kalee Indomitable," Model Eleven,
Cinematograph Projectors and Accessories are
Manufactured.*

ALL BRITISH CAPITAL.

ALL BRITISH LABOUR.



SOLE MAKERS:

A. KERSHAW & SON, LEEDS, 8 (Eng.)

Branch of Soho Ltd., 3, Soho Square, W.1.

SALES AGENCY:

KERSHAW PROJECTOR COMPANY,

ALBION WALK,
ALBION STREET,
LEEDS, 1.



3, SOHO SQUARE,
LONDON, W.1.

.....

.....

Telephone 22237.

Telegrams: "PROJECTOR, LEEDS."

Telephone: GERRARD 2184 (2 lines).

Telegrams:

"NOIRAM-RATH-LONDON."

TERMS AND CONDITIONS OF SALE.

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NEW ACCOUNTS.

Satisfactory references, or cash with order.

HIRE PURCHASE.

Terms on request.

BREAKAGE OR LOSS IN TRANSIT.

All goods are carefully packed and sent F.O.R. Leeds. No claim can be considered by us for damage, breakage, loss or delay in transit. Goods should be signed for after examination, or signed "unexamined," so that purchaser can institute the necessary claim on the carriers within three days from receipt of goods.

PACKING and CASES.

If returned in good condition, carriage paid, within 14 days, full allowance will be made.

TIME OF DELIVERY.

Promises are always based from the date at which all necessary particulars are in our hands, and are subject to the usual strike and accident clauses. In no case, however, will the Company be responsible for consequential loss or damage due to any cause whatever.

ILLUSTRATIONS.

Show generally the appearance of the respective articles, but must not be taken as binding; alterations and improvements are made as occasion arises.

This list cancels all previous issues, and is subject to alteration without notice.

KALEE Model Eleven

CINEMATOGRAPH PROJECTOR.

ALL BRITISH.

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Designed specially for SOUND, but equally suitable for SILENT PROJECTION.

For over a quarter of a century the Kershaw factories have been manufacturing high-class Projectors; many thousands are in daily use all over the world, giving entire satisfaction.

Backed by this experience they now offer to the most critical of Projectionists, a De Luxe Special Sound Model Projector in which is embodied every desirable feature:—

PERFECT PROJECTION.

SILENCE IN ACTION.

EASE OF MANIPULATION.

SIMPLICITY AND RELIABILITY.

PRECISION WORKMANSHIP.

AUTOMATIC LUBRICATION BY PUMP TO ALL BEARINGS,
GEARS, AND INTERMITTENT MOTION.

MASKING BY REVOLVING INTERMITTENT SPROCKET.

COMBINED FLICKER AND SAFETY SHUTTER.

MICROMETER ADJUSTMENT OF FLICKER SHUTTER.

FILM SPEED INDICATOR.

and many other novelties as the following pages will reveal.

"KALEE" means "SERVICE."

KALEE Model Eleven

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The Projector Mechanism.

Every minute detail of the Kalee Eleven Projector Mechanism has received the closest thought in design, selection of material, workmanship and finish, so as to produce in the completed machine the last word in Projector construction.

The main body is an accurately machined box form casting, in which is contained all the moving parts, spindles, gears, intermittent motion, etc. A cover plate makes the body into an oil tight container in which is embodied an oil pump, oil being constantly delivered to all moving parts by a series of delivery pipes.

All castings are black stove enamelled, machined parts polished finish.

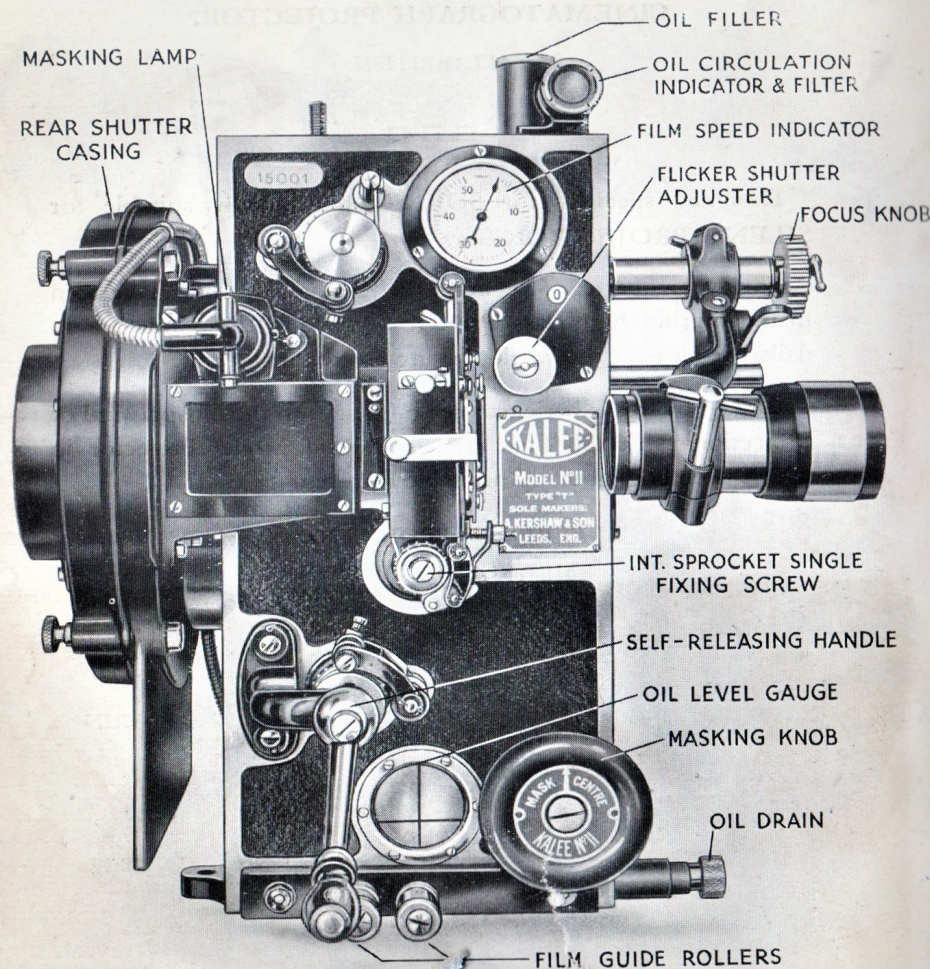
Spindles.

Are all made of special tough high carbon steel, ground to extremely fine limits.

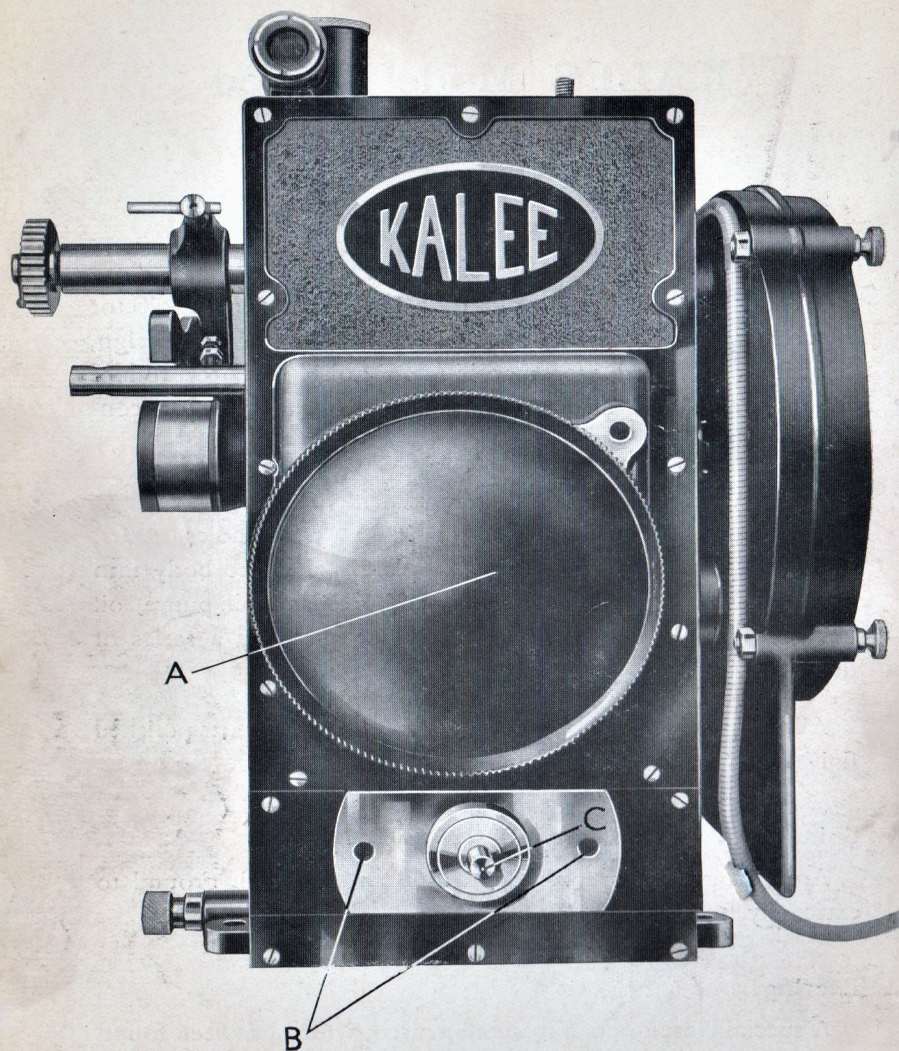
Bearings.

A special close grained material is used, which has been found by experience to be free running and wear resisting.

All outside bearing ends have annular grooves, and oil return holes to prevent oil leaking on to the sprockets, outer casing, etc.

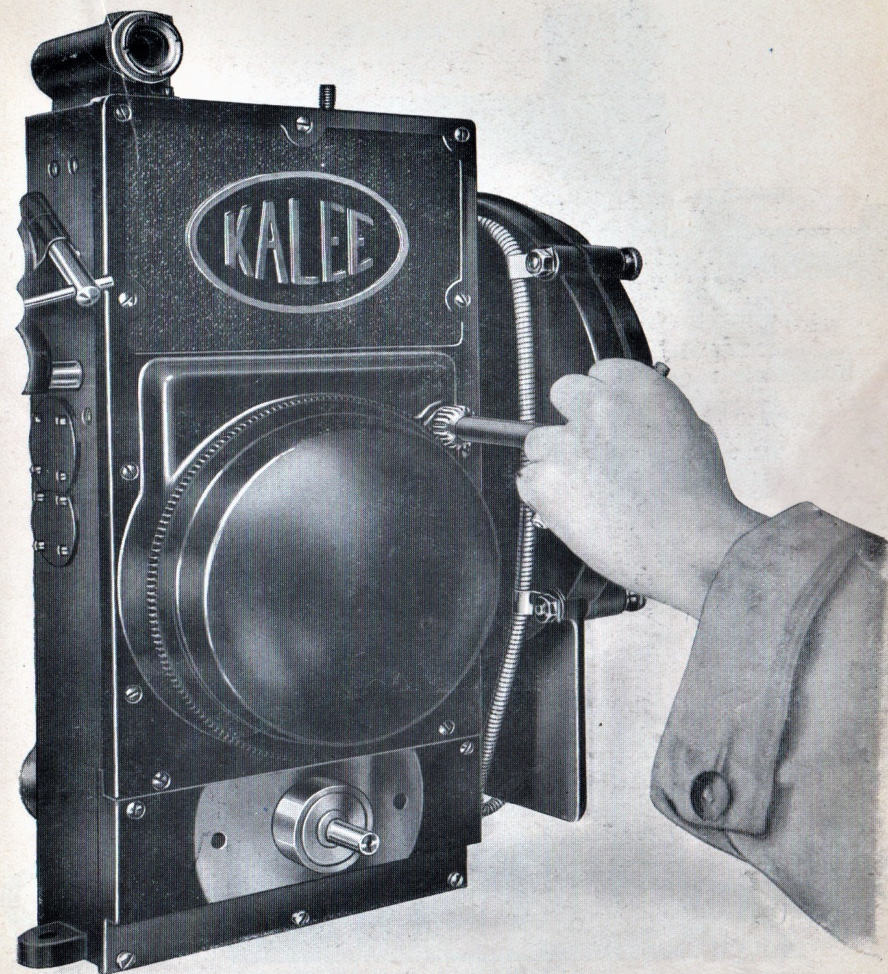


KALEE Model Eleven,
Special Sound Model Projector Mechanism.



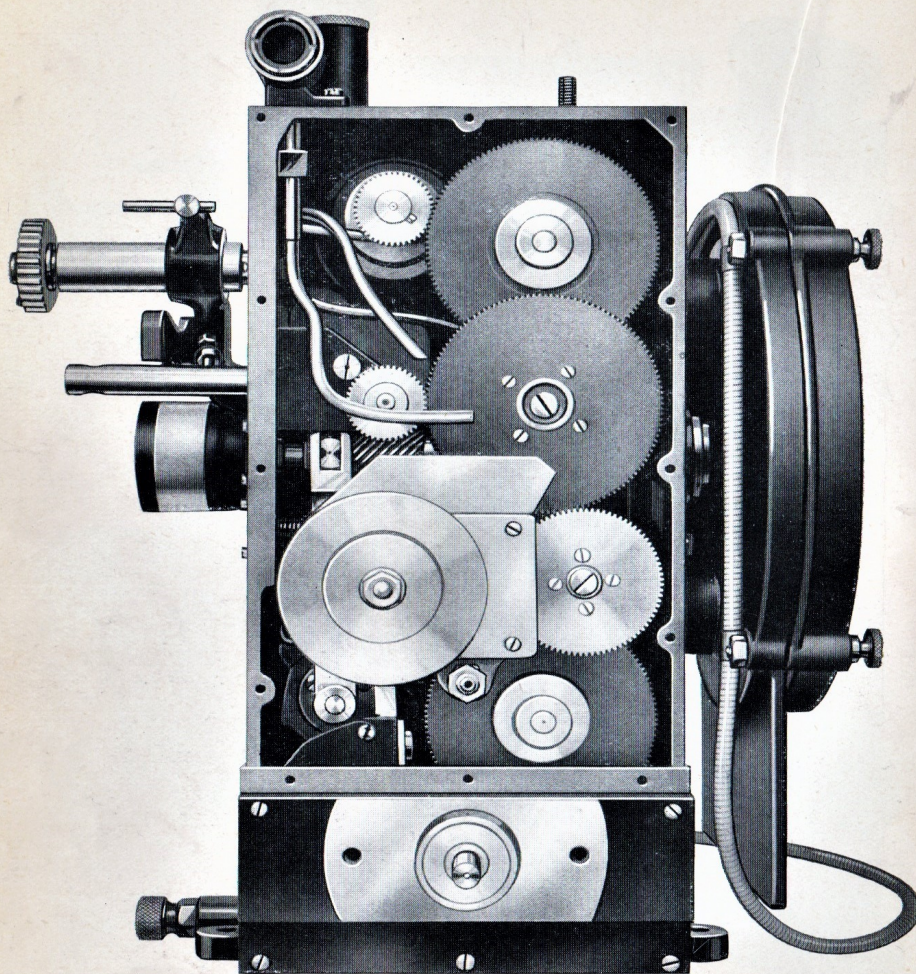
Rear View of KALEE Model Eleven,
Projector Mechanism.

- A—Screwed cover (covering Intermittent Unit).
 B—Tapped holes for Fixing Sound Adapter Gears.
 C—Main Drive Shaft on which is fixed the adapter driving gear.



Rear View of KALEE Model Eleven,
Projector Mechanism.

*Illustrates the method of using the Pinion Key for removing or replacing
the screwed cover which covers the Intermittent Unit.*



**Rear View of KALEE Model Eleven,
Projector Mechanism.**

*The main back cover removed—exposing the whole of the Gears,
Intermittent Unit, Oil Distribution Pipes, Etc.*

KALEE Model Eleven PROJECTOR.

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Gears.

A train of precision generated spiral cut gears couple up the whole of the moving parts. To ensure silence and smoothness in running, alternate gears are made of metal and synthetic gear material. The latter material is wear resisting and non-resonant and has been thoroughly tested out under extremely severe working conditions. A pair of right angle drive spiral gears are embodied for driving the flicker shutter shaft; these gears are made from a high tensile case hardening steel, with glass hard surfaces.

All the gears are under constant lubrication from the oil pump.

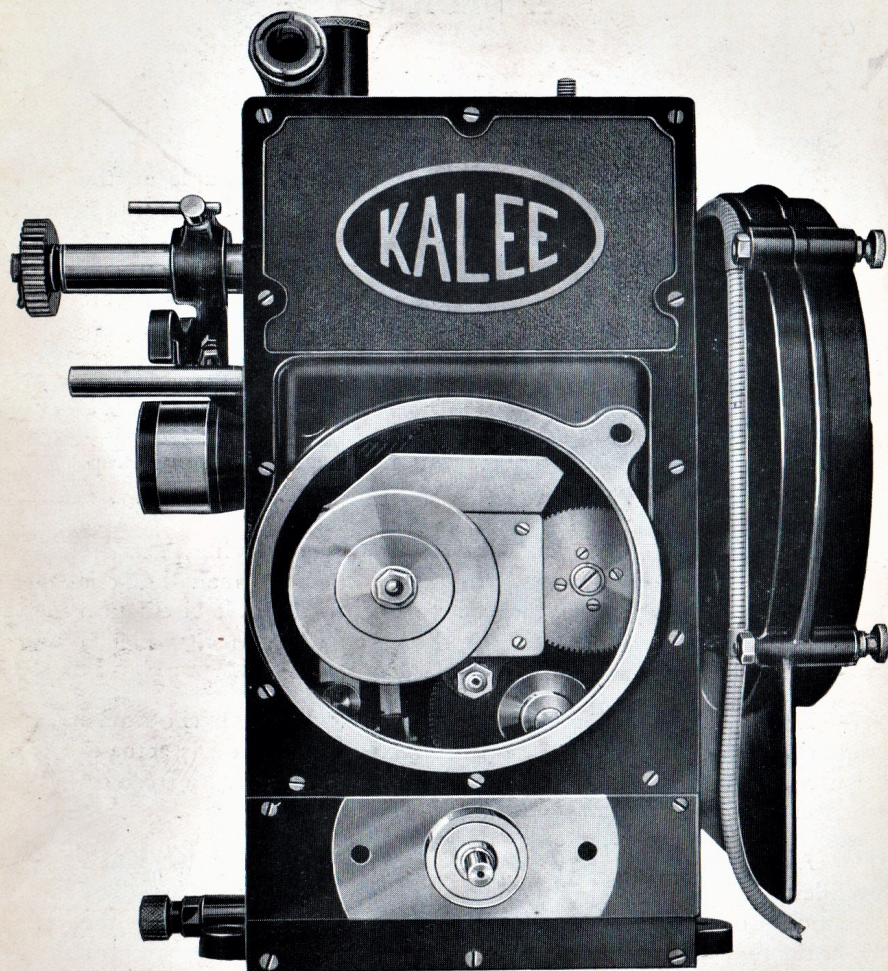
Lubrication.

As previously mentioned, the whole of the moving parts are under constant lubrication. In the base of the main body is embodied an oil pump which delivers oil to a visible circulation indicator located at the top of the mechanism, from which a system of pipes delivers oil to the various parts.

Embodied in the indicator is an oil filter which should be periodically removed and cleaned. As very little oil is actually used it is strongly recommended to drain and refill with fresh oil after approximately every 80 hours actual running.

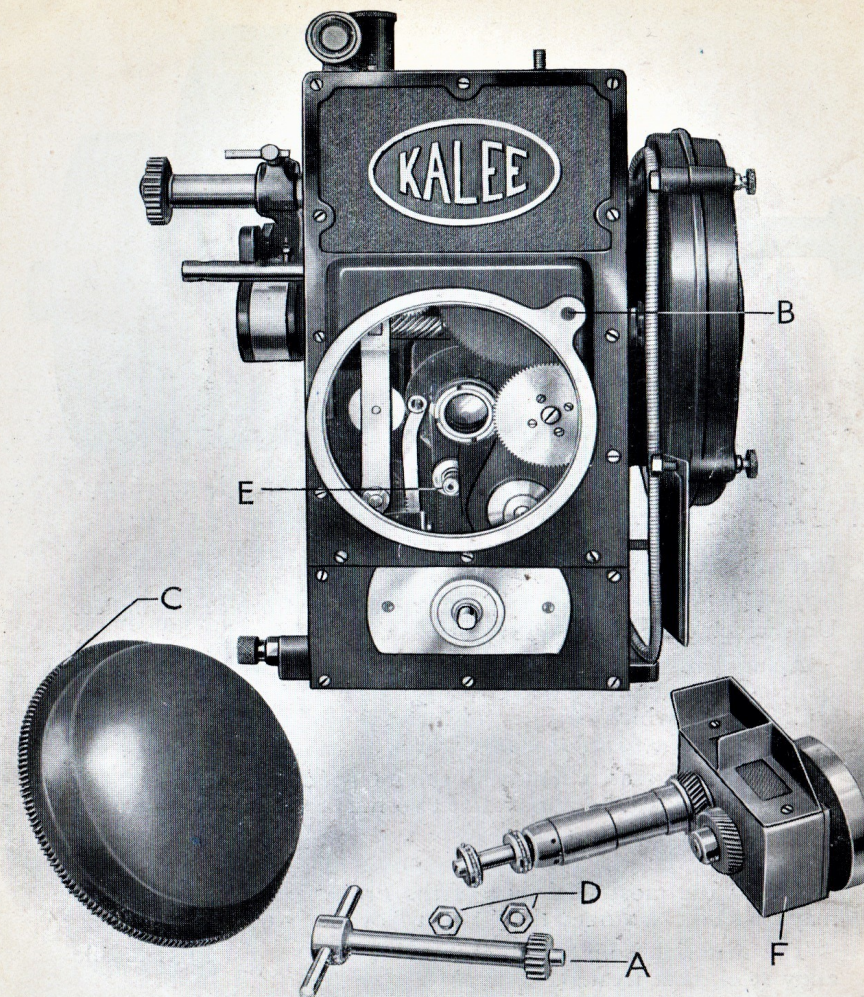
A drain plug is provided at the base of the mechanism and a filler plug is located on the top of the circulation indicator. The amount of oil required is such that it reaches the point where the horizontal and vertical lines intersect as shown on the window near the base of the mechanism.

As all the working parts are manufactured to very fine limits, it is necessary to use a very high-class oil, the viscosity and purity of which has been thoroughly determined. "KALEE ELEVENOIL" offers all these advantages and should be used for the Kalee Eleven Mechanism.



**Rear View of KALEE Model Eleven,
Projector Mechanism.**

The screwed cover is removed—exposing to view the Intermittent Unit.



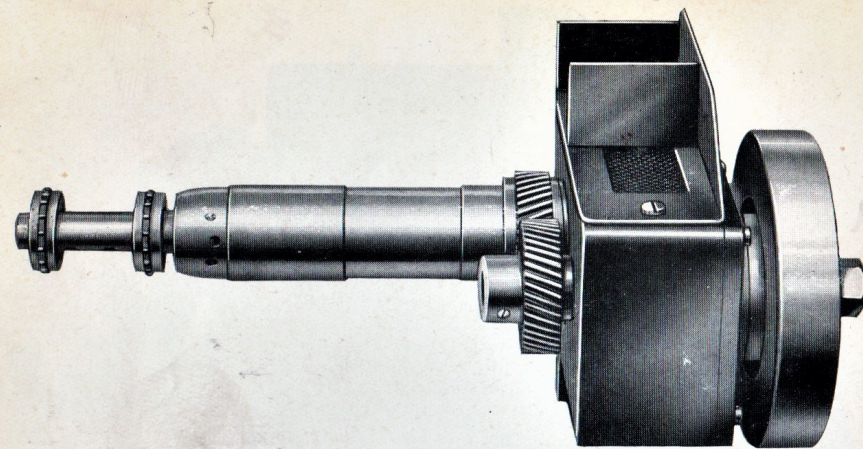
**Rear View of KALEE Model Eleven,
Projector Mechanism.**

Shows method of removing Intermittent Unit.

The gearing end (A) of Pinion Key is inserted in the hole (B), the teeth of the Pinion Key engage with the teeth (C) on the periphery of the screwed cover which can then be unscrewed.

The two nuts (D) are then removed from the stud (E); the Intermittent Unit (F) can then be withdrawn.

When replacing, to avoid retiming, the marks on the engaging gears should coincide with each other



Complete Intermittent Unit—Intermittent Sprocket, Maltese Cross, Cam, Balance Wheel, Driving Gears, Gauge Filter, Etc.

Intermittent Unit.

This all important part is constructed in the form of a complete Unit which can be quickly removed or replaced.

A supplementary screwed dished cover is located on the main body cover. This screwed cover is readily removed by means of a pinion key which engages with the rim of the cover, the rim being cut in the form of a gear wheel.

When this cover is removed, the intermittent unit is exposed and only requires the removal of two nuts to withdraw the unit.

Maltese Cross.

This is the most vital part of the Projection Mechanism and may correctly be termed the "Heart" of the Projector.

The material from which it is made is a special high tensile alloy steel, heat treated.

The highest skill is employed in its manufacture, in conjunction with most accurate precision machinery, finished by grinding to extremely fine limits of accuracy.

The Cross is of large size, ensuring long life.

Locking Cam.

The Locking Cam is of new and novel construction, made of special steel, hardened and ground perfectly true. The striking roller is also made of hardened steel, ground to fine limits to fit the Cross Slots. The striking roller shaft is eccentrically adjusted so that the striking position is correctly placed relative to the engagement of the Cross and Cam.

KALEE Model Eleven

PROJECTOR.

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Intermittent Sprocket.

Constructed from a special type of steel, machined to very fine limits to ensure perfect accuracy.

One has only to compare the relative mask size to the projected picture size to realise the accuracy required. A fraction of one thousandth part of an inch error will make it unfit to give a steady picture. The whole time the projector is in use, the sprocket is undergoing an optical test of high magnification.

The sprocket is fixed to the spindle by means of a single end screw and key washer, so that it can be readily removed and replaced.

Projectionists should use great care to see that it is kept free from dirt and protect it from injury.

Feed Sprocket.

The top and bottom feed sprockets are turned from special steel, hardened, and attached to the spindles by single screws for ease in replacement.

Film Guide and Sprocket Rollers.

Are all constructed of steel, hardened, ground and lapped and seldom require replacing. They are correctly formed and relieved to avoid scratching the film. The frames are constructed of steel pressings and are unbreakable. For retaining roller spindles, a standard size of split pin has been adopted. These cannot work loose which is often the case with small screws, and the cost of replacement is practically nil.

Provision is also made for setting the rollers in correct relation with the sprockets by means of screws and lock nuts.

KALEE Model Eleven PROJECTOR.

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The Gate—(Continued).

The runner plate and mask is formed in one steel stamping, cleared in the centre to avoid scratching the film and is devoid of any sides. This plate is easily replaceable when worn.

The mask, being integral with the runners, is as nearly as possible in the focal plane of the film, and consequently gives a clearly defined sharp masked picture.

The size of the mask aperture for silent projection is 0.9062 in. wide by 0.6796 in. high.

For sound on film the mask aperture is 0.825 in. wide by 0.600 in. high, and is out of centre 0.051 in. to allow for sound track.

At the top of the gate bracket and mask plate is a fixed roller, and, in addition, a spring controlled roller which automatically adjusts itself to the width of the film.

The gate opens at the front of the Projector, away from the source of light and heat, and allows of threading and adjustment of the film in the shortest possible time.

The film skates are machined from steel section, and are controlled at each end by spring loaded pressure bars, which are adjustable by knurled head screws to vary the tension on the skates.

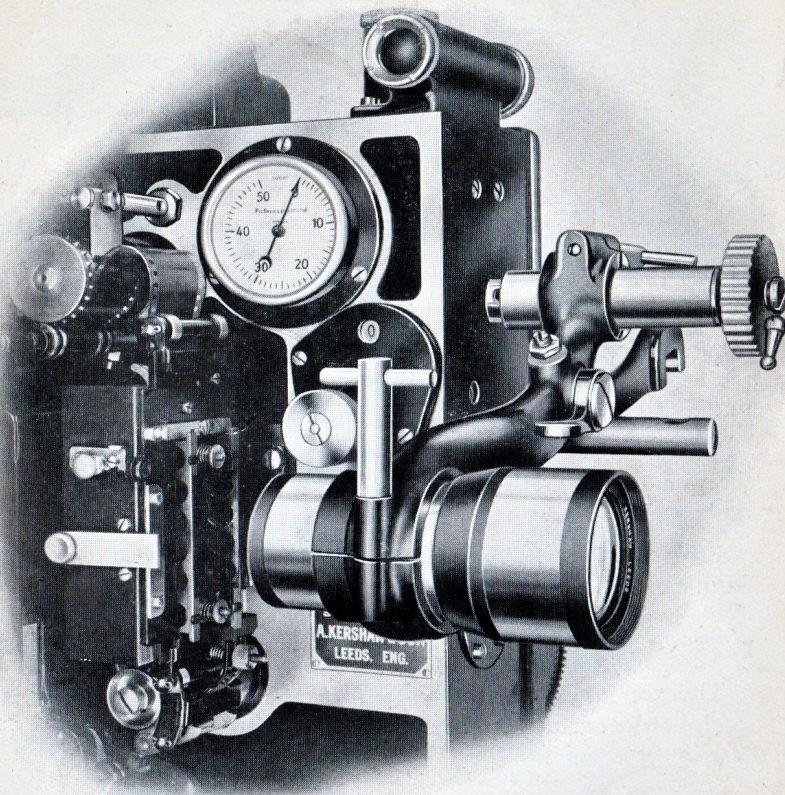
When giving a "first run" of a new film it is often found desirable to reduce this tension, to avoid emulsion collecting on the runners, due to the fact that final hardening of new film occurs after it has been subjected to the heat rays of the arc lamp.

The tension is reduced by turning the milled head anti-clockwise.

At all times it is recommended to keep the tension as light as possible as it increases the life of the vital parts of the Projector, in particular the intermittent sprocket. Steadiness of projection must mainly evolve from the intermittent movement.

A special form of film guide shoe is pivoted at the bottom of the gate. This shoe is made of steel, hardened, and formed so that it gives full engagement of film with the intermittent sprocket, thereby reducing film strain to a minimum, a necessity where film is projected above the normal speed.

Particular attention should be given to the adjustment of the film guide shoe. Without film, the shoe should be just clear of

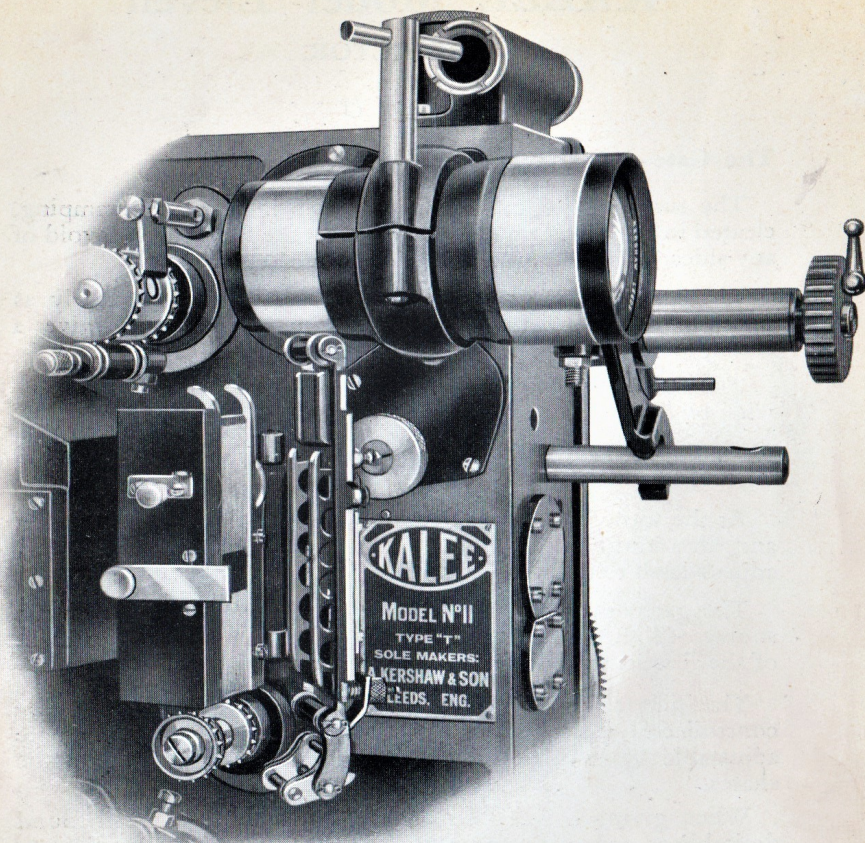


*Gate closed, with film and lens in position for projecting.
The rigid mechanical focussing device will be observed.*

The Gate.

The Gate is made entirely of steel, roller brackets are electric welded, making a very rigid construction.

In place of a fixed width of film track, automatic tracking rollers are employed, which are self adjusting according to the width of the film.



Gate open and Cine Lens Support swung away, showing the replaceable steel mask plate, auto tracking rollers, etc.

the rim of the intermittent sprocket. This adjustment is made by means of a small knurled steel nut at the bottom of the gate. When turned clockwise, the shoe recedes from the sprocket. This nut has a square shoulder on the back, which engages in the slot of the steel cradle lug, so that no attempt should be made to turn the nut without pressing the lug towards the gate. This allows the square shoulder to be clear of the slot. It will be noted that the nut is allowed one quarter of a revolution adjustment, which is sufficiently fine to give the necessary adjustment of the shoe.

KALEE Model Eleven PROJECTOR.

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Masking or Framing.

Fixed optical centre is employed and is controlled by rotating the intermittent sprocket.

The intermittent unit housing is a revolving sleeve, rotated by means of a rack link coupled to a pinion box, the pinion shaft having an extension shaft protruding at the front of the mechanism. On this shaft is a substantial friction braked knob which has a label indicating when the masking is at the central position. When threading up, the arrow should point upwards.

When the intermittent sprocket is revolved, it is necessary to synchronise the flicker shutter; this is automatically compensated for by means of a cam formed on the housing which contacts with a pivoted lever and roller. This lever is held in contact with the cam by means of a strong spring, and the forked end of the lever controls the position of a spiral gear which can slide on the shutter spindle.

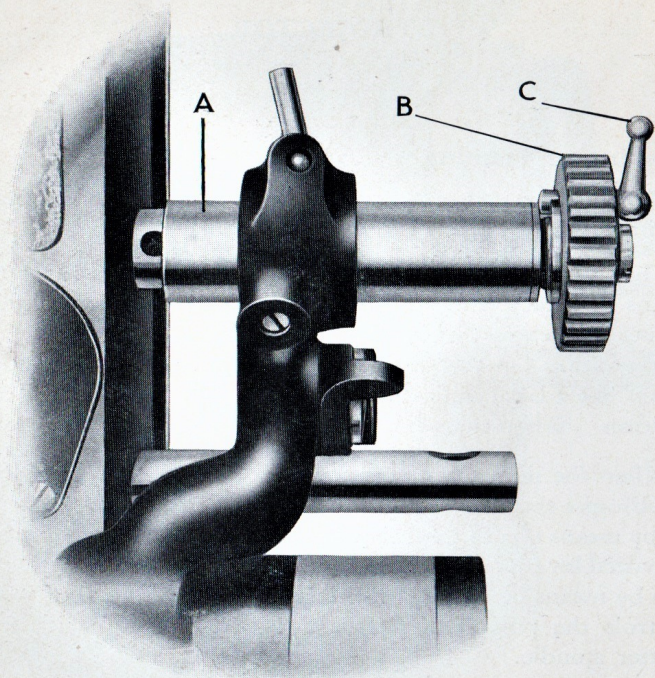
Flicker Shutter Adjuster.

The spiral gear which engages with the spiral gear on the shutter shaft is also adjustable by means of a knob on the front of the mechanism. If the flicker shutter has not been set correctly or should "Ghost" appear, by turning this knob correct synchronism can be obtained. A dial is connected to the knob and should read at "O" if the shutter is set correctly in the first instance. It is not necessary to read "O" but when set at "O" it allows of the same angular adjustment to both edges of the flicker shutter.

Masking Lamp.

When threading up the film, the masking lamp can be brought into operation and so ensure that the picture is in perfect coincidence with the mask aperture.

KALEE Model Eleven PROJECTOR.



Cine Lens Focussing Device: adjustable steel sleeve "A," large knurled focussing knob "B," and locking lever "C."

The Cine Lens Bracket.

This type of Lens Bracket has been embodied in the Kalee Eleven due to the many advantages which it offers and which have been proved out on previous Kalee projectors.

Focussing is critical, due to lack of backlash; and when set, it can be rigidly locked.

Designed on thoroughly sound mechanical lines, the constant re-focussing which is necessary with the old fashioned flimsy rack and pinion jacket is eliminated.

The holder is adaptable to clamp rigidly "Kershaw" projection lenses, Type "A" small aperture, Type "B" large aperture, Type "C" Super lenses.

The bracket is clamped in position according to the focal length of the lens, along a large diameter adjustable steel sleeve.

KALEE Model Eleven PROJECTOR.

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The Cine Lens Bracket—(Continued).

The adjustable steel sleeve is actuated by a large steel knurled knob and allows of a fine focussing adjustment of ample capacity. Back lash is entirely eliminated by an internal compression spring. When correct focal position is obtained the focussing knob can be locked by means of a small lever situated on the face of the knob. The centre spindle, on which the sleeve slides, is of large diameter and substantially fixed to the main frame.

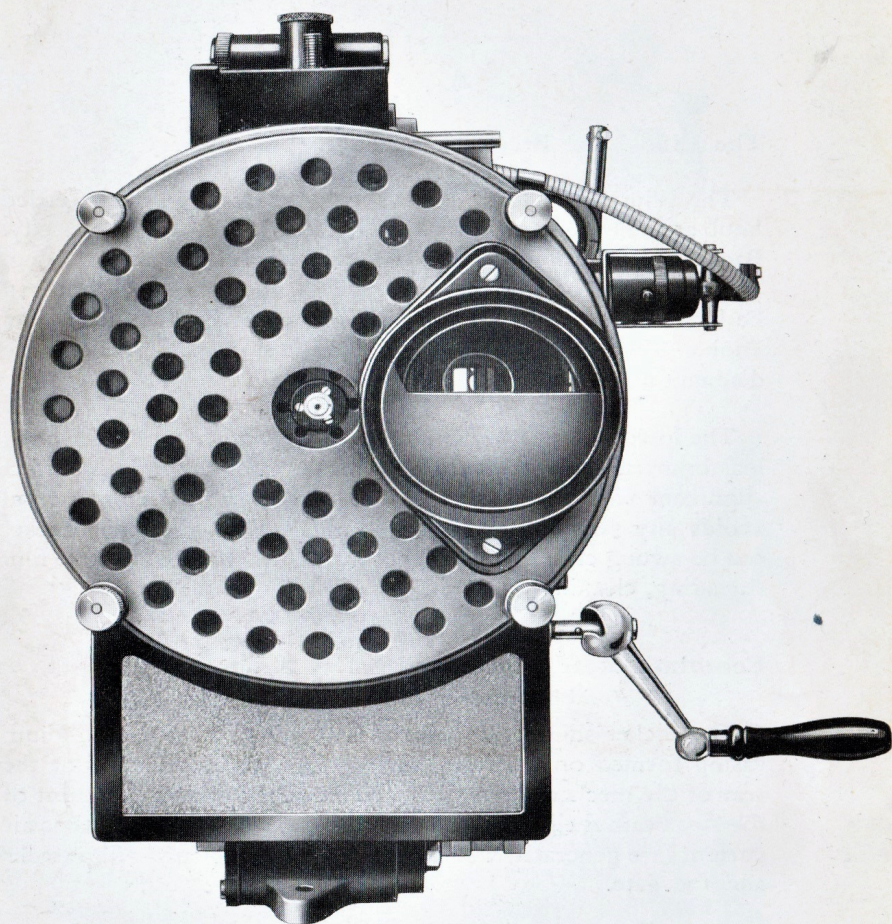
The lower rod is also massive and forms a perfect guide to the lens bracket, and retains the axial position of the lens in perfect alignment with the mask. The heavy substantial construction avoids any possibility of vibration. Further, the lens bracket can be swung entirely out of the way of the gate to facilitate film threading, cleaning, etc.

Combined Rear Flicker and Safety Shutters.

(British Patent applied for).

The flicker shutter revolves in a totally protected aluminium casing formed on the heat shield. Due to its situation at the rear of the mechanism, approximately 60 per cent. of the heat of the Arc beam is eliminated from the film, and at the same time air currents are generated which cool the mask aperture—film tracks and the gate.

The safety shutter is a similar shutter and both are mounted on a boss and spring coupled together, so that when the mechanism is stationary, the blades of one shutter are in coincidence with the apertures of the other shutter. When the mechanism is set in motion and a safe projection speed is attained, by centrifugal force, the blades of both shutters coincide and allow the Arc beam to project to the gate. On slowing down or stopping the reverse action takes place and so prevents the Arc beam reaching the gate.



End View of KALEE Model Eleven,
Projector Mechanism.

Shows the combined Rear Shutter Casing and Heat Shield.

KALEE Model Eleven PROJECTOR.

Hand Driving Handle.

A new type of self-releasing handle is fitted to the Kalee Model Eleven Projector.

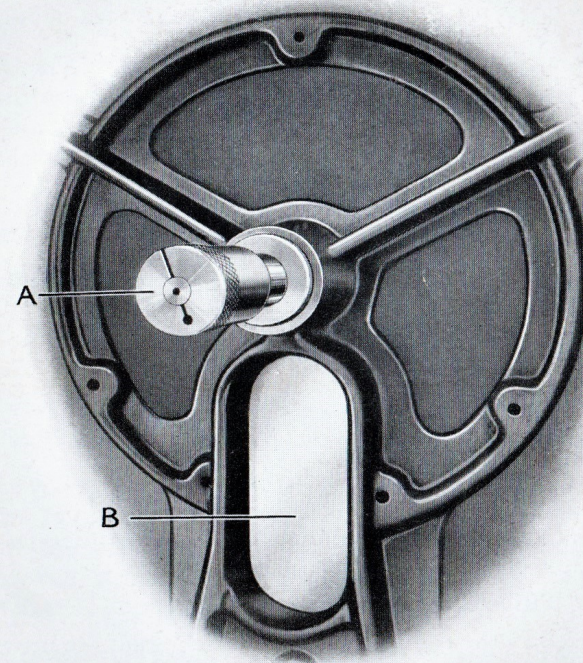
The vital details of the handle are made of steel.

The body of the handle is made of steel, turned and polished, the handle itself being vulcanite with a brass liner.

Spool Boxes.

The standard spool boxes are 16 in. diameter, to take 14 $\frac{3}{4}$ in. diameter film spools.

Spool boxes 18 $\frac{3}{4}$ in. diameter to take 17 $\frac{1}{2}$ in. diameter spools can also be supplied. At the same time, it is necessary to supply special spool arms.



Rear view of Top Spool Arm, showing the spindle tension adjustment knurled nut "A" and rear window "B."

The boxes and doors are solid drawn from best quality rolled steel plate. Substantial hinges, safety fire traps and catches are fitted and the whole finished in black stoved enamel.

KALEE Model Eleven

PROJECTOR.

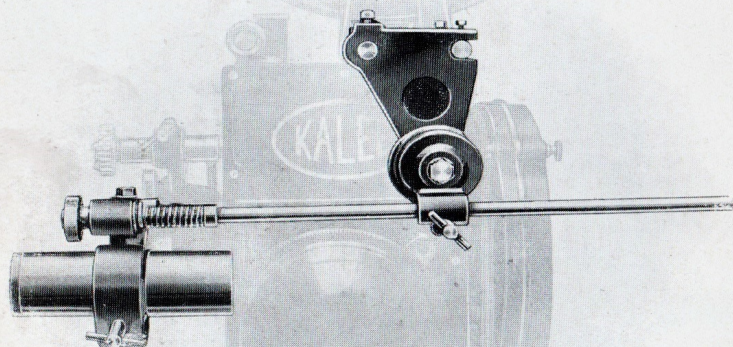
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The top box is provided with mica windows both on the lid and the back of the box, to facilitate observation of the amount of film on the spool.

Spool Arms.

The Top Spool Arm clamps on the top of the mechanism by means of a single nut. It is provided with a revolving spindle, and an adjustable friction device which can be set to give the correct film tension and avoid over running.

Bottom Spool Arms are provided to suit the various types of Sound Systems now in vogue and also for silent outfits. They are all similar in principle, with adjustable friction plates for the correct take up and can be readily taken to pieces for cleaning, etc.



Lantern Slide Attachment, illustrating method of fixing to top Spool Arm.

Lantern or Title Slide Attachment.

This is fixed to the top spool arm in which holes are provided to take a steel rod which in turn carries the Lens Holder. Focussing is done on mechanical principles similar to the Cine lens. The lens is securely clamped in a cast iron holder which slides on a screwed steel spindle, on which is fitted a knurled steel focussing knob. Rough adjustment of focus is obtained by unclamping the main bracket and sliding the steel bar; fine adjustment is then made with focus knob.

KALEE Model Eleven

PROJECTOR.

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In the following pages instructions are given for the care of the KALEE Model Eleven Projector Mechanism, further particulars and prices of the mechanism, and following, a comprehensive list of spare parts.

The KALEE Model Eleven Projector is manufactured in a factory specially built and equipped with the most modern precision machinery for the production of the highest class mechanical precision apparatus.

All the composite parts are standardised to very fine limits, and are practically interchangeable, with the exception of taper pin holes. In supplying a part which is fixed by a taper pin, one side only is drilled, the completing of the hole and final reamering to size being left to the mechanic doing the repair.

The majority of composite parts are illustrated on the eight following plates. When ordering parts not illustrated, state the list number of the part for which they are required.

The factory number of the mechanism should be stated; this will be found on the top of the mechanism near the top spool arm fixing bolt. Also, when ordering parts for this type of mechanism, to avoid any mistakes, the number of the part should be prefixed by the letter "T."

Spare parts are kept in stock and in most cases can be despatched by return of post.

KALEE Model Eleven

PROJECTOR.

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Care of the KALEE Model Eleven Mechanism.

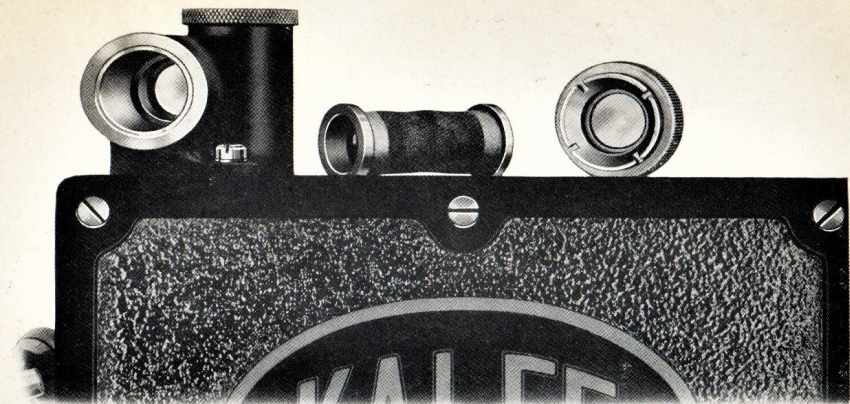
A Projector Mechanism is a fine and accurately constructed piece of mechanical apparatus which has to withstand hard continuous service and demands a certain amount of care if it is expected to fulfil its duties efficiently.

The Kalee Model Eleven has been designed and constructed to reduce this care to a minimum, but it is necessary to have cleanliness and lubrication with a high-class oil. Very little calculation is required to estimate the quantity of film which passes through the mechanism, in, say a week. Films harbour dust and grit, which are deposited on the machine and should be periodically removed.

Due to the fact that the mechanism is automatically lubricated, very little oil will get on to the casing, as the bearings are specially constructed to return the oil to the main body casting. Therefore, an ordinary paint brush will remove most of the dirt and any obstinate particles by a similar brush dipped in paraffin oil.

When removing deposit that may have collected on the sprockets, an ordinary tooth brush is recommended. The greatest care should be used especially in cleaning the Intermittent Sprocket, as the slightest injury will upset the steadiness of the picture.

When cleaning [the Skates or Mask Plate of any emulsion that may have collected, a soft metal should be used as a scraper. This should be done daily to avoid scratching film, especially with new run films which are not always perfectly set. A suitable brass scraper mounted in a polished wood handle is supplied at a small cost. On no account do we recommend removing the dirt with a knife or hard metal, as it is liable to scratch the polished steel surface, raising sharp edges, which will immediately collect dirt again, probably worse than before.



Oil Circulation Indicator—showing Filter removed for cleaning.

Lubrication.

After cleaning the mechanism, attention should now be given to the film pressure and guide rollers; especially the auto film guide rollers. All these parts should revolve freely and require a spot of oil occasionally.

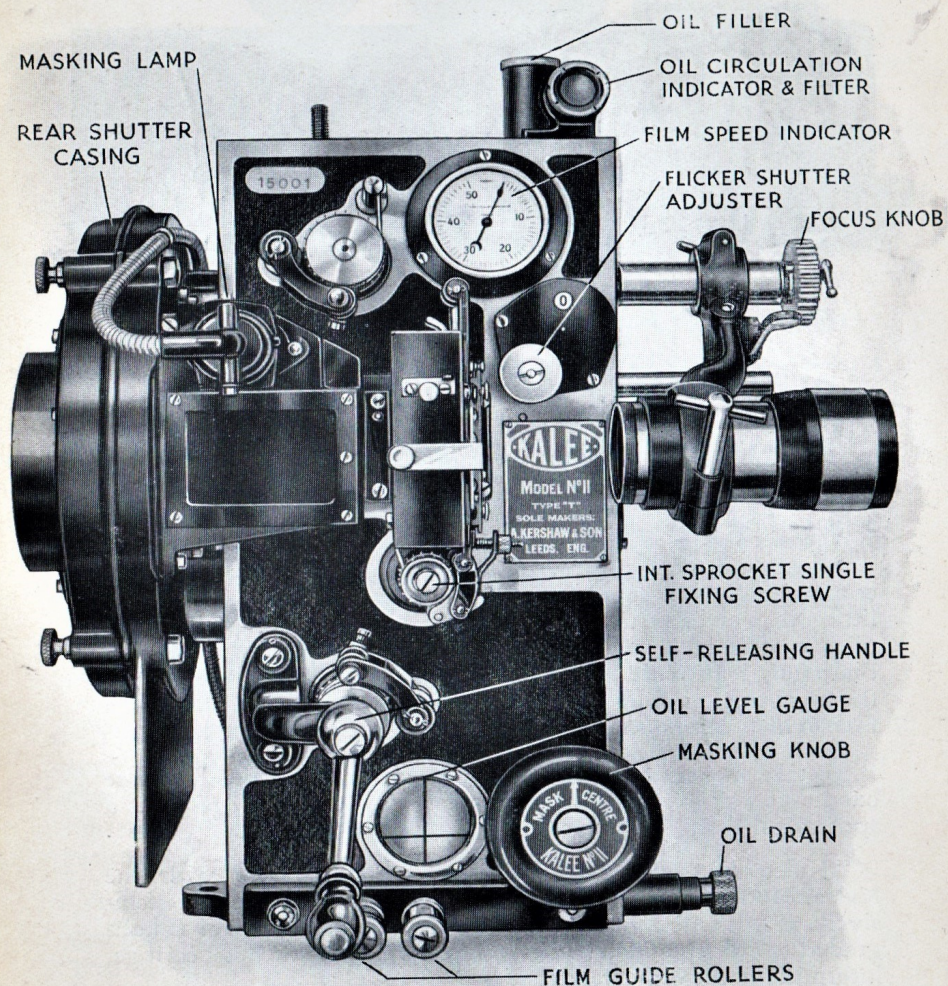
All main bearings, spindles, gears, intermittent unit, etc., are continuously lubricated by means of an oil pump. As very little oil is actually used, we strongly recommend renewing the oil, say, after every 80 hours actual running of the mechanism. A drain plug is provided for running off the old oil and at the top of the mechanism a filler plug is fitted which has integral with it, a filter which can be removed for cleaning.

To take the strain off the spindle which carries the auto release handle an outside bearing bracket is provided which requires a spot of oil daily.

“Kalee Eleveoil” has been developed for use with the Kalee Model Eleven Mechanism; it should be used exclusively, as it is an oil of the purest quality and its viscosity has been graded to suit the fine mechanical limits of the various bearings, intermittent movement, etc.

Important Notice.

It is to the advantage of every user of the Kalee Model Eleven Projector Mechanism never to interfere with the intermittent movement. The Maltese Cross, Cam and Striking Roller are set scientifically true, their displacement may mean new parts being fitted.



**KALEE Model Eleven,
Special Sound Model Projector Mechanism.**

KALEE Model Eleven

SPECIAL SOUND MODEL.

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KALEE Model Eleven Projector Mechanism.

Spanners and one Tin of "Kalee Elevenoil."

Without Spool Arms, Spool Boxes, Lenses or Lantern Slide Attachment Fittings.

Price £120 0s. 0d.

Code Word: "SONKA."

16 in. Fire-resisting Top Spool Box and Spool Arm.

Price £5 0s. 0d.

Code Word: "SPOOX."

18 $\frac{3}{4}$ in. Fire-resisting Top Spool Box and Spool Arm.

Price £7 0s. 0d.

Code Word: "LAROX."

Lantern Slide Attachment Fittings, to fix on Top Spool Box, complete but less Lens.

Price £3 0s. 0d.

Code Word:

Rear Projection—Using Cine Lenses from 1 $\frac{1}{2}$ in. to 2 in. focus.

Supplementary Condenser Lens and Fittings to fit behind the Gate Frame.

Price £2 2s. 0d.

Special Rear Projection Anastigmat Lenses from 1 $\frac{1}{2}$ in. to 2 in. focus.

Price £8 10s. 0d.

KALEE Model Eleven Projector. SPARE PARTS.

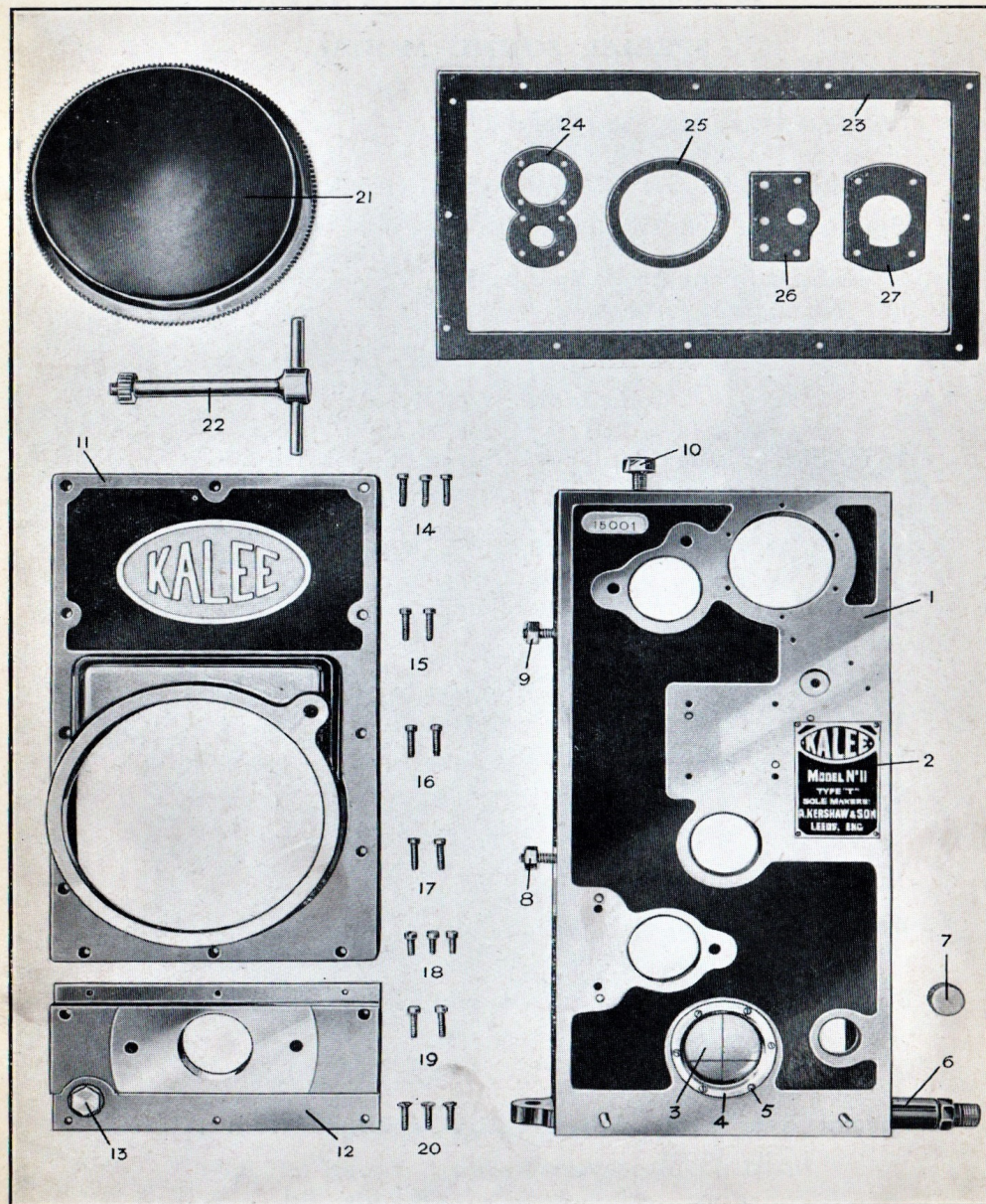


Plate No. 1.

PLATE No. 1.

□ □ □

No.						£	s.	d.
T.1	Frame, Main	...	...	...	each			
T.2	Label	...	...	...	"
T.3	Window, Oil Level	...	...	...	"	2	0	
T.4	Flange, Oil Level Window	...	...	...	"	5	0	
T.5	Screws, Flange	...	...	...	"			3
T.6	Plug, Oil Drain	...	...	...	"	7	6	
T.7	Cover, Oil Drain Plug	...	...	...	"	2	0	
T.8	Nut, Heat Shield Fixing	...	...	...	"			4
T.9	Nut, Heat Shield Fixing	...	...	...	"			4
T.10	Nut, Top Spool Arm Fixing	...	...	...	"			6
T.11	Cover, Main Frame	...	...	...	"
T.12	Cover, Main Drive Bearing	...	...	...	"
T.13	Plug, Oil	...	...	...	"	2	3	
T.14	Screws, Main Frame Cover	...	...	...	"			6
T.15	Screws, Main Frame Cover	...	...	...	"			6
T.16	Screws, Main Frame Cover	...	...	...	"			6
T.17	Screws, Main Frame Cover	...	...	...	"			6
T.18	Screws, Main Frame Cover	...	...	...	"			6
T.19	Screws, Main Frame Cover	...	...	...	"			6
T.20	Screws, Main Frame Cover	...	...	...	"			6
T.21	Cover, Screwed	...	...	...	"
T.22	Key, Pinion	...	...	...	"	12	6	
T.23	Gasket, Main Frame Cover	...	...	...	"	2	0	
T.24	Gasket, Front Bearing Cover and Spring Cover	...	...	...	"			9
T.25	Gasket, Speed Indicator	...	...	...	"			9
T.26	Gasket, Oil Pump	...	...	...	"			9
T.27	Gasket, Flicker Shutter Housing	...	...	...	"			9

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

KALEE Model Eleven Projector. SPARE PARTS.

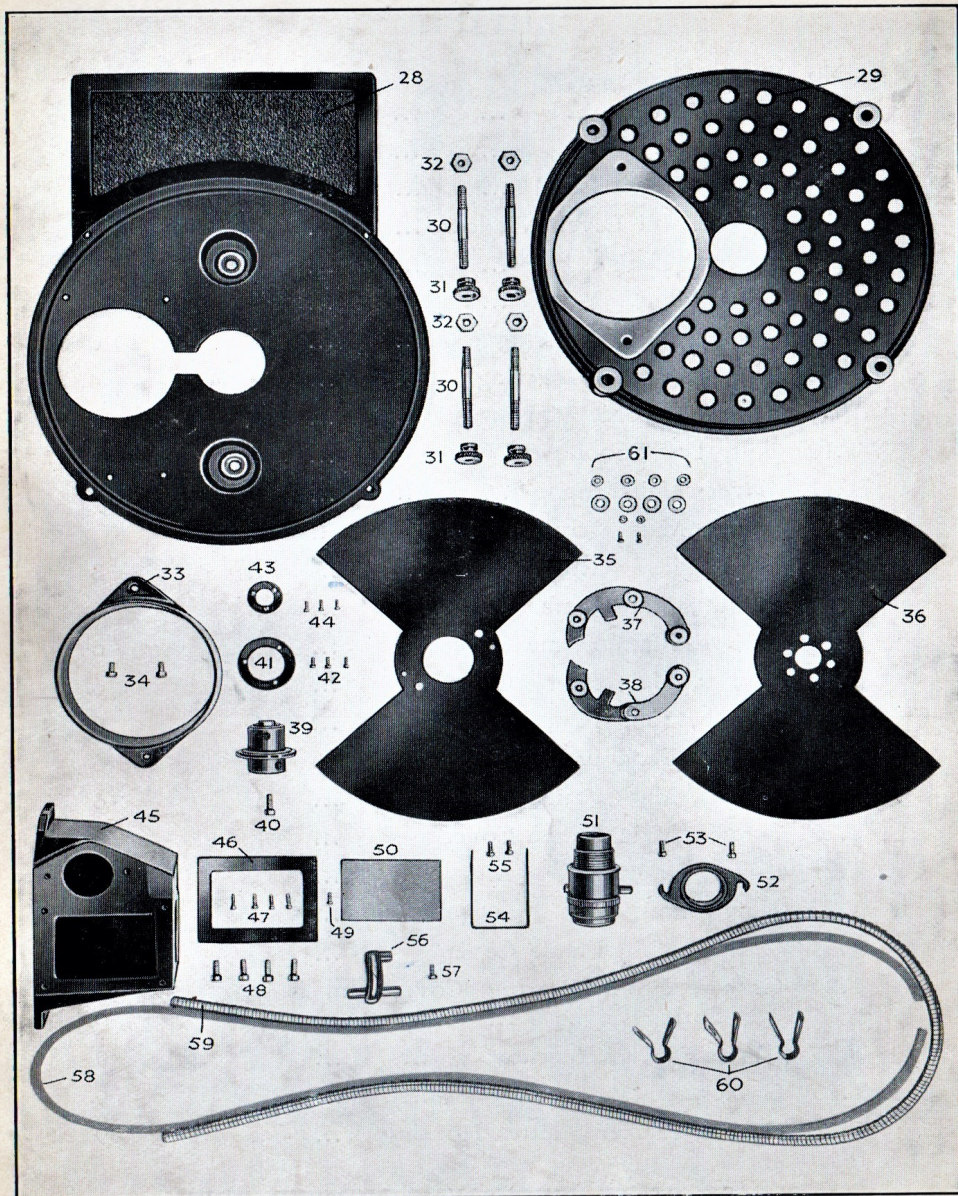


Plate No. 2.

PLATE No. 2.

No.		□ □ □	£	s.	d.
T.28	Shield, Heat	each	2	2	0
T.29	Cover, Flicker Shutter	"	1	10	0
T.30	Studs, Flicker Shutter Cover	"	1	3	
T.31	Nuts, Thumb	"	1	3	
T.32	Nuts, Stud	"		4	
T.33	Flange, Light Cone	"	7	0	
T.34	Screws, Light Cone Flange Fixing	"		6	
T.35	Shutter, Flicker	"	8	0	
T.36	Shutter, Safety	"	8	0	
T.37	Link, Safety Shutter	"	16	0	
T.38	Link, Safety Shutter	"	16	0	
T.39	Boss, Flicker and Safety Shutter	"	10	0	
T.40	Screw, Boss Fixing	"		6	
T.41	Flange, Flicker Shutter Boss	"	3	6	
T.42	Screws, Shutter Boss Flange	"		4	
T.43	Flange, Safety Shutter Boss	"	1	6	
T.44	Screws, Shutter Boss Flange	"		3	
T.45	Light Box, Gate	"			
T.46	Frame, Window	"	4	0	
T.47	Screws, Window Frame	"		6	
T.48	Screws, Light Box Fixing	"		6	
T.49	Screws, Window Retaining	"		6	
T.50	Window, Observation	"	1	3	
T.51	Holder, Switch Lamp	"	6	6	
T.52	Flange, Lamp Holder	"	4	6	
T.53	Screws, Flange	"		6	
T.54	Support, Elbow Casing	"	4	6	
T.55	Screws, Elbow Casing	"		6	
T.56	Elbow, Casing	"	4	9	
T.57	Screw, Elbow Casing	"		6	
T.58	Cable	"	2	3	
T.59	Casing, Cable	"	5	6	
T.60	Clips, Cable Casing	"		9	

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

KALEE Model Eleven Projector. SPARE PARTS.

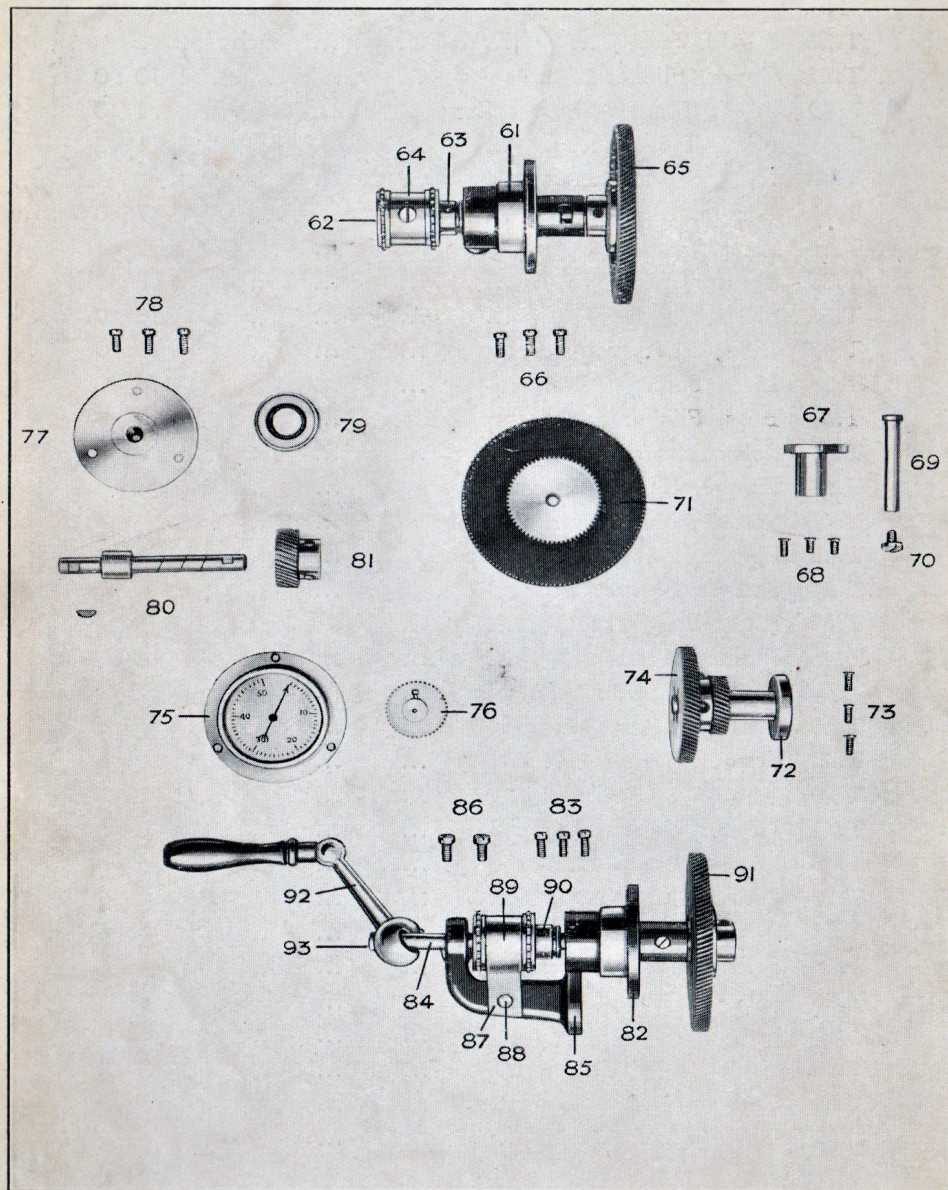


Plate No. 3.

PLATE No. 3.

No.		□ □ □		£	s.	d.
T.61	Bearing, Top Feed Sprocket Spindle	each		1	15	0
T.61a	Nut and Washer	"				6
T.62	Spindle, Top Feed Sprocket	...	"		12	0
T.63	Collar	"			2	9
T.64	Sprocket, Top Feed	...	"	1	4	0
T.65	Gear, Top Spindle	...	"	1	10	0
T.66	Screws, Bearing	...	"			6
T.67	Housing, Spindle (Top Int. Gear)	...	"		7	6
T.68	Screws, Housing	...	"			6
T.69	Spindle	...	"		6	0
T.70	Screw, Gear Retaining	...	"			9
T.71	Gear, Top Intermediate	...	"	2	10	0
T.72	Spindle (Lower Int. Gear)	...	"		15	0
T.73	Screws, Spindle Base	...	"			6
T.74	Gear, Lower Intermediate	...	"	2	2	0
T.75	Indicator, Film Speed	...	"			
T.76	Gear, Film Speed Indicator	...	"		7	6
T.77	Bearing, Driving Spindle	...	"	1	15	0
T.78	Screws, Bearing	...	"			6
T.79	Seal, Oil	...	"			
T.80	Spindle, Main Drive	...	"		18	0
T.81	Gear, Main Drive	...	"		17	9
T.82	Bearing, Lower Feed Sprocket Spindle	...	"	1	15	0
T.83	Screws, Bearing	...	"			6
T.84	Spindle, Lower Feed Sprocket	...	"		18	0
T.85	Bearing, Outer	...	"		15	0
T.86	Screws, Outer Bearing	...	"			6
T.87	Stripper, Lower Sprocket	...	"		2	3
T.88	Screw, Stripper	...	"			6
T.89	Sprocket, Lower Feed	...	"	1	4	0
T.90	Collar	...	"		2	9
T.91	Gear, Lower Spindle	...	"	1	10	0
T.92	Handle	...	"	1	4	0
T.93	Screw, Handle	...	"			9

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

KALEE Model Eleven Projector. SPARE PARTS.

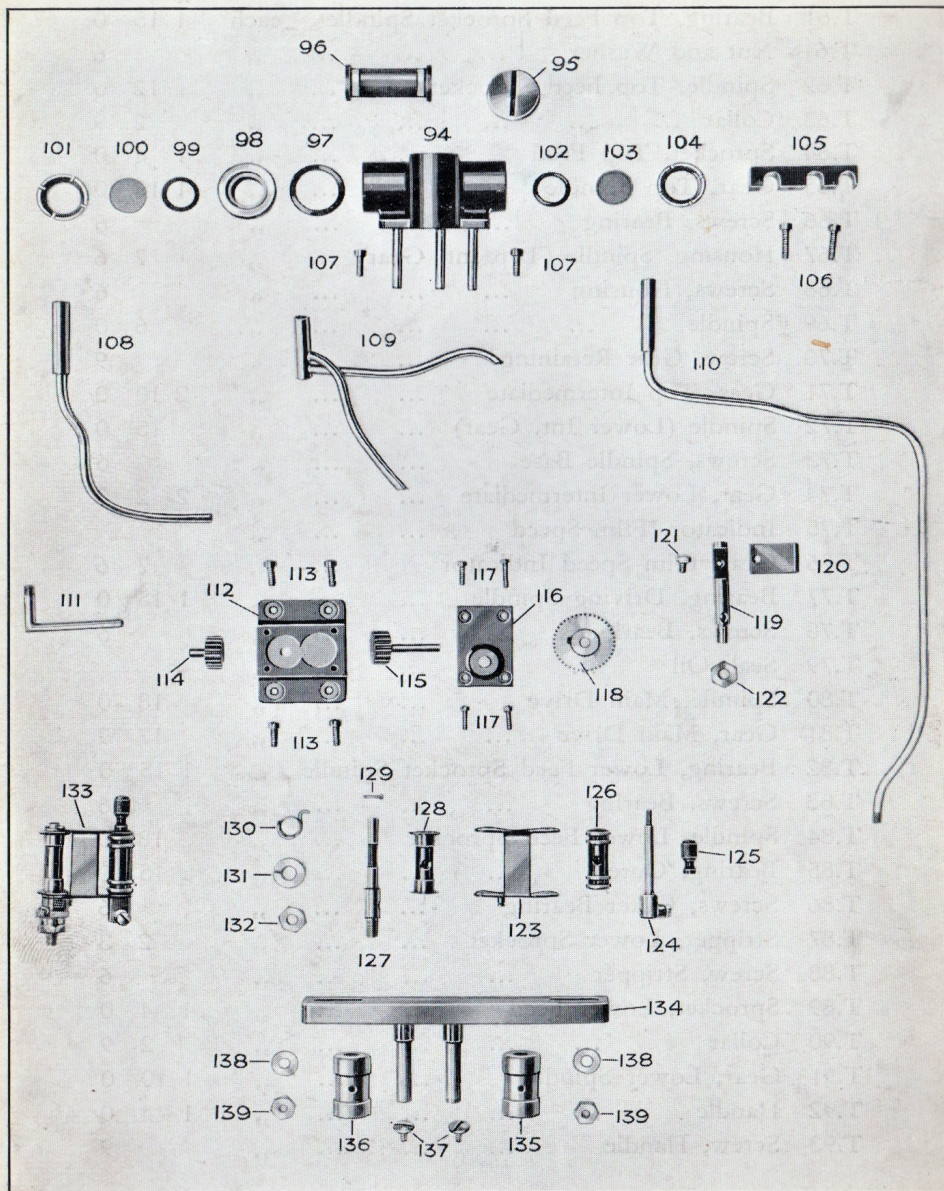


Plate No. 4.

PLATE No. 4.

No.		□ □ □		£	s.	d.
T.94	Body, Filter	...	each	2	0	0
T.95	Cap, Filter	...	"		4	9
T.96	Filter	...	"		5	3
T.97	Washer, Filter	...	"			9
T.98	Ring, Filter Securing	...	"		5	3
T.99	Washer, Window	...	"			6
T.100	Window	...	"			9
T.101	Ring, Window Securing	...	"		3	6
T.102	Washer, Window	...	"			6
T.103	Window	...	"			9
T.104	Ring, Window Securing	...	"		3	6
T.105	Bar, Oil Pipe Clamping	...	"		5	0
T.106	Screws, Bar	...	"			6
T.107	Screws, Filter Body	...	"			6
T.108	Pipe, Single Delivery	...	"		5	9
T.109	Pipe, Double Delivery	...	"		5	9
T.110	Pipe, Pump to Filter	...	"		9	0
T.111	Pipe, Inlet Pump	...	"		2	3
T.112	Body, Pump	...	"	1	7	6
T.113	Screws, Pump Body	...	"			6
T.114	Gear, Pump (short)	...	"		7	6
T.115	Gear, Pump (long)	...	"		10	0
T.116	Cover, Pump Body	...	"		9	0
T.117	Screws, Cover	...	"			4
T.118	Gear, Pump Driving	...	"		8	6
T.119	Shaft, Top Sprocket Stripper	...	"		4	0
T.120	Stripper	...	"		1	9
T.121	Screw, Stripper	...	"			6
T.122	Nut, Shaft	...	"			4
T.123	Frame, Roller Bracket	...	"		4	0
T.124	Shaft, Pressure Roller	...	"		4	6
T.125	Knob, Shaft	...	"		1	6
T.126	Roller, Pressure	...	"		5	0

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

PLATE No. 4—(Continued).

No.				£	s.	d.
T.127	Shaft, Guide Roller ...	...	each	4	6	
T.128	Roller, Guide ...	...	"	5	0	
T.129	Pin, Split ...	...	"		3	
T.130	Spring, Tension ...	...	"	1	0	
T.131	Collar, Spring Tension Adjusting ...	...	"	2	6	
T.132	Nut, Spindle ...	...	"	1	0	
T.133	Bracket, Complete Roller ...	...	"	1	7	0
T.134	Bar, Adjustable Film Guide Roller ...	...	"	1	1	0
T.135	Roller, Guide (right) ...	...	"	8	0	
T.136	Roller, Guide (left) ...	...	"	8	0	
T.137	Screws, Roller Retaining ...	...	"	1	0	
T.138	Washer, Bar ...	...	"		3	
T.139	Nut, Bar Fixing ...	...	"		4	

□ □ □

PLATE No. 5.

No.				£	s.	d.
T.140	Bracket, Shutter Adjuster ...	...	each	2	0	0
T.141	Screws, Bracket ...	...	"		6	
T.142	Shaft, Spiral Gear ...	...	"	12	0	
T.143	Gear, Spiral ...	...	"	12	0	
T.144	Woodruff Key ...	...	"		6	
T.145	Fork, Spiral Gear ...	...	"	8	0	
T.146	Gear, Driving ...	...	"	10	0	
T.147	Shaft, Fork ...	...	"	15	0	
T.148	Knob, Shaft ...	...	"	5	0	
T.149	Nut, Knob ...	...	"	1	6	

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

KALEE Model Eleven Projector. SPARE PARTS.

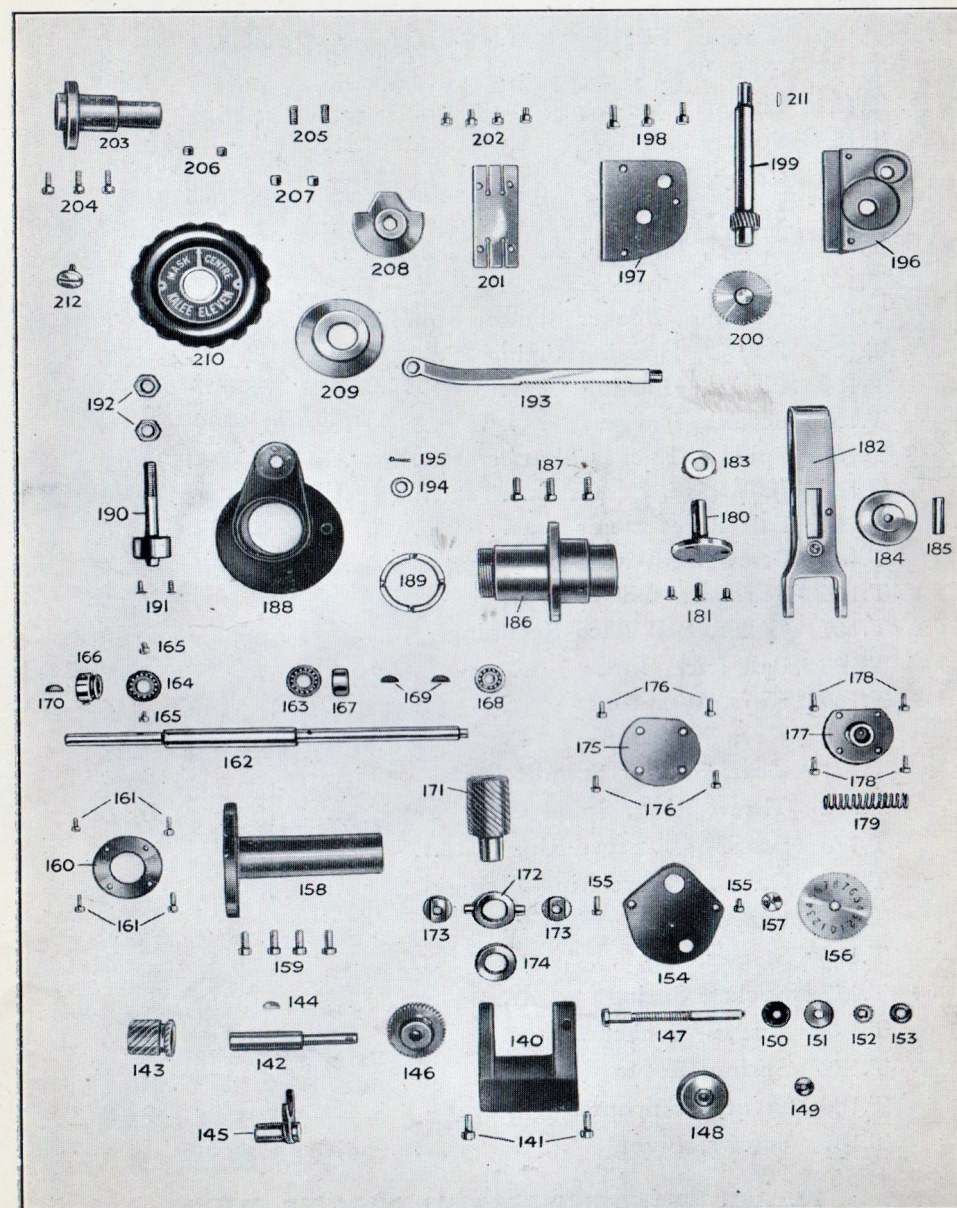


Plate No. 5.

PLATE No. 5—(Continued).

No.		□ □ □		£	s	d.
T.150	Washer, Felt	... ..	each			6
T.151	Cup, Washer	... ..	„		1	3
T.152	Pinion	... ..	„		3	0
T.153	Spring	... ..	„			6
T.154	Cover, Indicator	... ..	„		7	6
T.155	Screws, Cover	... ..	„			4
T.156	Wheel, Indicator	... ..	„		12	0
T.157	Screw, Wheel	... ..	„		1	0
T.158	Housing, Flicker Shutter Spindle	... ..	„	2	10	0
T.159	Screws, Housing Fixing	... ..	„			6
T.160	Flange, Housing	... ..	„		6	0
T.161	Screws, Flange	... ..	„			4
T.162	Spindle, Flicker Shutter	... ..	„	1	4	0
T.163	Ball Race, Centre	... ..	„		4	6
T.164	Ball Race, Outer	... ..	„		4	6
T.165	Screw, Ball Race Retaining	... ..	„			4
T.166	Thrower, Oil	... ..	„		2	3
T.167	Collar, Ball Race Retaining	... ..	„		2	0
T.168	Ball Race, Inner	... ..	„		4	6
T.169	Keys, Woodruff	... ..	„			6
T.170	Key, Woodruff	... ..	„			6
T.171	Gear, Shutter Spindle Spiral	... ..	„	18		0
T.172	Thrust Ring, Spiral Gear	... ..	„		8	0
T.173	Bearings, Thrust Ring	... ..	„		2	3
T.174	Collar, Thrust Ring Fixing	... ..	„		4	6
T.175	Cap, Front Bearing	... ..	„		6	0
T.176	Screws, Cap	... ..	„			6
T.177	Socket, Spring	... ..	„		8	0
T.178	Screws, Socket	... ..	„			6
T.179	Spring, Lever	... ..	„			9
T.180	Pivot, Compensating Lever	... ..	„		9	0
T.181	Screws, Pivot	... ..	„			6

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

PLATE No. 5—(Continued).

No.		□ □ □		£	s	d.
T.182	Lever, Compensating	... ..	each	2	2	0
T.183	Collar, Lever Locating	... ..	„		2	6
T.184	Roller, Lever	... ..	„		7	0
T.185	Spindle, Roller	... ..	„		1	3
T.186	Housing, Intermittent Unit	... ..	„	3	10	0
T.187	Screws, Housing	... ..	„			6
T.188	Cam, Compensating	... ..	„	2	0	0
T.189	Collar, Cam Locating	... ..	„		7	0
T.190	Stud, Intermittent Unit Fixing	... ..	„		6	0
T.191	Screws, Stud	... ..	„			4
T.192	Nuts, Stud	... ..	„			9
T.193	Lever, Rack	... ..	„		10	0
T.194	Collar, Lever Rack	... ..	„			6
T.195	Pin, Split	... ..	„			3
T.196	Box, Pinion	... ..	„	1	8	0
T.197	Cover, Pinion Box	... ..	„		16	0
T.198	Screws, Cover	... ..	„			6
T.199	Shaft, Masking Pinion	... ..	„		18	0
T.200	Pinion, Intermediate	... ..	„		9	3
T.201	Plate, Rack Pressure	... ..	„		7	0
T.202	Screws, Plate	... ..	„			6
T.203	Bearing, Masking Pinion	... ..	„		16	0
T.204	Screws, Bearing	... ..	„			6
T.205	Spring, Knob Clutch	... ..	„			6
T.206	Screws, Allen	... ..	„			6
T.207	Rollers, Knob Clutch...	... ..	„		1	6
T.208	Hub, Clutch...	... ..	„		9	0
T.209	Shell, Clutch	... ..	„		13	6
T.210	Knob, Masking	... ..	„		17	0
T.211	Key, Woodruff	... ..	„			6
T.212	Screw, Handle Retaining	... ..	„		1	0

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

KALEE Model Eleven Projector. SPARE PARTS.

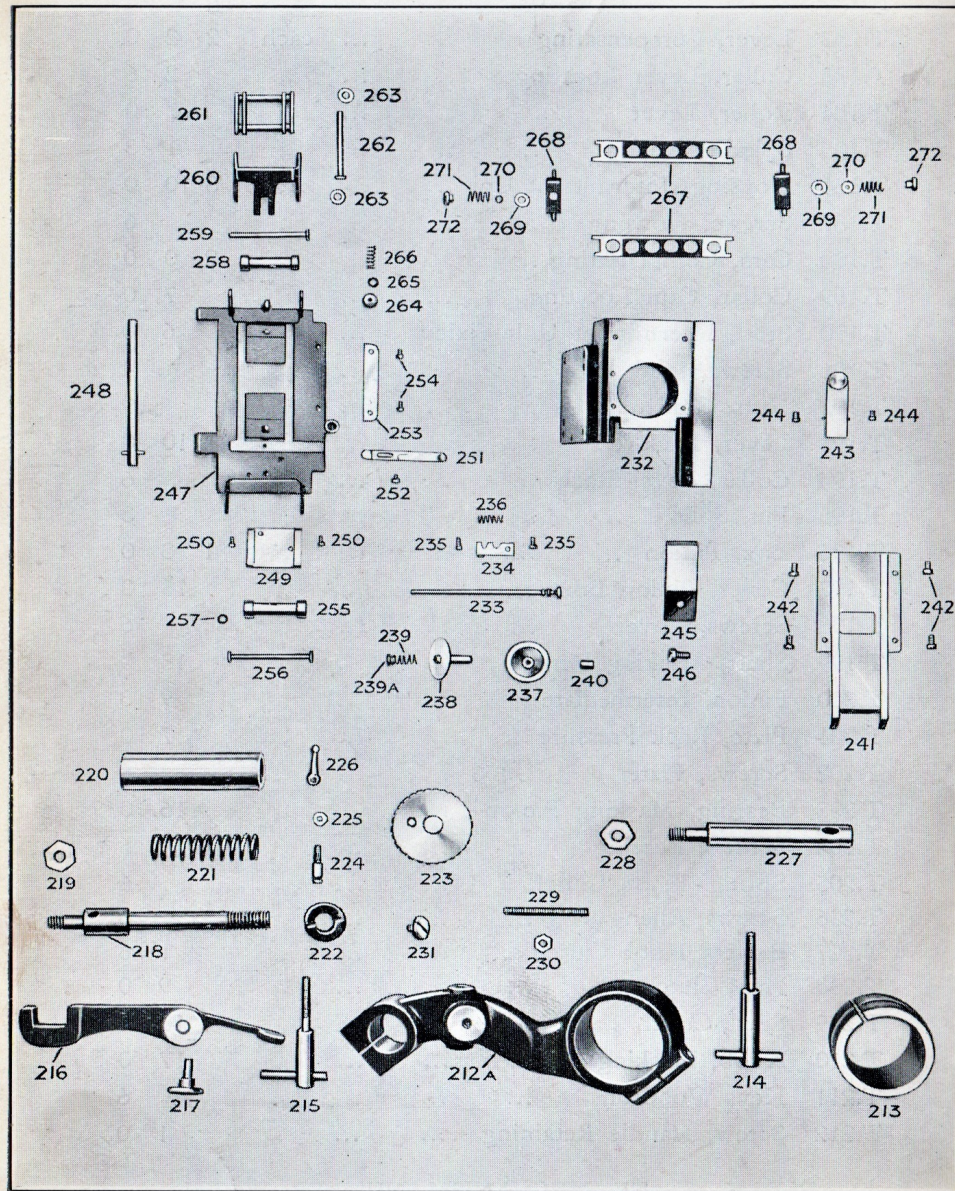


Plate No. 6.

PLATE No. 6.

No.		□ □ □	£	s.	d.
T.212A	Arm, Cine Lens	each	1	7	0
T.213	Bush, Adapter Cine Lens	"		7	6
T.214	Screw, Thumb (Clamping Cine Lens)	"		2	6
T.215	Screw, Thumb (Clamping Lens Arm)	"		2	0
T.216	Latch, Cine Lens Holder	"		5	0
T.217	Screw, Cine Lens Holder Latch	"		2	0
T.218	Stud, Cine Lens Holder	"		7	6
T.219	Nut, Stud	"			6
T.220	Sleeve, Cine Lens Holder	"		6	0
T.221	Spring, Cine Lens Holder	"		1	0
T.222	Key Collar, Cine Lens Holder	"		2	6
T.223	Nut, Focussing (Cine Lens)	"		5	3
T.224	Bolt, Nut Locking	"		1	6
T.225	Washer, Lever	"			6
T.226	Lever, Nut Locking Bolt	"		1	9
T.227	Stud, Cine Lens Holder Stop	"		5	0
T.228	Nut, Stud	"			4
T.229	Screw, Cine Lens Holder Adjusting	"		2	0
T.230	Nut, Screw (T.229)	"			4
T.231	Screw, Focussing Nut Retaining	"		1	0
T.232	Frame, Gate	"	2	8	0
T.233	Spindle, Film Guide Rollers	"		3	0
T.234	Plate, Spindle Locking	"		2	3
T.235	Screws, Plate	"		0	4
T.236	Spring, Gate Catch	"		0	4
T.237	Roller, Film Guide (Fixed)	"		8	0
T.238	Roller, Film Guide (Sliding)	"		9	0
T.239	Spring, Film Guide Roller	"		0	4
T.239A	Spring Collar, Film Guide Roller	"		1	0
T.240	Collar, Spacing	"			6
T.241	Plate, Mask	"		12	6
T.242	Screws, Mask Plate	"			4
T.243	Catch, Gate	"		5	0
T.244	Screws, Gate Catch	"			4
T.245	Stripper, Intermittent Sprocket	"		3	3
T.246	Screw, Stripper	"			6
T.247	Gate	"	1	10	0
T.248	Pin, Gate Hinge	"		2	3
T.249	Block, Film Guide	"		6	0
T.250	Screws, Block	"			4
T.251	Bar, Skate Retaining	"		4	9
T.252	Screw, Bar	"			6
T.253	Plate, Catch	"			
T.254	Screws, Plate	"			

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

PLATE No. 6—(Continued).

No.				£	s.	d.
T.255	Roller, Top Gate	...	each	4	6	
T.256	Spindle, Roller	...		1	0	
T.257	Washer, Roller End	...			3	
T.258	Roller, Bottom Gate	...		4	0	
T.259	Spindle, Roller	...		1	0	
T.260	Bracket, Gate Shoe	...		4	0	
T.261	Shoe, Intermittent Sprocket	...		6	0	
T.262	Spindle, Shoe	...		1	0	
T.263	Washers, Shoe End	...			3	
T.264	Nut, Shoe Tension	...		1	0	
T.265	Collar, Shoe Tension Spring	...			9	
T.266	Spring, Shoe Tension	...			4	
T.267	Skates, Film	...		6	0	
T.268	Bars, Skate Tension	...		1	6	
T.269	Washer, Skate Tension	...			3	
T.270	Collar, Skate Tension	...		1	0	
T.271	Spring, Skate Tension	...			4	
T.272	Nut, Skate Tension	...		1	0	

PLATE No. 7.

(Illustrated on page Forty-three).

No.				£	s.	d.
T.273	Arm, Top Spool	...	each	1	15	0
T.274	Spindle, Top Spool	...			15	0
T.275	Washer, Leather Friction	...			9	
T.276	Washer, Metal Friction	...		3	0	
T.277	Collar, Friction	...		1	6	
T.278	Spring, Friction Clutch	...			9	
T.279	Nut, Adjusting	...		6	6	
T.280	Screws, Spool Box Fixing	...			6	
T.281	Screws, Title Bar Fixing	...			6	
T.282	Body, Fire Trap	...		18	0	
T.283	Lid, Fire Trap	...		12	0	
T.284	Roller, Outer Fire Trap (Body)	...		3	0	
T.285	Spindle, Roller	...			9	
T.286	Roller, Outer Fire Trap (Lid)	...		3	0	
T.287	Spindle, Roller	...			9	
T.288	Roller, Inner Fire Trap (Body)	...		3	0	
T.289	Spindle, Roller	...		1	3	
T.290	Spindle, Fire Trap Hinge	...			9	
T.291	Spring, Spindle	...			6	
T.292	Screws, Spindle Fixing	...			3	
T.293	Screws, Fire Trap Fixing	...			3	
T.293A	Film Trap, complete	...		2	0	0
T.294	Bracket, Title Lens Rod	...		17	0	
T.295	Screws, Bracket Location	...			6	

PLEASE STATE MECHANISM NUMBER WHEN
ORDERING SPARE PARTS.

KALEE Model Eleven Projector. **SPARE PARTS.**

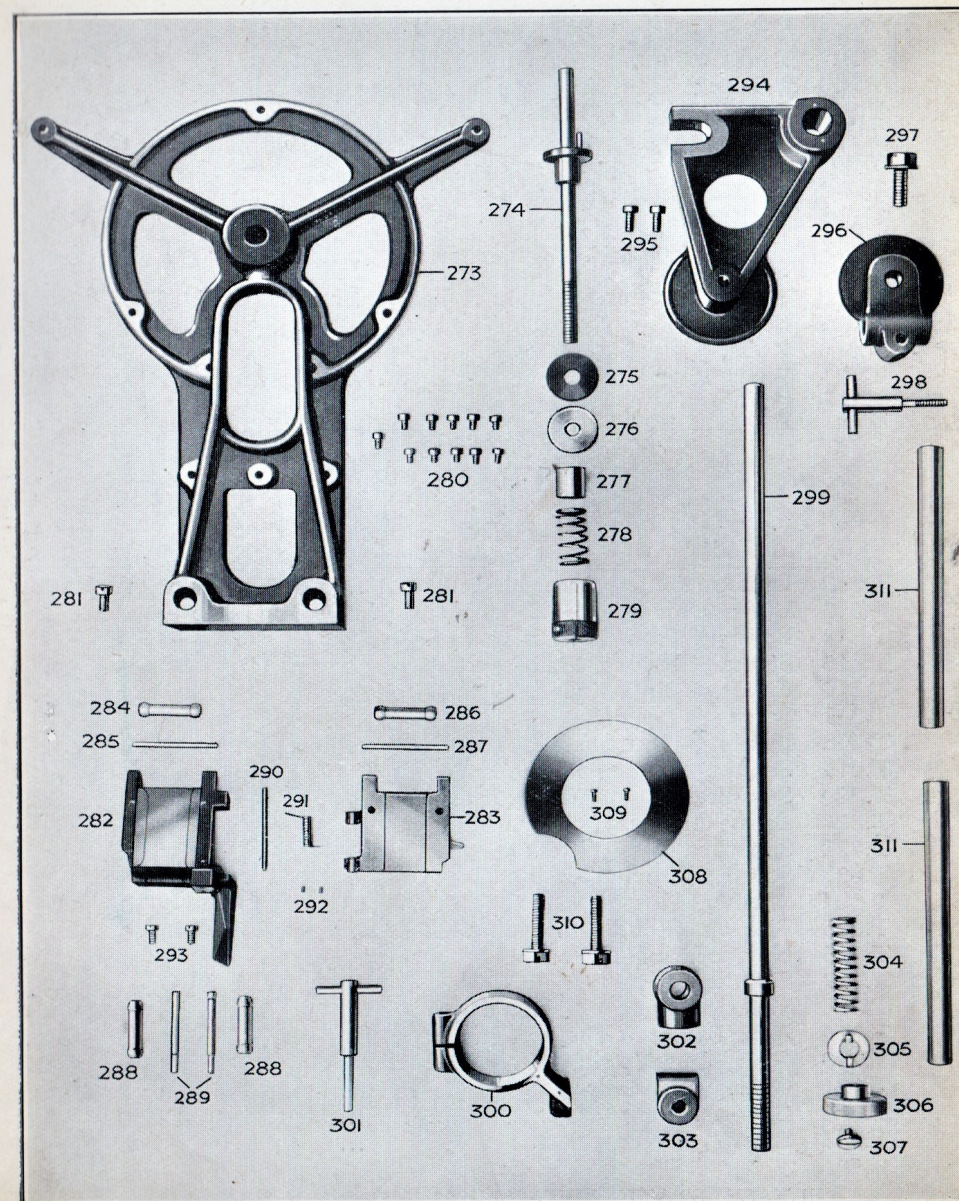


Plate No. 7.

PLATE No. 7—(Continued).

No.			£	s.	d.
T.296	Boss, Swivel Title Lens Rod	... each	9	0	
T.297	Bolt, Boss Fixing	... ..	1	0	
T.298	Screw, Lens Rod Fixing Thumb	... ..	2	0	
T.299	Rod, Title Lens	... ..	7	0	
T.300	Bracket, Title Lens	... ..	9	9	
T.301	Screw, Bracket Thumb	... ..	2	6	
T.302	Boss, Lens Bracket Swivel (Rod)	... ..	4	6	
T.303	Boss, Lens Bracket Swivel (Bracket)...	... ..	3	9	
T.304	Spring, Title Lens Rod	... ..	1	0	
T.305	Washer, Key	... ..	2	6	
T.306	Nut, Focus	... ..	2	6	
T.307	Screw, Focus Nut Retaining	... ..		6	
T.308	Shield, Title Lens Light	... ..	2	3	
T.309	Screws, Light Shield	... ..		3	
T.310	Bolts, Swivel Boss	... ..		9	
T.311	Bars, Title Lens (Spool Arm)	... ..	2	9	

PLATE No. 8.

(Illustrated on page Forty-five).

No.			£	s.	d.
T.312	Unit, Complete Intermittent	... each	21	0	0
T.313	Body, Unit	... ..		
T.314	Bearing, Cam Shaft	... ..	15	0	
T.315	Screws, Bearing Fixing	... ..		6	
T.316	Cover, Unit Body	... ..		
T.317	Screws, Cover	... ..		6	
T.318	Bearing, Cam Shaft Cover	... ..	15	0	
T.319	Screws, Bearing Fixing	... ..		6	
T.320	Spindle, Cross and Sprocket	... ..	18	0	
T.321	Cross, Maltese	... ..	1	13	0
✓ T.322	Sprocket, Intermittent	... ..	1	4	0
T.323	Screw, Sprocket Fixing End	... ..		1	0
T.324	Washer, Key	... ..		2	0
T.325	Bearing, Spindle Sleeve	... ..	1	10	0
T.326	Nut, Bearing Fixing	... ..		9	0
T.327	Spindle and Complete Cam...	... ..	3	0	0
T.328	Wheel, Balance	... ..	1	4	0
T.329	Nut, Balance Wheel	... ..		1	0
T.330	Gear, Cam Spindle	... ..	15	0	
T.331	Gear, Unit Body	... ..	18	0	
T.332	Cover, Filter	... ..	12	0	
T.333	Screws, Cover	... ..		6	

PLEASE STATE MECHANISM NUMBER WHEN ORDERING SPARE PARTS.

KALEE Model Eleven Projector. SPARE PARTS.

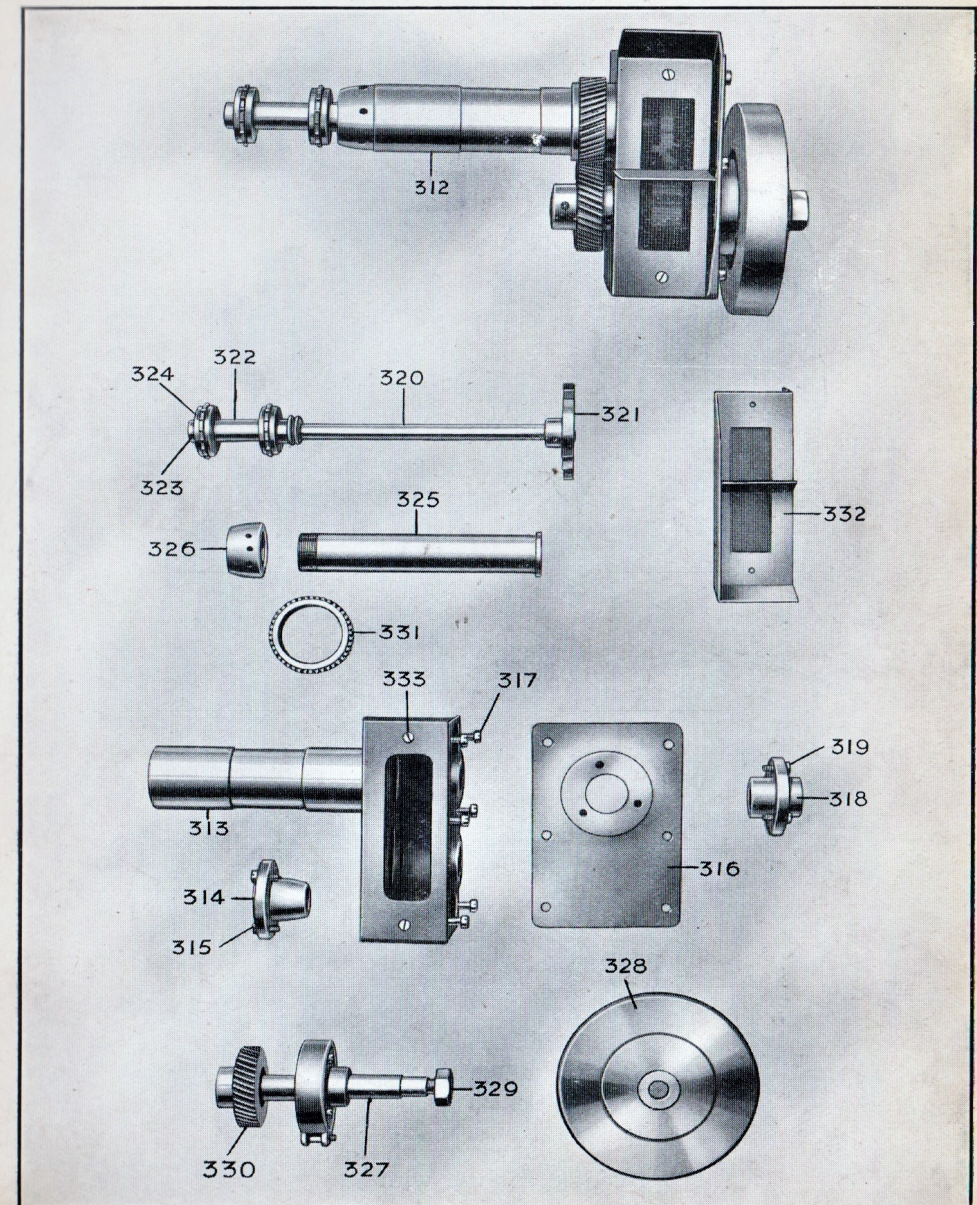
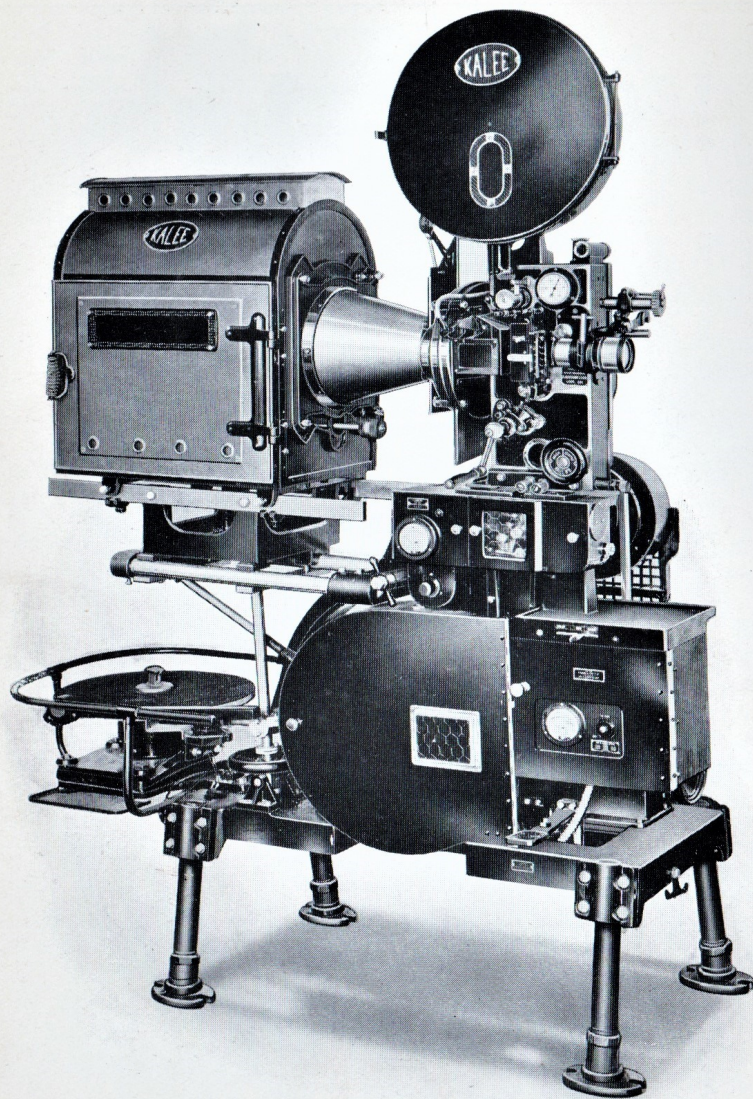


Plate No. 8.

KALEE Model Eleven

SPECIAL SOUND MODEL.



Adapted for use with
Western Electric Company Sound System (Universal Base).

KALEE Model Eleven

SPECIAL SOUND MODEL.

Adapted for use with
Western Electric Company Sound System (Universal Base).

□ □ □

SPECIFICATION :

KALEE Model Eleven Mechanism.

Top Spool Arm with 16 in. dia. Fire-resisting Steel Spool Box.

Three 14 $\frac{3}{4}$ in. dia. Steel Film Spools (Metal Centres).

Adapter Gear Drive.

Adapter Base Plate for Mechanism.

Spool Adapter for W.E. Take-up.

Price £148 0s. 0d.

Code Word : "WENZE."

□ □ □

When an allowance towards the cost of the Adapter Gear Drive
is made by the Western Electric Company.

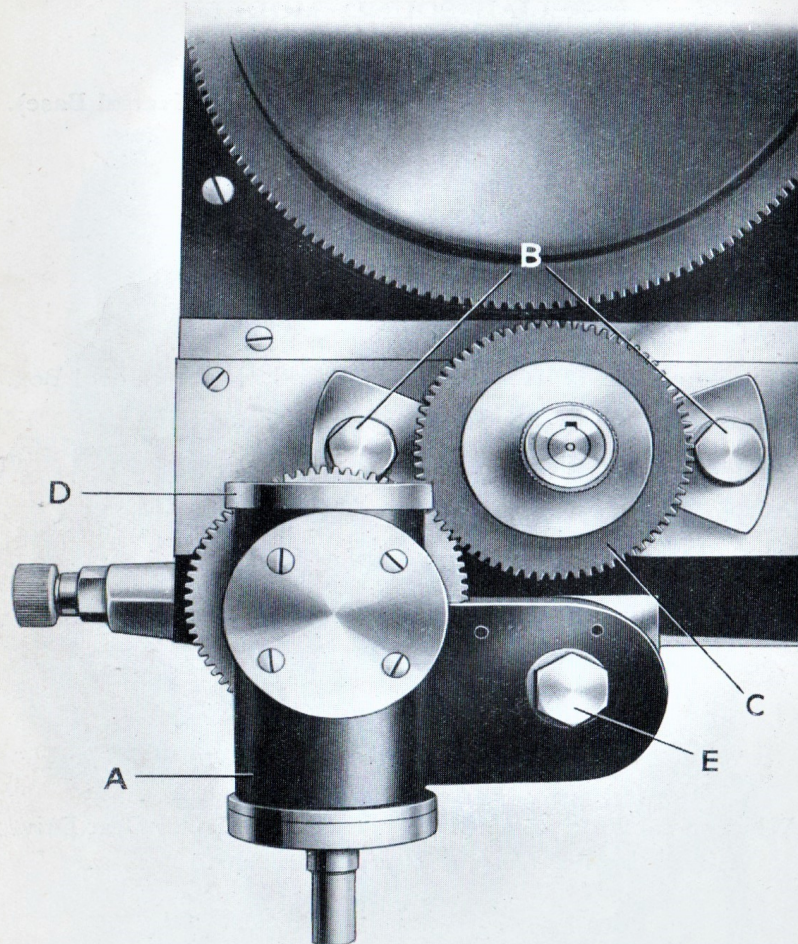
Price £130 0s. 0d.

The above prices do not include Arc Lamps, Leads, Switches or
Lenses.

All Types of KALEE Arc Lamps and Lenses can be fitted.

KALEE Model Eleven

SPECIAL SOUND MODEL.



KALEE Eleven Mechanism fitted with Swivel Gear Box
Drive to couple up to Universal Shaft of
Western Electric Company Sound System (Universal Base).

KALEE Model Eleven

SPECIAL SOUND MODEL.

□ □ □

INSTRUCTIONS FOR FITTING TO WESTERN ELECTRIC SOUND SYSTEM. (UNIVERSAL BASE).

1. Fit Adapter Plate on Western Electric Universal Stand.
2. Bolt down Mechanism.
3. Fit Bracket (A) and Gearing complete by means of Set Screws (B).
4. Swivel Bracket (A) so that Driving Shaft is perfectly horizontal and clamp by means of Bolts (B).
5. Mount Gear (C) on to Mechanism Spindle and fix by Allen screw in boss.
6. Fit Gear Guard.

Cover Plate (D) should be removed approximately every six months and the lubricating grease replaced.

N.B.—Extreme angles may necessitate loosening Bolt (E) and taking off Bracket (A) to tighten left Bolt (B).

□ □ □

IMPORTANT.

Special care should be taken to ensure that—

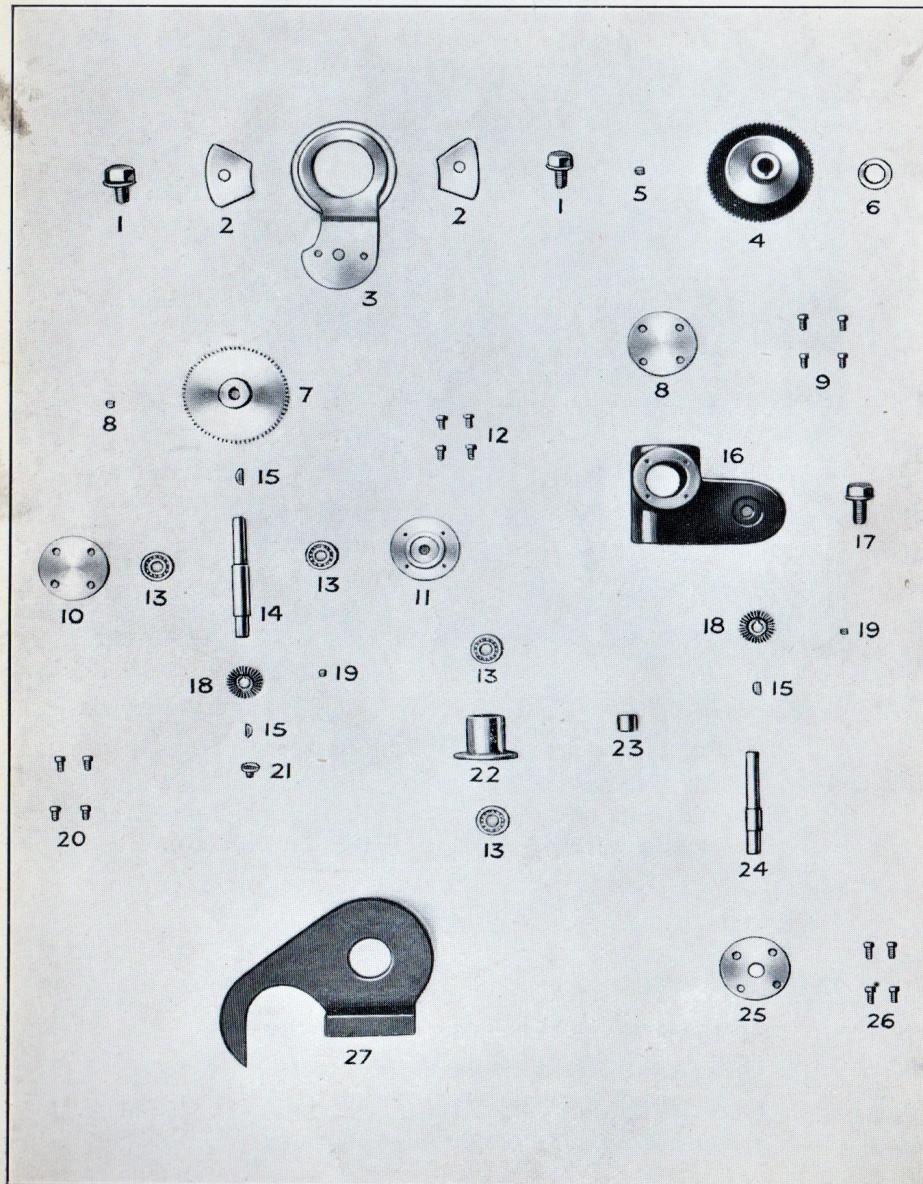
Gears are correctly meshed.

Gear Teeth are free from dirt, etc., the teeth should be brushed out.

KALEE Model Eleven Projector.

SPARE PARTS

For WESTERN ELECTRIC UNIVERSAL BASE DRIVE.



SPARE PARTS

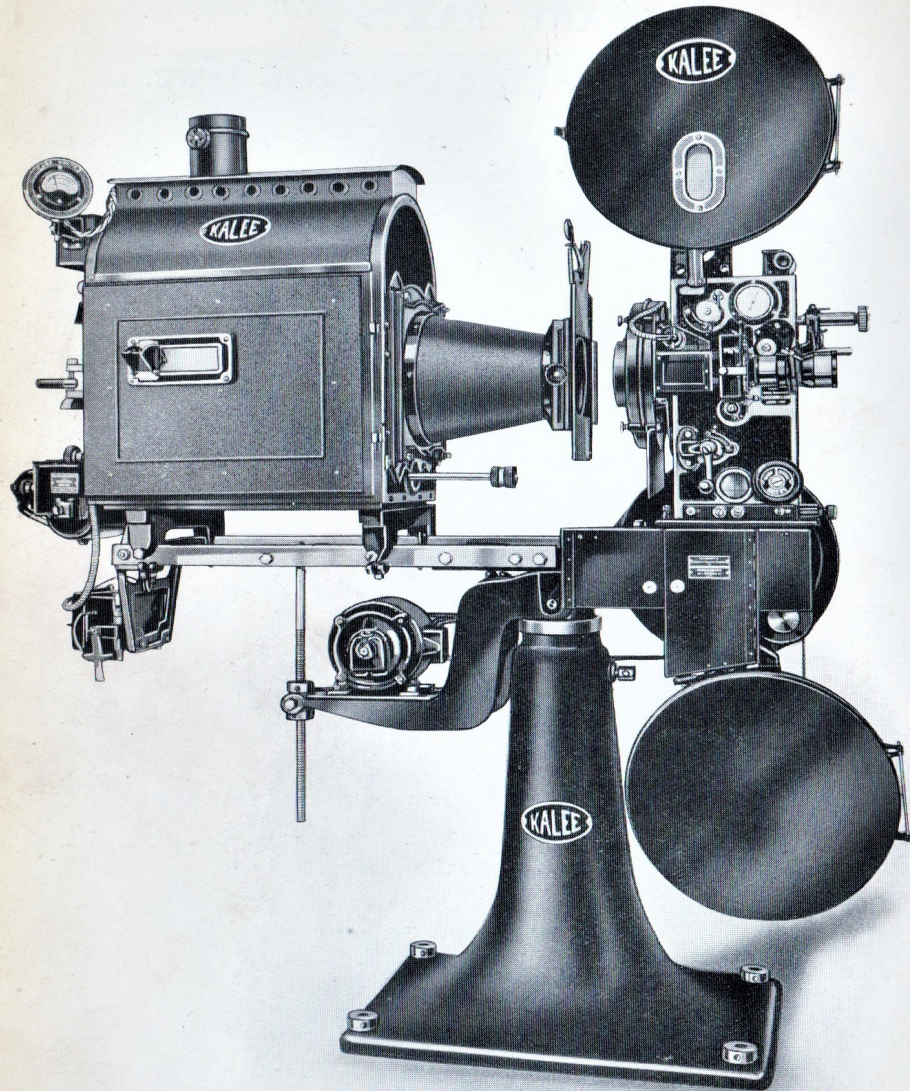
FOR WESTERN ELECTRIC UNIVERSAL DRIVE.

□ □ □

1. Screw, Clip securing
2. Clip, Swivel Bracket
3. Bracket, Swivel
4. Gear, Mechanism Drive
5. Screw, Mech. Drive Gear
6. Cover, Thread
7. Gear, Intermediate
8. Cover, Top, for Bevel Box
9. Screws for Top Cover
10. Housing, Front, for Bearing
11. Housing, Back, for Bearing
12. Screws, Back Housing
13. Bearing, Horizontal Spindle
14. Spindle, Horizontal
15. Woodruff Key
16. Box, Bevel Gears
17. Screws, Bevel Gear Box
18. Mitre Gear
19. Screw, Allen, Mitre Gear
20. Screws, Front Housing
21. Screw, Horizontal Spindle
22. Housing Vertical
23. Distance Piece, Vertical Spindle
24. Spindle, Vertical
25. Cover, Bottom, for Bevel Box
26. Screws, securing Bottom Cover
27. Guard, Gear.

KALEE Model Eleven

SPECIAL SOUND MODEL.



Adapted for use with
Western Electric Co. Type "3-A" Sound-on-Film System.

KALEE Model Eleven

SPECIAL SOUND MODEL.

Adapted for use with
Western Electric Co. Type "3-A" Sound-on-Film System.

□ □ □

SPECIFICATION :

KALEE Model Eleven Mechanism.

Pair of 16 in. Fire-resisting Steel Spool Boxes and Spool Arms,
with Chain driven Take-up.

Three 14 $\frac{3}{4}$ in. dia. Steel Film Spools (Metal Centres).

Adapter Gear, Base Plate, and Take-up Gear.

Heavy Iron Adjustable Pedestal Stand with Lamp House
Rails, etc.

Price £184 0s. 0d.

Code Word : "WONZA."

Outfit as above but fitted with 18 $\frac{3}{4}$ in. dia. Spool Boxes, Spool
Arms, and 17 $\frac{1}{2}$ in. Metal Centre Film Spools.

Price £190 0s. 0d.

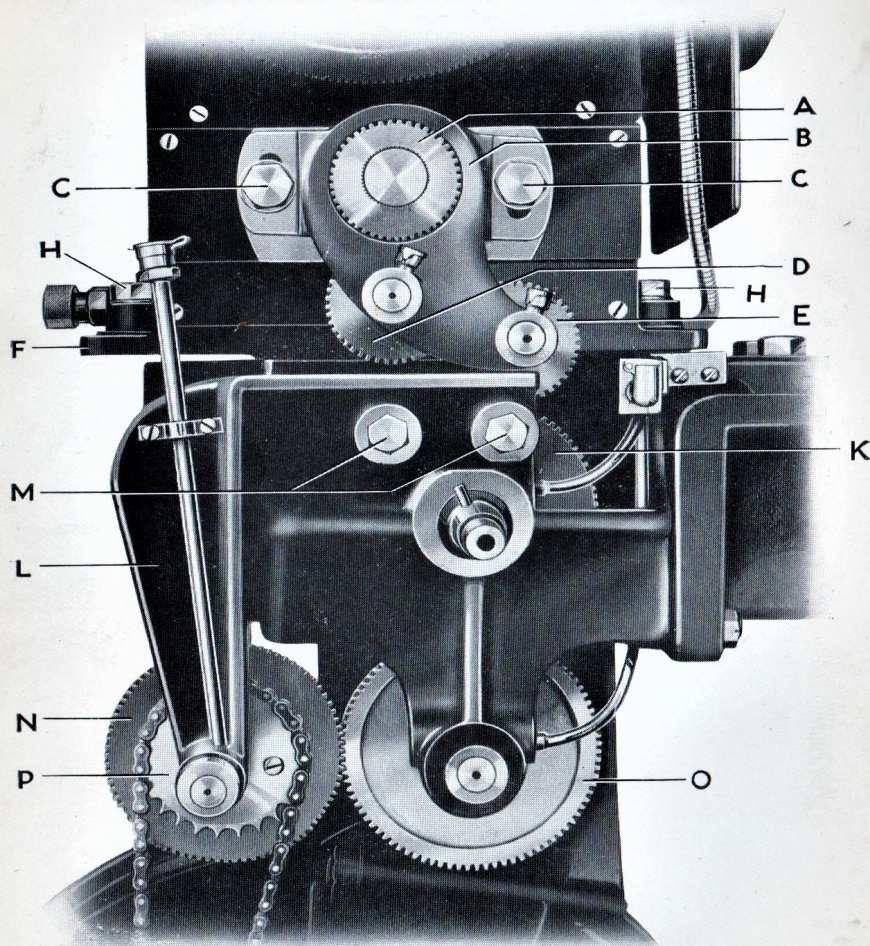
Code Word : "WEELA."

The above prices do not include Arc Lamps, Leads, Switches
or Lenses.

All Types of KALEE Arc Lamps and Lenses can be fitted.

KALEE Model Eleven

SPECIAL SOUND MODEL.



KALEE Model Eleven Mechanism fitted to
Western Electric Co. Type "3-A" Sound Head, and
Adapter Gear.

The W.E. Driving Wheel has been removed to show the Adapter
Gears.

KALEE Model Eleven

SPECIAL SOUND MODEL.

□ □ □

INSTRUCTIONS FOR FITTING TO WESTERN ELECTRIC COMPANY TYPE "3-A" SOUND HEAD.

1. Adapter Base Plate (F), fix to top of Sound Head.
2. Projector Mechanism, fix by set screws (H).
3. Gear Housing (B), fix loosely by set screws (C).
4. Gear (A), fix on Projector Spindle.
5. Gear Housing (B), swivel so that Gear (E) meshes correctly with Sound Head Gear (K), tighten set screws (C).
6. Bracket (L), bolt to side of Sound Head with set screws (M), and adjust so that Gear (N) is in correct mesh with Sound Head Gear (O).
7. Bottom Spool Box, Bolt under the Sound Head.
8. Take up Chain, fit and adjust so that it is correct tension.
9. Film Guide Rollers (Front of Projector), adjust laterally so that Film is correctly guided from the Bottom Feed Sprocket to the Sound Head Gate.

□ □ □

IMPORTANT.

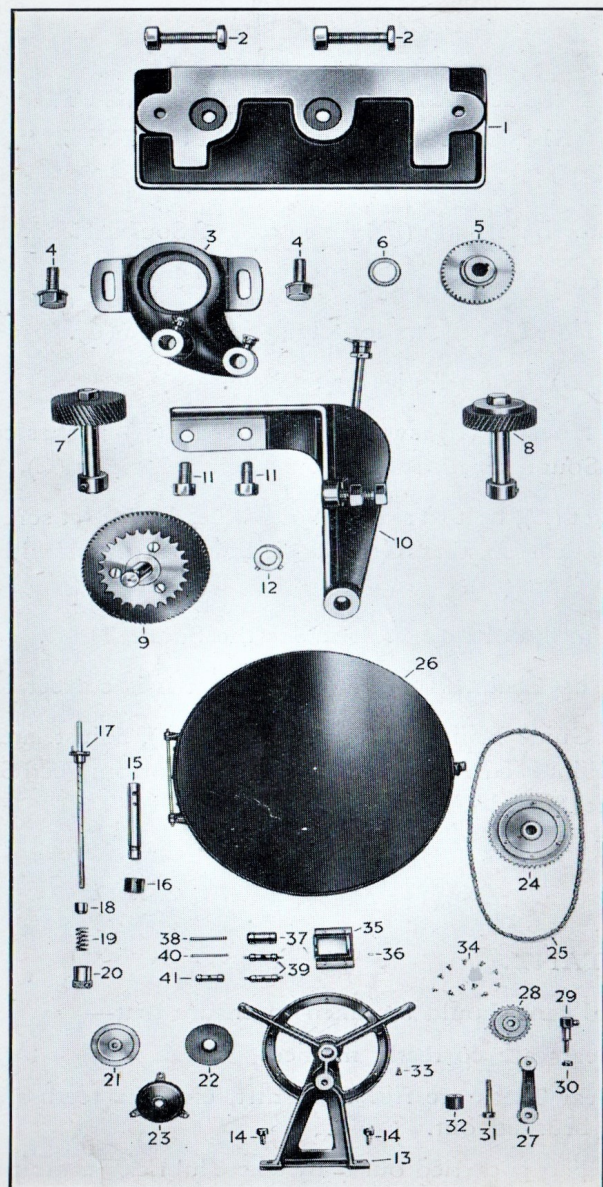
Special care should be taken to ensure that—

Gears are correctly meshed.

Gear Teeth are free from dirt, etc., the teeth should be
brushed out.

Oiling is carried out daily where lubricators are provided.

KALEE Model Eleven Projector.
SPARE PARTS
FOR WESTERN ELECTRIC CO. TYPE "3-A" DRIVE.



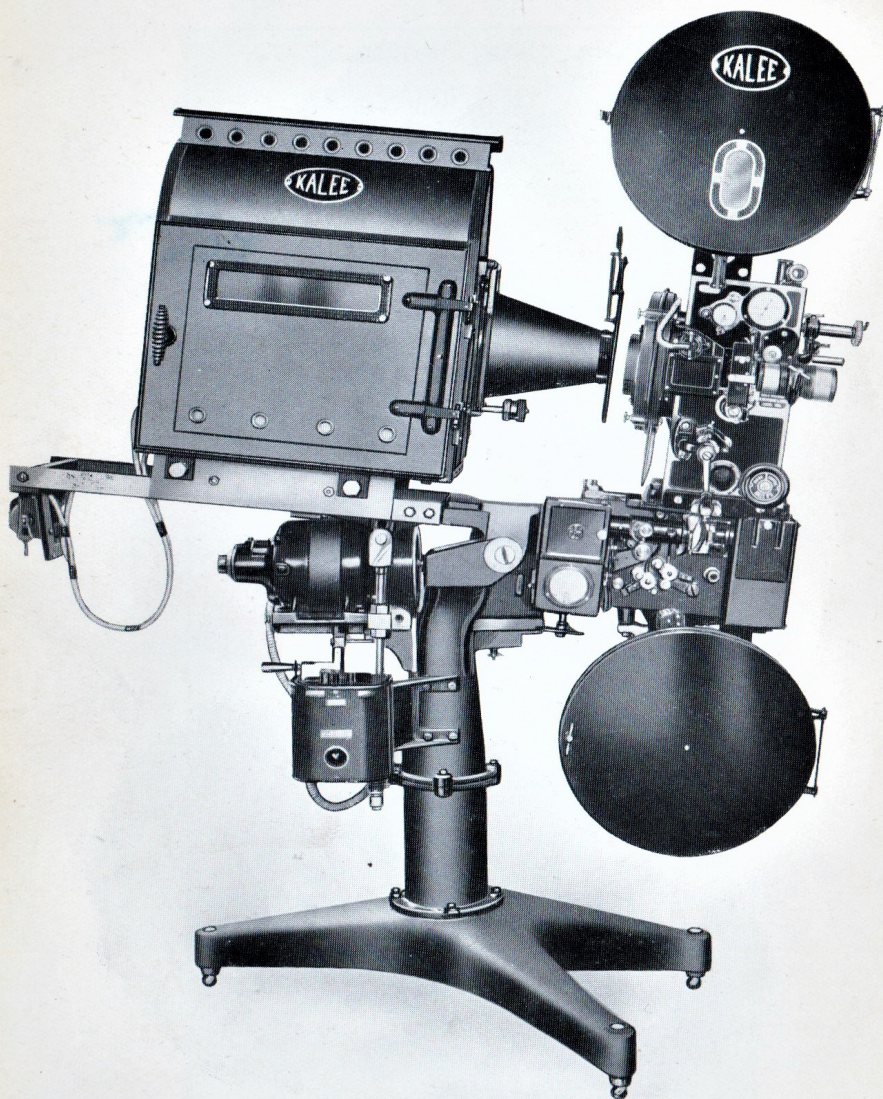
SPARE PARTS
FOR WESTERN ELECTRIC CO. TYPE "3-A" DRIVE.

□ □ □

- No.
- A.1 Base Plate, Adapter
 - A.2 Bolts
 - A.3 Bracket, Swivel Gear
 - A.4 Bolts, Bracket
 - A.5 Gear, Projector Spindle
 - A.6 Cover, Projector Spindle Gear
 - A.7 Driving Gear and Spindle *→ Brong*
 - A.8 Idle Gear and Spindle *→ Felre*
 - A.9 Gear, Take up Drive
 - A.10 Bracket, Take up Gear
 - A.11 Bolts, Bracket
 - A.12 Collar (Spindle A.9)
 - A.13 Arm, Spool Box
 - A.14 Bolts, Arm
 - A.15 Bush, Take up Spindle Bearing
 - A.16 Collar, Spacing
 - A.17 Spindle, Take up
 - A.18 Collar, Spring Thrust
 - A.19 Spring, Take up Tension
 - A.20 Nut, Tension
 - A.21 Plate, Inner Friction
 - A.22 Washer, Friction
 - A.23 Plate, Outer Friction Drive
 - A.24 Sprocket, Take up
 - A.25 Chain, Take up Drive
 - A.26 Box, Spool
 - A.27 Bracket, Chain Tension
 - A.28 Sprocket, Chain Tension
 - A.29 Spindle, Sprocket
 - A.30 Collar, Spindle
 - A.31 Bolt, Bracket
 - A.32 Collar, Spacing
 - A.33 Screw, Fixing Bush (A.15)
 - A.34 Screws, Spool Box Fixing
 - A.35 Body, Fire Trap
 - A.36 Screw, Grub
 - A.37 Roller (Large)
 - A.38 Spindle, Large Roller
 - A.39 Roller and Pivot Screw
 - A.40 Spindle, Fixed Roller
 - A.41 Roller, Fixed

KALEE Model Eleven

SPECIAL SOUND MODEL.



Adapted for use with
B.T.H. Type "M" Sound-on-Film System.

KALEE Model Eleven

SPECIAL SOUND MODEL.

Adapted for use with
B.T.H. TYPE "M" SOUND-ON-FILM SYSTEM.

□ □ □

SPECIFICATION :

KALEE Model Eleven Mechanism.

Pair of 16 in. Fire Resisting Steel Spool Boxes and Spool Arms,
with Chain Drive and Take up.

Three 14 $\frac{3}{4}$ in. dia. Steel Film Spools (Metal Centres).

Adapter Gear, Base Plate, and Take up Gear.

Price £148 0s. 0d.

Code Word : "BEESA."

Outfit as above but fitted with 18 $\frac{3}{4}$ in. dia. Spool Boxes, Spool
Arms and 17 $\frac{1}{2}$ in. dia. Metal Centre Spools.

Price £154 0s. 0d.

Code Word : "BILAR."

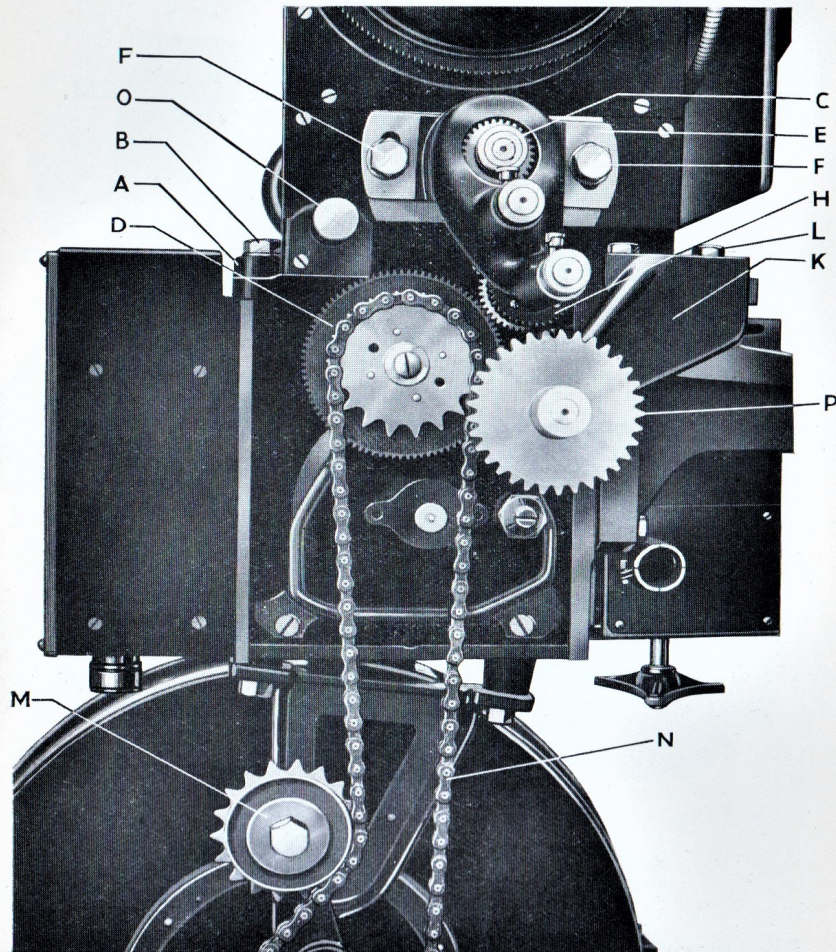
□ □ □

The above prices do not include Arc Lamps, Leads, Switches
or Lenses.

All Types of KALEE Arc Lamps and Lenses can be fitted.

KALEE Model Eleven

SPECIAL SOUND MODEL.



[KALEE Model Eleven Mechanism fitted to
B.T.H. Type "M" Sound Head and Adapter Gear.

KALEE Model Eleven

SPECIAL SOUND MODEL.

□ □ □

INSTRUCTIONS FOR FITTING TO B.T.H. TYPE "M" SOUND HEAD.

1. Adapter Base Plate (A) fit to top of Sound Head.
2. Gear (D) fix on Sound Head Spindle.
3. Mesh Gear on Bracket (K) with Gear (D) on Sound Spindle by means of Bolts (L). Secure Bracket (K) firmly, since Gear (P) takes Main Drive from Motor.
4. Projector Mechanism, fix by Set Screws (B).
5. Gear (C) fix on Projector Spindle.
6. Gear Housing (E), fix by Set Screws (F), after the Housing has been swivelled so that Gear (H) is in correct mesh with Gear (D).
7. Bottom Spool Box, bolt under Sound Head.
8. Take up Chain (N), fit and tension with Sprocket (M).
9. Film Guide Rollers (front of Projector), adjust laterally so that Film is correctly guided from the Bottom Feed Sprocket to the Sound Head Gate.
10. Fit Chain Guard.

□ □ □

IMPORTANT.

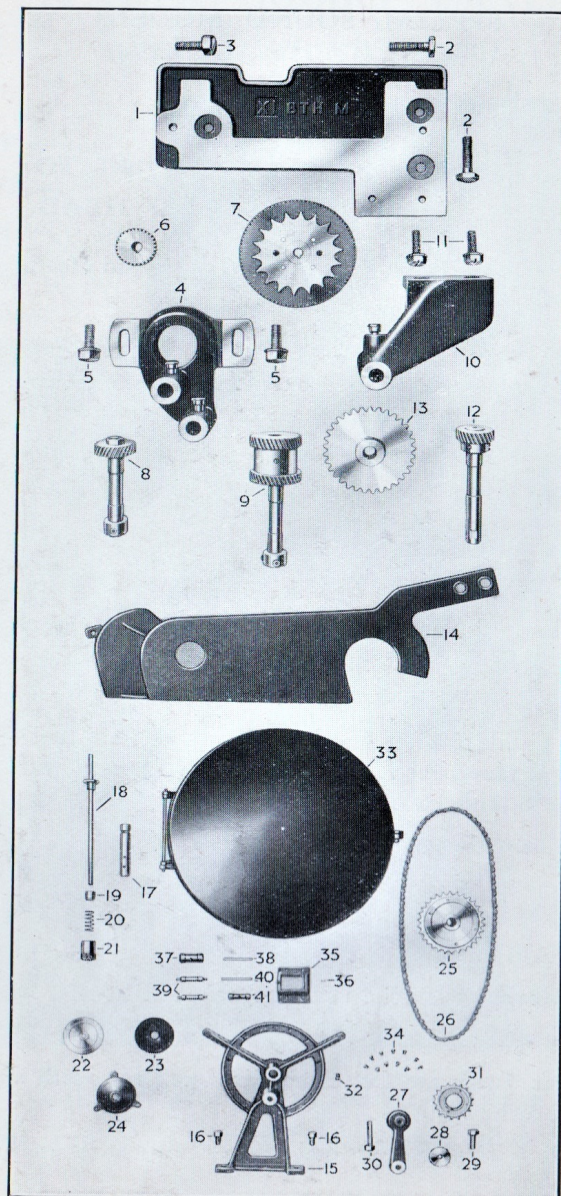
Special care should be taken to ensure that—

Gears are correctly meshed.

Gear Teeth are free from dirt, etc., the teeth should be brushed out.

Oiling is carried out daily where lubricators are provided.

KALEE Model Eleven Projector.
SPARE PARTS
FOR B.T.H. TYPE "M" MECHANISM DRIVE.



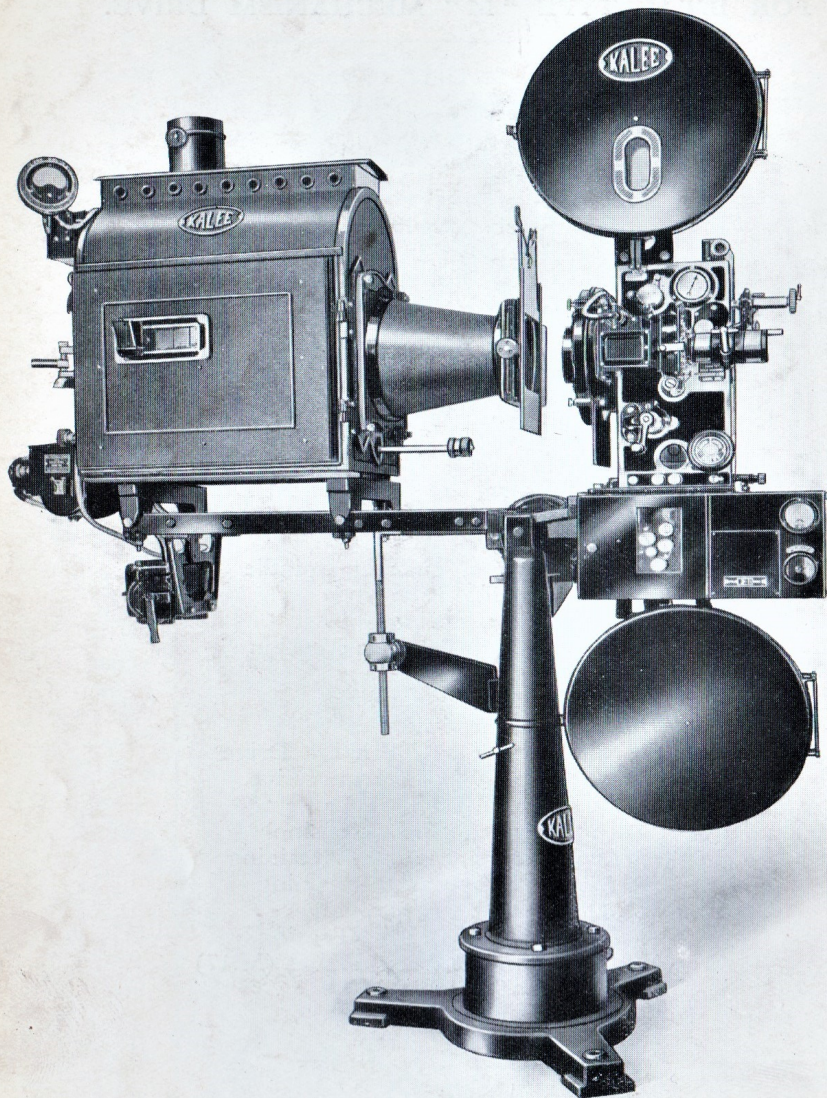
SPARE PARTS
FOR B.T.H. TYPE "M" MECHANISM DRIVE.

□ □ □

No.	
M.1	Base Plate, Adapter
M.2	Bolts
M.3	Bolts
M.4	Bracket, Swivel Gear
M.5	Bolts, Bracket
M.6	Gear, Projector Spindle
M.7	Gear, Sound Head
M.8	Gear and Spindle
M.9	Gear and Spindle
M.10	Bracket, Main Drive
M.11	Bolts, Bracket
M.12	Gear and Spindle, Main Drive
M.13	Sprocket, Main Drive
M.14	Guard, Gear and Chain Drive
M.15	Arm, Spool
M.16	Bolts, Arm
M.17	Bearing, Take up Spindle
M.18	Spindle, Take up
M.19	Collar, Spring Thrust
M.20	Spring, Take up Tension
M.21	Nut, Tension
M.22	Plate, Inner Friction
M.23	Washer, Friction
M.24	Plate, Outer Friction Drive
M.25	Sprocket, Take up Drive
M.26	Chain, Take up Drive
M.27	Bracket, Chain Tension
M.28	Washer, Sprocket Retaining
M.29	Bolt, Sprocket Retaining
M.30	Bolt, Arm Retaining
M.31	Sprocket, Chain Tension
M.32	Screw, Bearing Fixing (M.17)
M.33	Box, Spool
M.34	Screws, Spool Box
M.35	Body, Fire Trap
M.36	Screw, Grub
M.37	Roller (Large)
M.38	Spindle, Large Roller
M.39	Roller and Pivot Screw
M.40	Spindle, Fixed Roller
M.41	Roller, Fixed

KALEE Model Eleven

SPECIAL SOUND MODEL.



Adapted for use with
R.C.A. Type "H" Sound-on-Film System.

KALEE Model Eleven

SPECIAL SOUND MODEL.

Adapted for use with
R.C.A. TYPE "H" SOUND-ON-FILM SYSTEM.

□ □ □

SPECIFICATION.

KALEE Model Eleven Mechanism.

Pair of 16 in. Fire resisting Steel Spool Boxes and Spool Arms,
with Belt driven Take up.

Three 14 $\frac{3}{4}$ in. dia. Steel Film Spools (Metal Centres).

Adapter Gear, Base Plate and Take up Gear.

Special Claw Type Stand, with Lamp House Rails, Motor
Bracket, etc.

Price £184 0s. 0d.

Code Word : "RARCA."

Outfit as above but fitted with 18 $\frac{3}{4}$ in. dia. Spool Boxes, Spool
Arms, and 17 $\frac{1}{2}$ in. dia. Metal Centre Film Spools.

Price £190 0s. 0d.

Code Word : "RILAC."

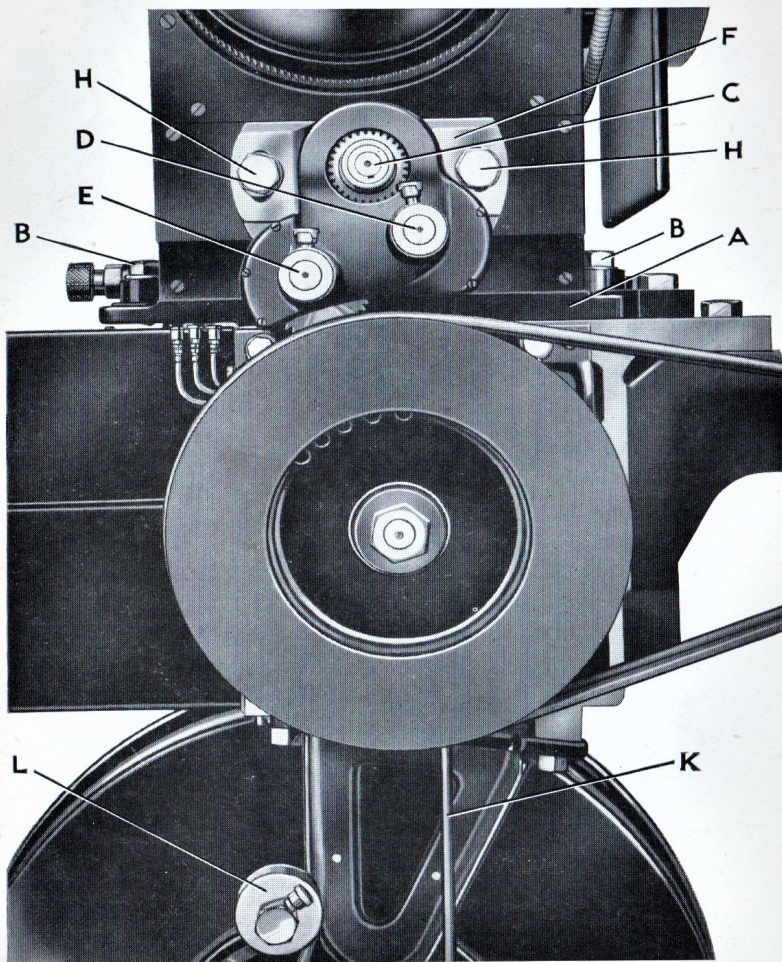
□ □ □

The above prices do not include Arc Lamps, Leads, Switches
or Lenses.

All Types of KALEE Arc Lamps and Lenses can be fitted.

KALEE Model Eleven

SPECIAL SOUND MODEL.



KALEE Model Eleven Mechanism fitted to
R.C.A. Type "H" Sound Head and Adapter Gear.

KALEE Model Eleven

SPECIAL SOUND MODEL.

INSTRUCTIONS FOR FITTING TO R.C.A. TYPE "H" SOUND HEAD.

□ □ □

1. Adapter Base Plate (A), fix to top of Sound Head.
2. Projector Mechanism, fix by Set Screws (B).
3. Gear (C), fix on Projector Spindle.
4. Gear Housing (F), fix by Set Screws (H), after the Housing has been swivelled so that Gear on Spindle (E) is in correct mesh with Sound Head Gear.
5. Bottom Spool Box, Bolt under Sound Head.
6. Take up Belt (K), fit and tension by Roller (L).
7. Film Guide Rollers (Front of Projector), adjust laterally so that Film is correctly guided from the Bottom Feed Sprocket to the Sound Head Gate.

□ □ □

IMPORTANT.

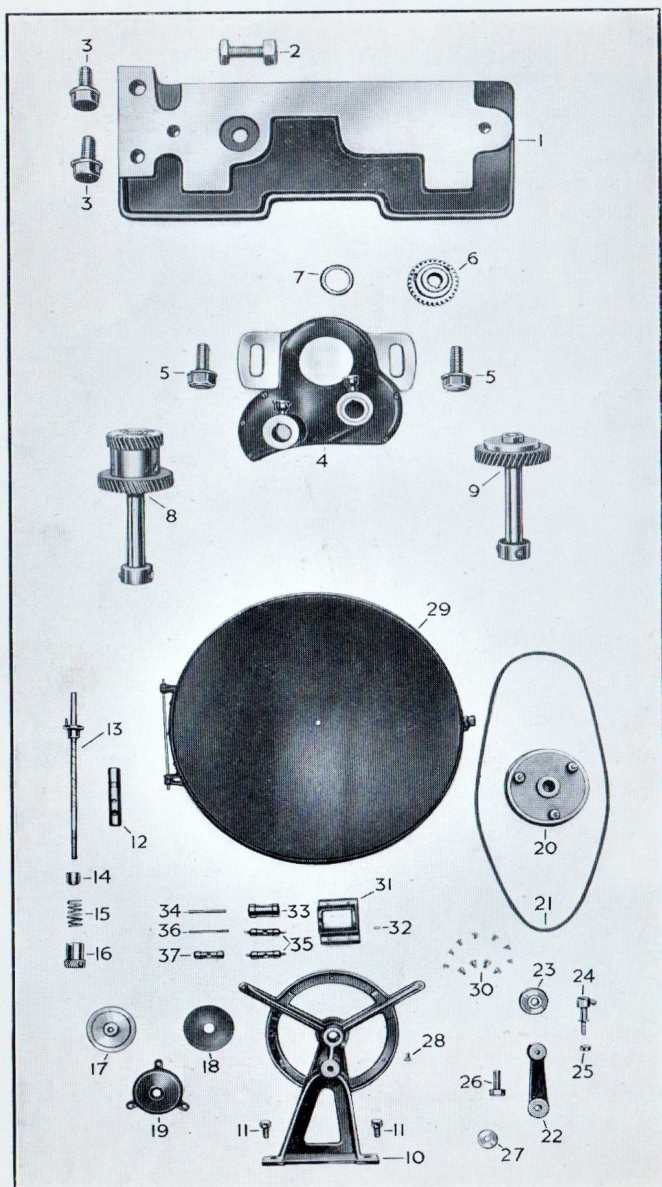
Special care should be taken to ensure that—

Gears are correctly meshed.

Gear Teeth are free from dirt, etc., the teeth should be brushed out.

Oiling is carried out daily where lubricators are provided.

KALEE Model Eleven Projector.
SPARE PARTS
FOR R.C.A. TYPE "H" MECHANISM DRIVE.



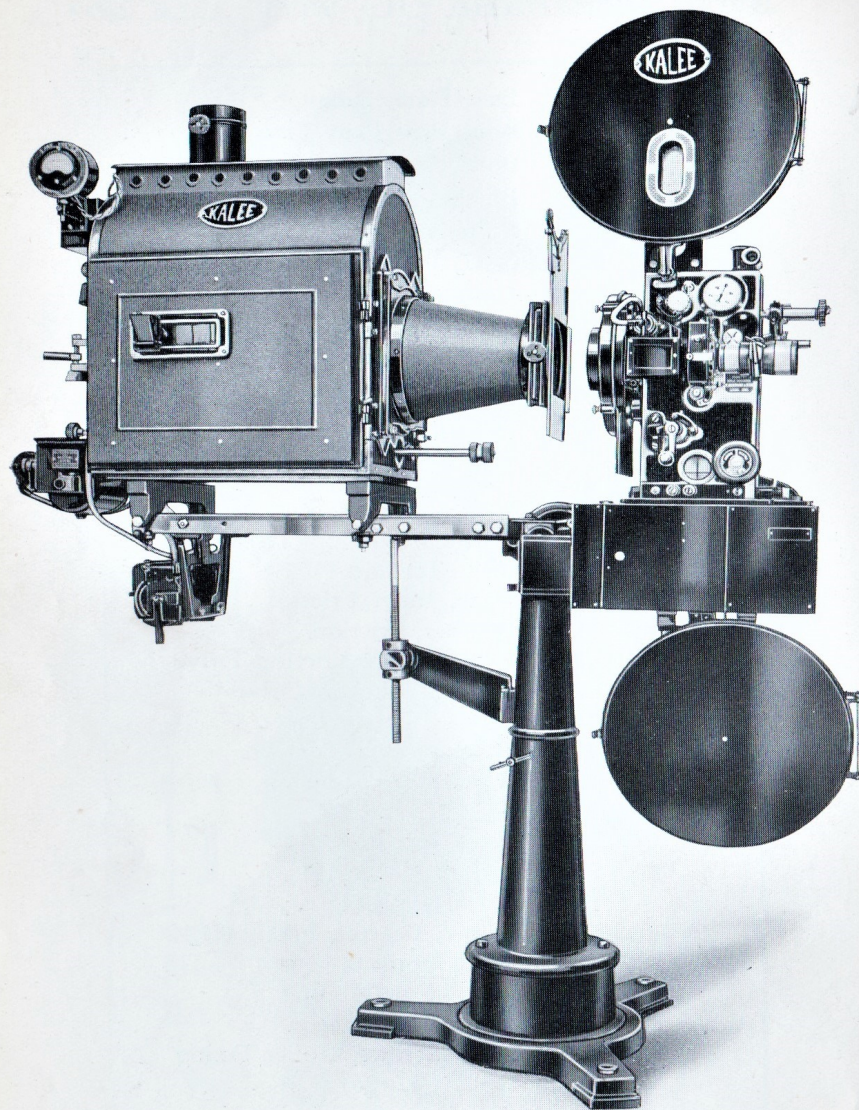
SPARE PARTS
FOR R.C.A. TYPE "H" MECHANISM DRIVE.

□ □ □

- No.
- H.1 Base Plate, Adapter
 - H.2 Bolt, Base Plate Fixing
 - H.3 Bolts, Base Plate Fixing
 - H.4 Bracket, Swivel Gear
 - H.5 Bolts, Bracket
 - H.6 Gear, Projector Spindle
 - H.7 Collar
 - H.8 Gear and Spindle
 - H.9 Gear and Spindle
 - H.10 Arm, Spool
 - H.11 Bolts, Arm
 - H.12 Bearing, Take up Spindle
 - H.13 Spindle, Take up
 - H.14 Collar, Spring
 - H.15 Spring, Take up Tension
 - H.16 Nut, Tension
 - H.17 Plate, Inner Friction
 - H.18 Washer, Friction
 - H.19 Plate, Outer Friction Drive
 - H.20 Pulley, Take up Drive
 - H.21 Belt, Take up Drive
 - H.22 Bracket, Belt Tension
 - H.23 Roller, Belt Tension
 - H.24 Spindle, Roller
 - H.25 Nut, Spindle
 - H.26 Bolt, Bracket
 - H.27 Collar, Spacing
 - H.28 Screw, Bearing Fixing (H.12)
 - H.29 Box, Spool
 - H.30 Screws, Spool Box
 - H.31 Body, Fire Trap
 - H.32 Grub Screws, Roller Fixing
 - H.33 Roller (Large)
 - H.34 Spindle, Large Roller
 - H.35 Roller and Pivot Screw
 - H.36 Spindle, Fixed Roller
 - H.37 Roller, Fixed

KALEE Model Eleven

SPECIAL SOUND MODEL.



Adapted for use with
R.C.A. Type "J" Sound-on-Film System.

KALEE Model Eleven

SPECIAL SOUND MODEL.

Adapted for use with
R.C.A. Type "J" Sound-on-Film System.

□ □ □

SPECIFICATION :

KALEE Model Eleven Mechanism.

Pair of 16 in. Fire resisting Steel Spool Boxes and Spool Arms,
with Belt Driven Take up.

Three 14 $\frac{3}{4}$ in. dia. Steel Film Spools (Metal Centres).

Adapter Gear, Base Plate and Take up Gear.

Special Claw Type Stand with Lamp House Rails, Motor
Bracket, etc.

Price £184 0s. 0d.

Code Word : "RAJAH."

Outfit as above but fitted with 18 $\frac{3}{4}$ in. dia. Spool Boxes, Spool
Arms, and 17 $\frac{1}{2}$ in. dia. Metal Centre Spools.

Price £190 0s. 0d.

Code Word : "REJAL."

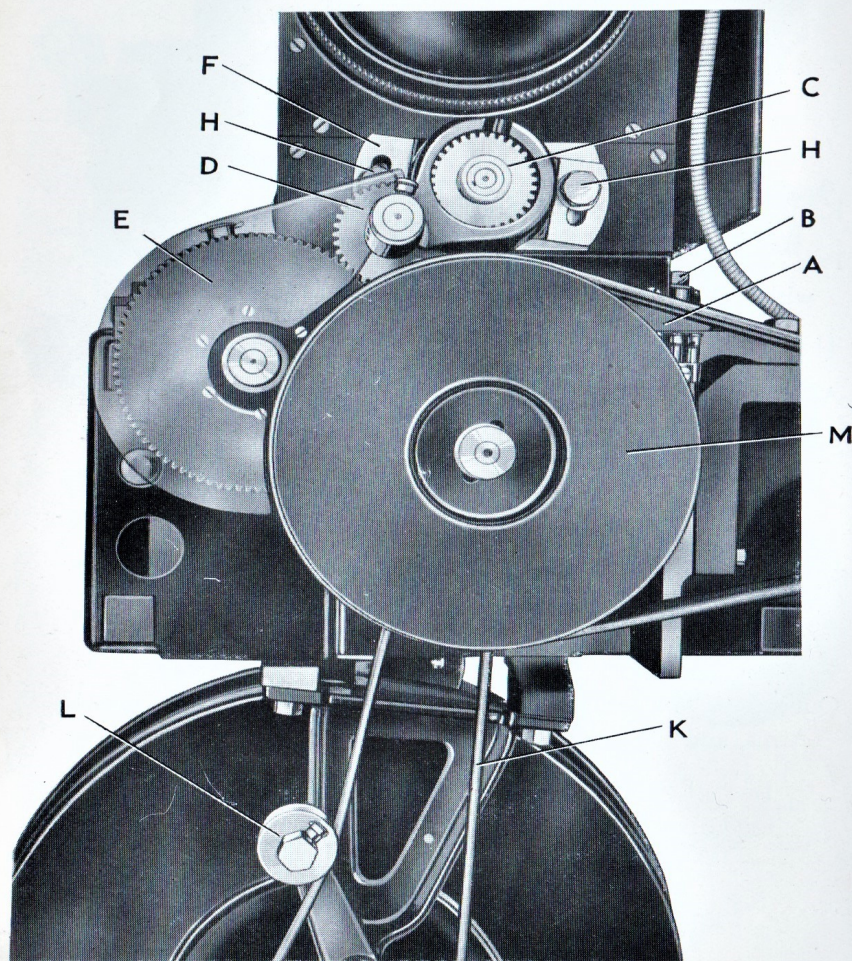
□ □ □

The above prices do not include Arc Lamps, Leads, Switches
or Lenses.

All Types of KALEE Arc Lamps and Lenses can be fitted.

KALEE Model Eleven

SPECIAL SOUND MODEL.



KALEE Model Eleven Mechanism fitted to
R.C.A. Type "J" Sound Head and Adapter Gear.

KALEE Model Eleven

SPECIAL SOUND MODEL.

□ □ □

INSTRUCTIONS FOR FITTING TO R.C.A. TYPE "J" SOUND HEAD.

1. Adapter Base Plate (A), fix to top of Sound Head.
2. Projector Mechanism, fix by Set Screws (B).
3. Gear Housing (F), fix loosely by Set Screws (H).
4. Gear (C), fix on Projector Spindle.
5. Gear Housing (F), swivel so that Gear (E) meshes correctly, tighten Set Screws (H).
6. Gear Guard shown in ghost, covering Gears (D & E), can now be fitted.
7. Bottom Spool Box, Bolt under Sound Head.
8. Take up Belt (K), fit and tension by Roller (L).
9. Film Guide Rollers (Front of Projector), adjust laterally so that Film is correctly guided from the Bottom Feed Sprocket to the Sound Head Gate.

□ □ □

IMPORTANT.

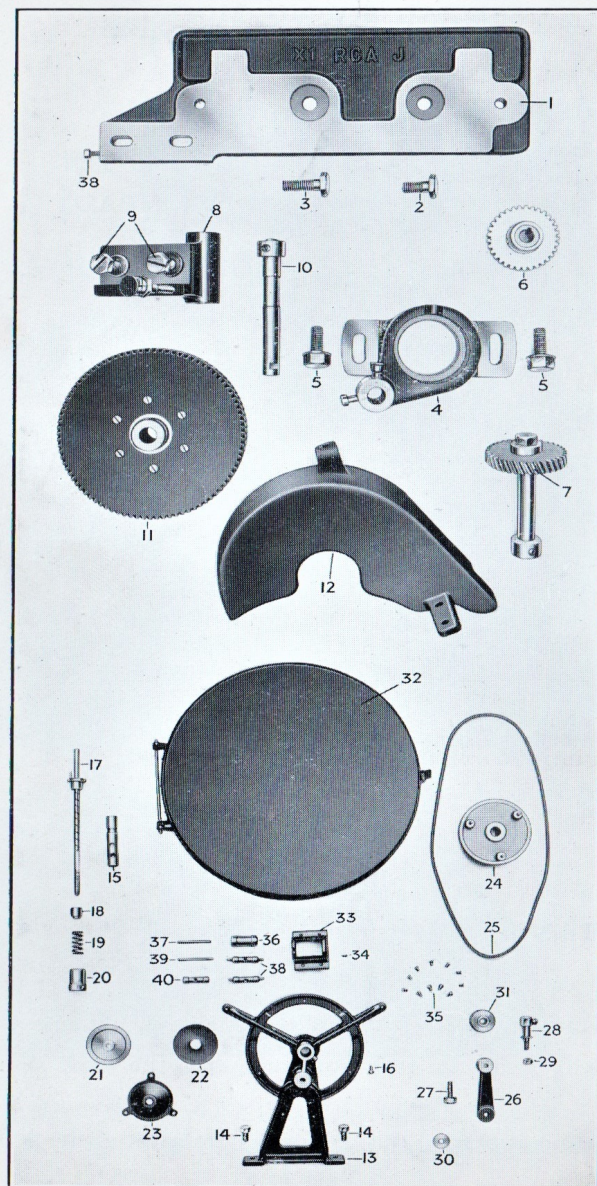
Special care should be taken to ensure that—

Gears are correctly meshed.

Gear Teeth are free from dirt, etc., the teeth should be brushed out.

Oiling is carried out daily where lubricators are provided.

KALEE Model Eleven Projector.
SPARE PARTS
FOR R.C.A. TYPE "J" MECHANISM DRIVE.



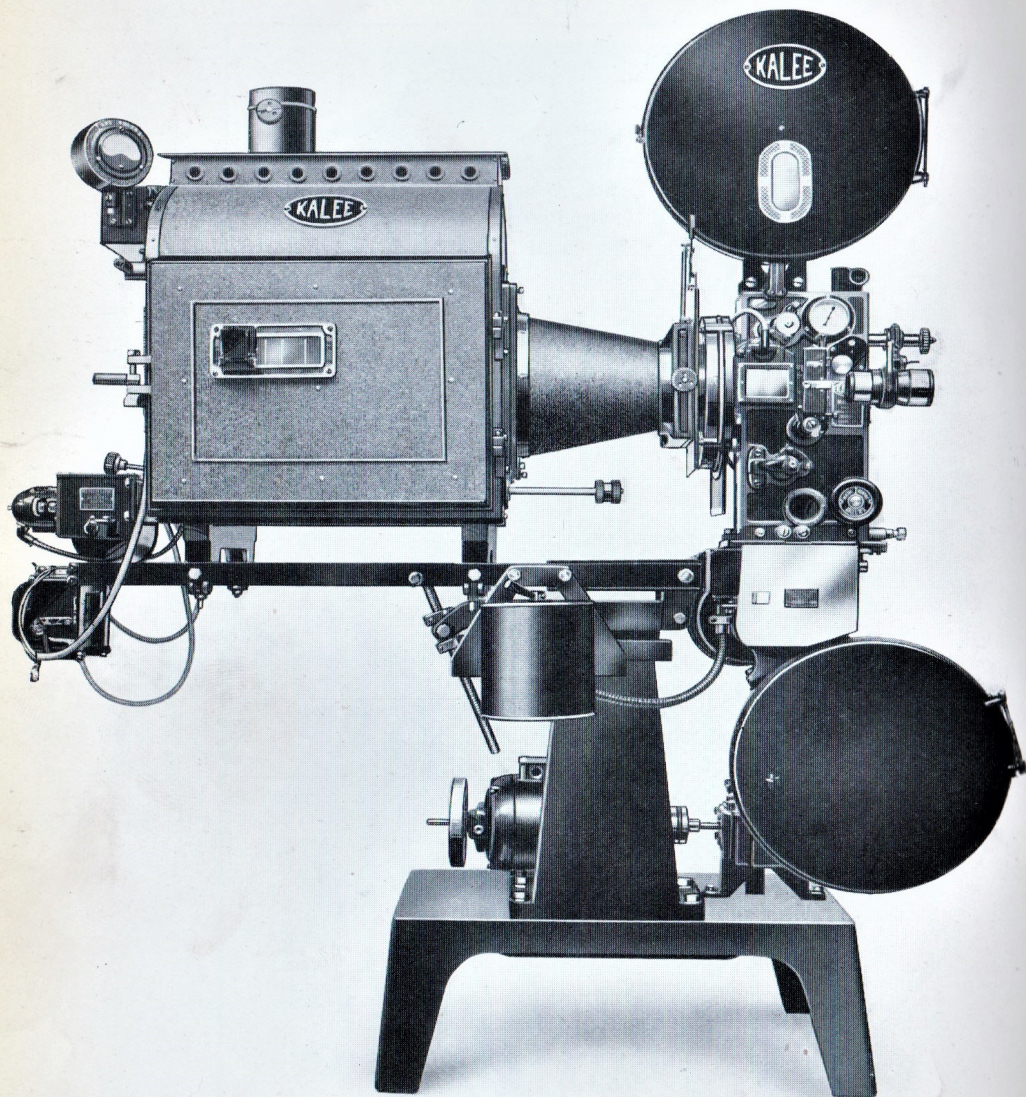
SPARE PARTS
FOR R.C.A. TYPE "J" MECHANISM DRIVE.

□ □ □

- No.
- J.1 Base Plate, Adapter
 - J.2 Bolt
 - J.3 Bolt
 - J.4 Bracket, Swivel Gear
 - J.5 Bolts, Bracket
 - J.6 Gear, Projector Spindle
 - J.7 Gear and Spindle
 - J.8 Bracket, Bearing
 - J.9 Bolts, Bearing Bracket
 - J.10 Spindle, Main Gear
 - J.11 Gear, Main
 - J.12 Cover, Gear
 - J.13 Arm, Spool Box
 - J.14 Bolts, Spool Box Arm
 - J.15 Bearing, Take up Spindle
 - J.16 Screw, Bearing Fixing (J.15)
 - J.17 Spindle, Take up
 - J.18 Collar
 - J.19 Spring, Take up Tension
 - J.20 Nut, Tension
 - J.21 Plate, Inner Friction
 - J.22 Washer, Friction
 - J.23 Plate, Outer Friction Drive
 - J.24 Pulley, Take up Drive
 - J.25 Belt, Take up Spindle
 - J.26 Bracket, Belt Tension ...
 - J.27 Bolt, Bracket
 - J.28 Spindle, Roller
 - J.29 Nut, Spindle
 - J.30 Collar, Spacing
 - J.31 Roller, Belt Tension
 - J.32 Box, Spool
 - J.33 Body, Fire Trap
 - J.34 Grub Screw
 - J.35 Screws, Spoolbox
 - J.36 Roller, Large
 - J.37 Spindle, Large Roller
 - J.38 Roller and Pivot Screw
 - J.39 Spindle, Fixed Roller
 - J.40 Roller, Fixed

KALEE Model Eleven

SPECIAL SOUND MODEL.



Adapted for use with
B.T.P. SOUND-ON-FILM SYSTEM.

KALEE Model Eleven

SPECIAL SOUND MODEL.

Adapted for use with
B.T.P. Sound-on-Film System.

□ □ □

SPECIFICATION.

KALEE Model Eleven Mechanism.

Pair of 16 in. Fire resisting Steel Spool Boxes and Spool Arms,
with Chain Driven Take-up.

Three 14 $\frac{3}{4}$ in. dia. Steel Film Spools (Metal Centres).

Adapter Gear, Base Plate and Take-up Gear.

Price **£148 0s. 0d.**

Code Word : "BETEP."

Outfit as above but fitted with 18 $\frac{3}{4}$ in. dia. Spool Boxes, Spool
Arms, and 17 $\frac{1}{2}$ in. dia. Metal Centre Spools.

Price **£154 0s. 0d.**

Code Word : "BEPAL."

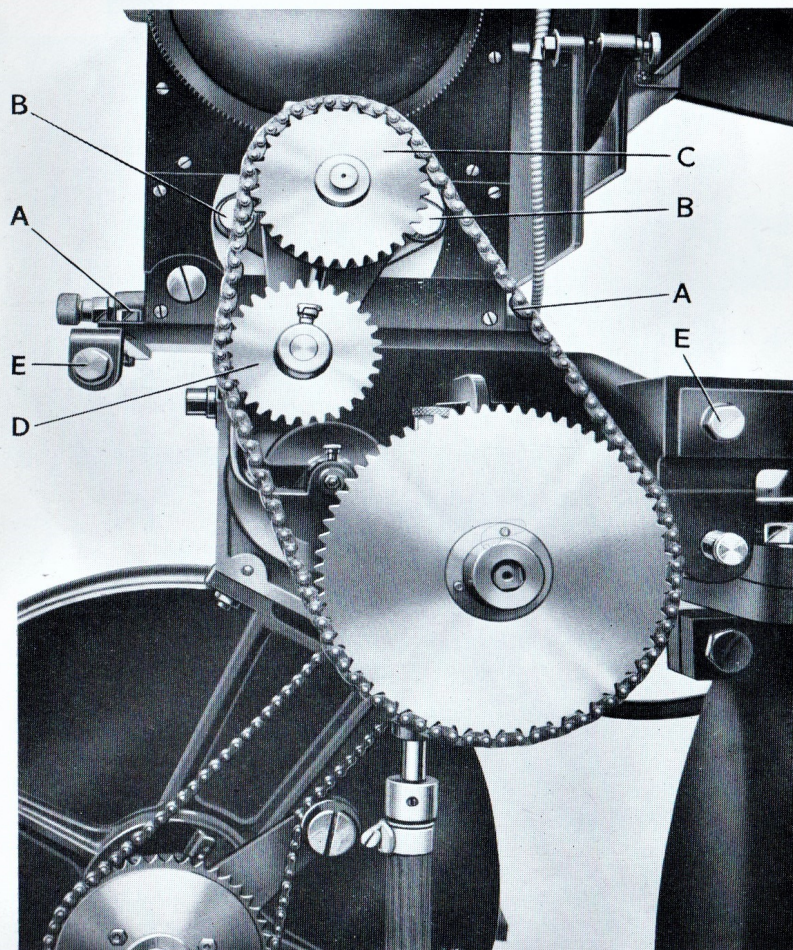
□ □ □

The above prices do not include Arc Lamps, Leads, Switches
or Lenses.

All Types of KALEE Arc Lamps and Lenses can be fitted.

KALEE Model Eleven

SPECIAL SOUND MODEL.



KALEE Model Eleven Mechanism fitted to
B.T.P. Sound Head and Adapter Gear.

KALEE Model Eleven

SPECIAL SOUND MODEL.

□ □ □

INSTRUCTIONS FOR FITTING KALEE MODEL ELEVEN MECHANISM TO B.T.P. SOUND SYSTEM.

1. Fit Adapter Base Plate.
2. Fit Mechanism on Base Plate by means of two bolts (A).
3. Fit extended Shaft to Mechanism and secure by means of Allen screw.
4. Attach Adapter Casting by means of Set Screws (B) and fit Ball-race Housing and Cover by means of four screws.
5. Fit Chain Wheel (C) on Mechanism Spindle.
6. Fit Chain and adjust tension by means of Jockey Wheel (D).
7. Fit Chain Guard by means of screws (E).

□ □ □

IMPORTANT.

Special care should be taken to ensure that—
Gears are correctly meshed.

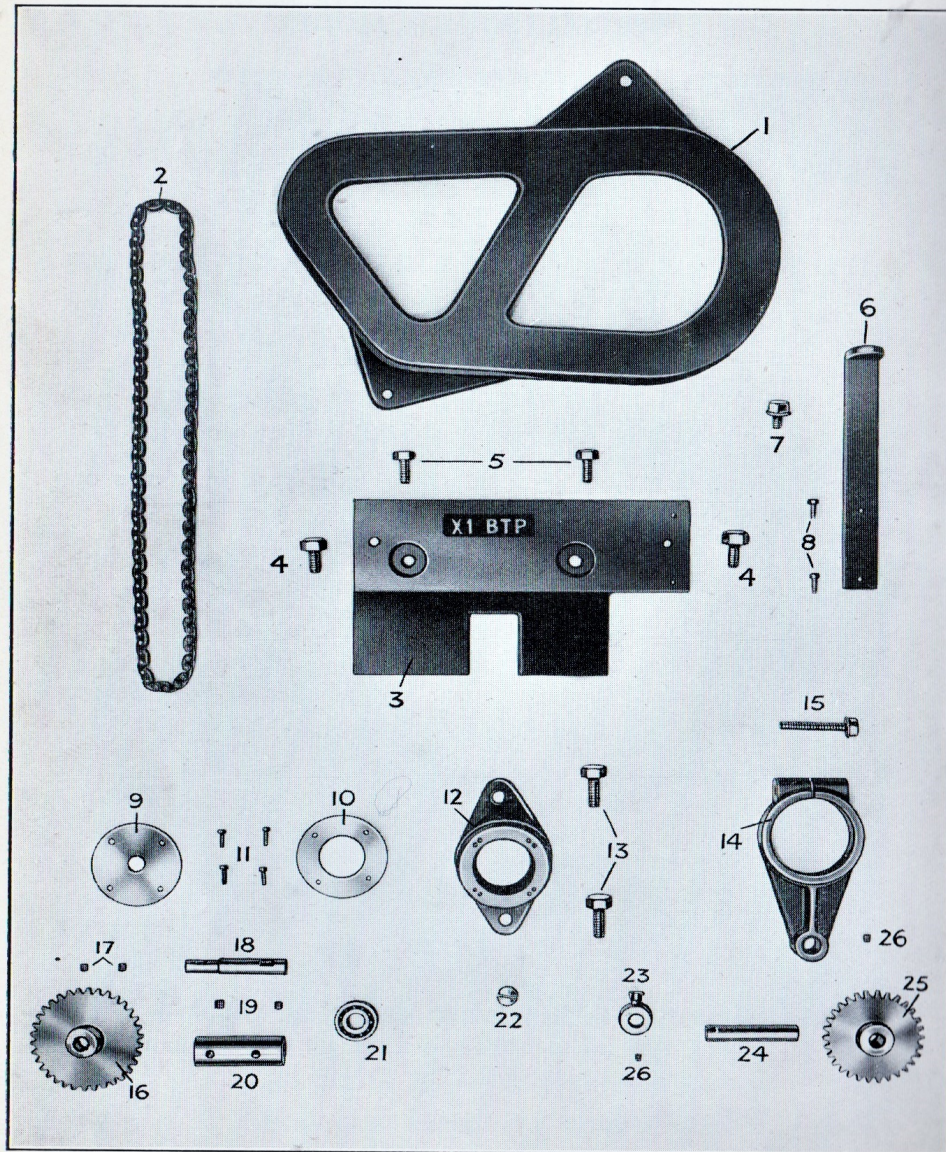
Gear Teeth are free from dirt, etc., the teeth should be
brushed out.

Oiling is carried out daily.

KALEE Model Eleven Projector.

SPARE PARTS

FOR B.T.P. MECHANISM DRIVE.



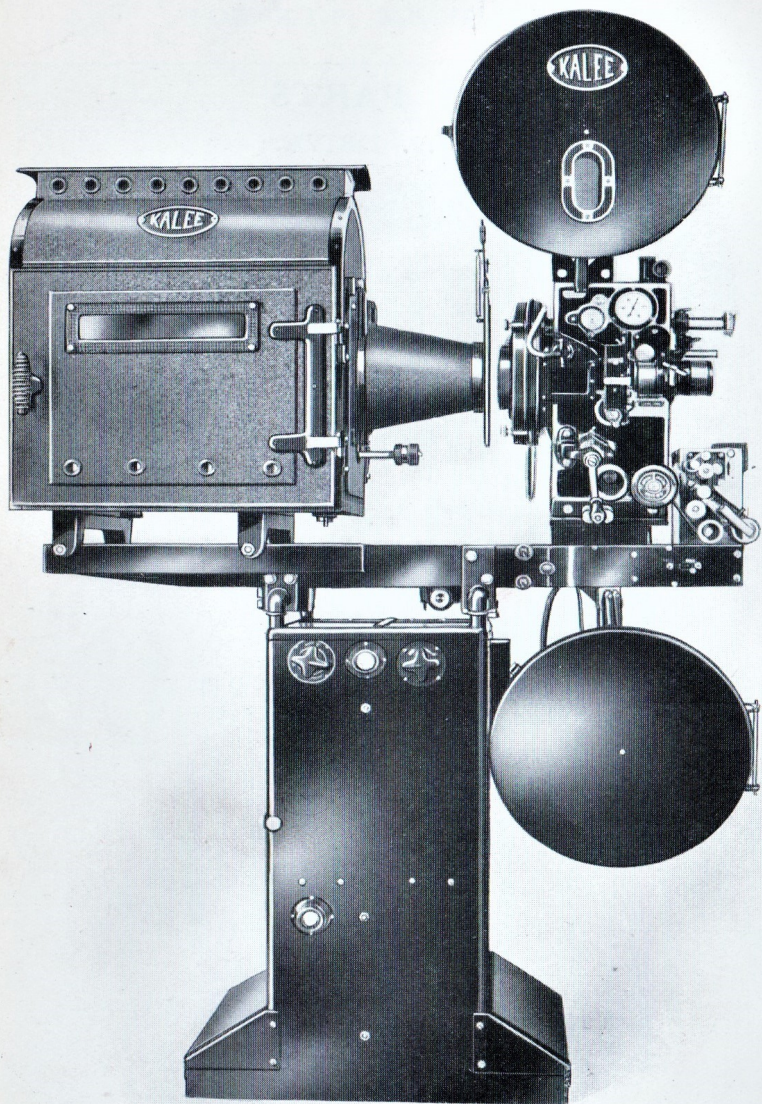
SPARE PARTS

FOR B.T.P. DRIVE.

1. Chain Guard
2. Chain
3. Adapter Baseplate
4. Bolts, Mechanism securing
5. Screws, Baseplate securing
6. Support Bracket
7. Screw, Bracket securing
8. Screws, Bracket securing small
9. Dust Cover for Bearing Bracket
10. Housing, Ball Race
11. Screws, Dust Cover securing
12. Bracket, Bearing
13. Screws, Bracket Bearing
14. Tension Arm
15. Screws, Tension Arm, Clamping
16. Sprocket, Driving (34 Teeth)
17. Grub Screws, Sprocket
18. Spindle, Driving
19. Screws, Coupling
20. Coupling
21. Ball Race
22. Screw, Bearing Bracket
23. Collar and Oil Cup
24. Spindle, Jockey Sprocket
25. Sprocket, Jockey (30 Teeth)
26. Grub Screw, Tension Arm

KALEE Model Eleven

SPECIAL SOUND MODEL.



Adapted for use with
PHILIPS Sound-on-Film System.

KALEE Model Eleven

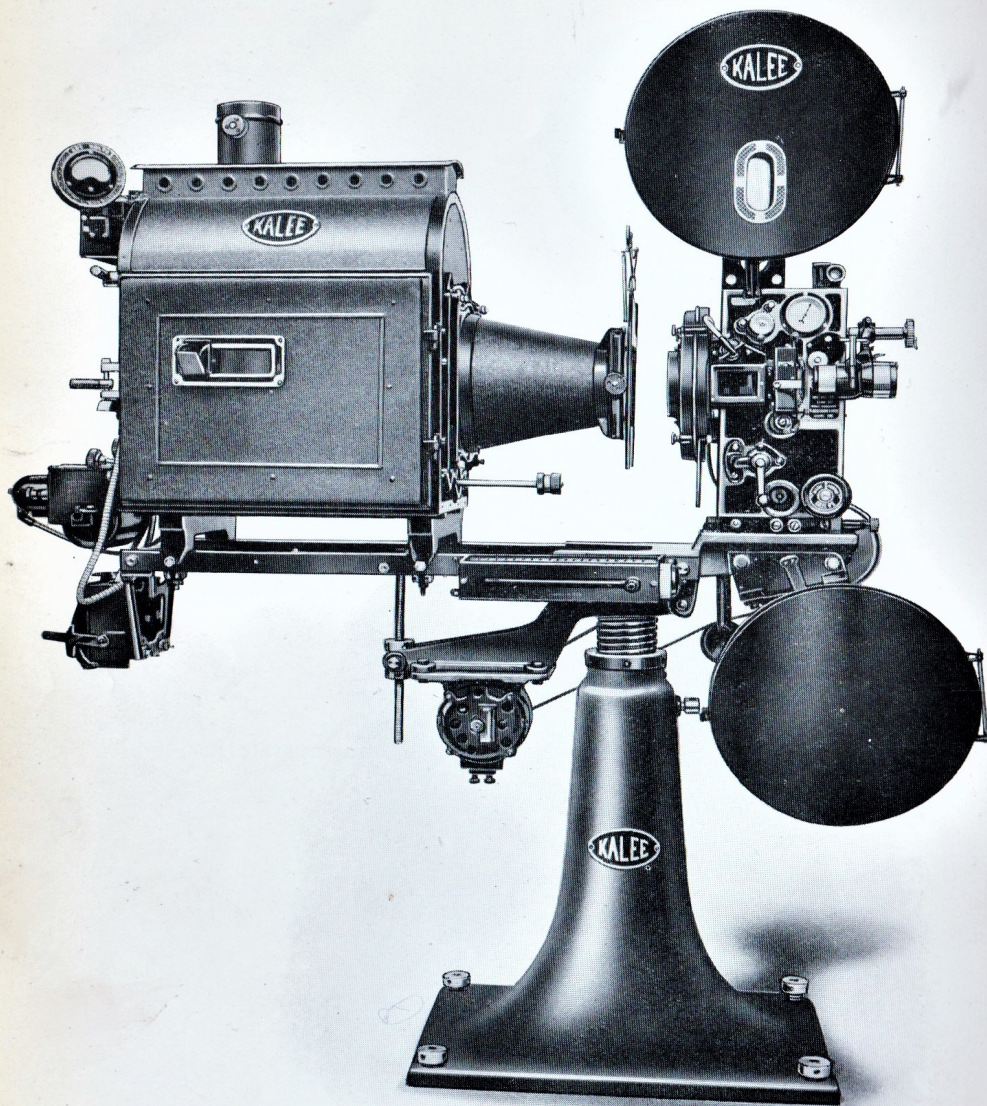
SPECIAL SOUND MODEL.

Adapted for use with
PHILIPS SOUND-ON-FILM-SYSTEM.

□ □ □

For detailed specification and prices see separate list.

KALEE Model Eleven PROJECTOR.



Adapted for
SILENT PROJECTION.

KALEE Model Eleven PROJECTOR.

Adapted for
SILENT PROJECTION.

□ □ □

SPECIFICATION.

KALEE Model Eleven Mechanism.

Pair of 16 in. Fire Resisting Steel Spool Boxes and Spool Arms,
with Chain Driven Take-up.

Three 14 $\frac{3}{4}$ in. dia. Steel Film Spools (Metal Centres).

Adapter Gear, Base Plate and Take-up Gear.

Heavy Iron Adjustable Pedestal Stand with Lamp House Rails,
Motor Bracket, etc.

Price £169 0s. 0d.

Code Word : "KONZE."

Outfit as above, but fitted with 18 $\frac{3}{4}$ in. dia. Spool Boxes, Spool
Arms, and 17 $\frac{1}{2}$ in. dia. Metal Centre Spools.

Price £175 0s. 0d.

Code Word : "KONAL."

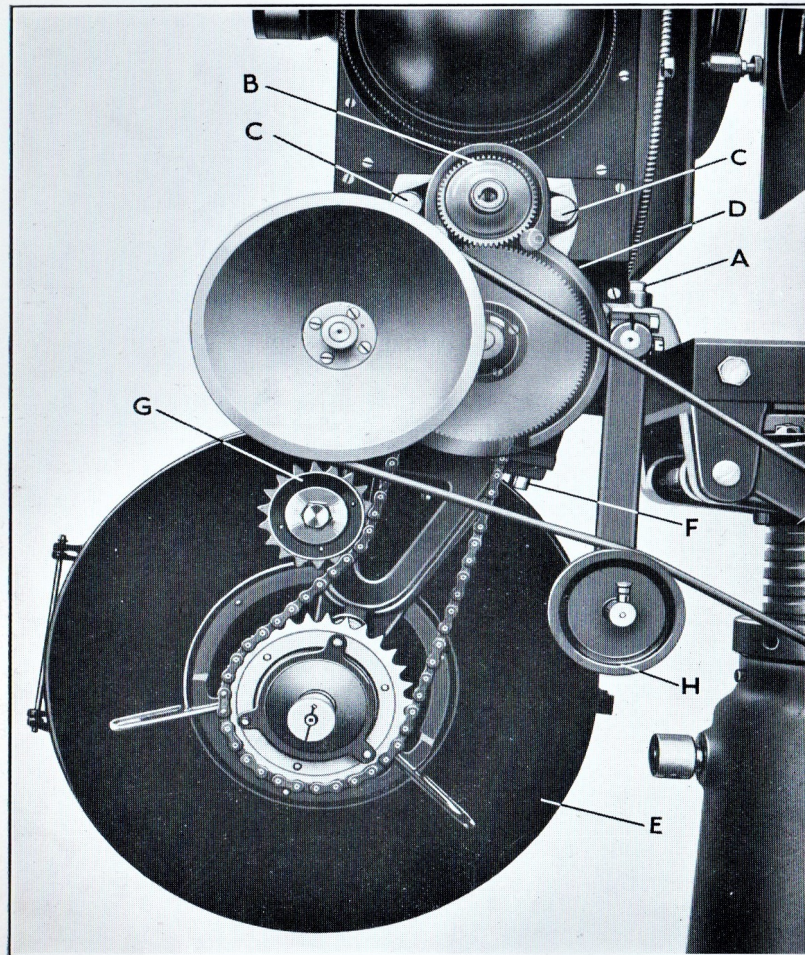
□ □ □

"The above prices do not include Arc Lamps, Leads, Switches
or Lenses.

All Types of KALEE Arc Lamps and Lenses can be fitted.

KALEE Model Eleven

SILENT MECHANISM DRIVE.



KALEE Model Eleven

INSTRUCTIONS

FOR SETTING UP "SILENT" MECHANISM DRIVE.

□ □ □

1. Fix Mechanism on Stand by 2 Bolts (A).
2. Fix Gear Case (D) to Mechanism with Bolts (C).
3. Fix Gear (B) on Mechanism Driving Spindle and mesh with Large Gear.
4. Fix Spool Box (E) with Bolts (F).
5. Fit Chain and adjust tension by means of Jockey Sprocket (G).
6. Fit Gear Case Cover and secure with Thumb Screws.
7. Fit Driving Belt and adjust tension by means of Jockey Pulley (H).

□ □ □

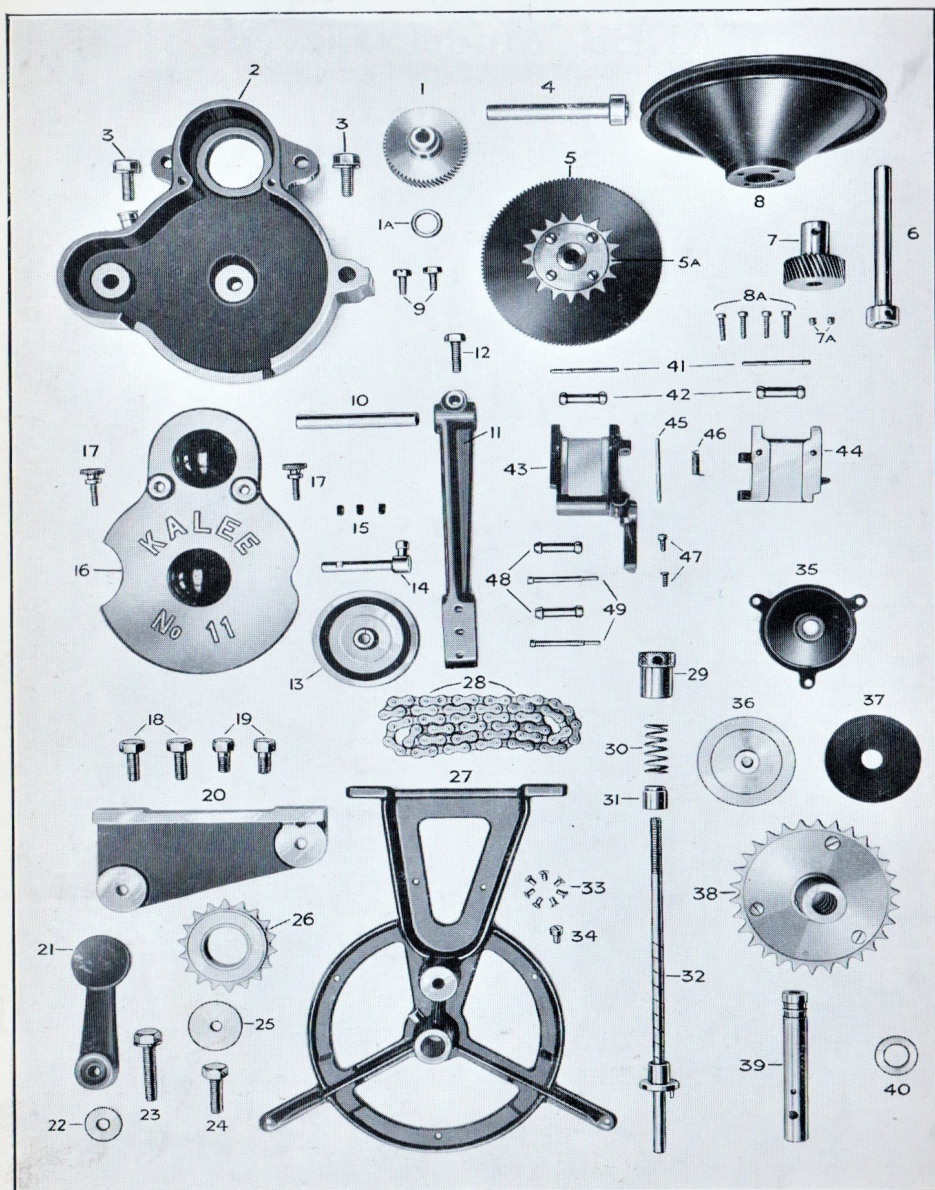
IMPORTANT.

Special care should be taken to ensure that—

Gear Teeth are free from dirt, etc., the Teeth should be brushed out.

Oiling is carried out daily.

KALEE Model Eleven Projector.
SPARE PARTS
FOR "SILENT" MECHANISM DRIVE.



Spare Parts for "Silent" Mechanism Drive.

□ □ □

- No.
- S.1 Gear, Projector Spindle
 - S.1A Cover, Thread
 - S.2 Bracket, Gear
 - S.3 Bolts, Bracket
 - S.4 Spindle, Large Gear
 - S.5 Gear, Large
 - S.5A Sprocket, Take Up
 - S.6 Spindle, Pinion
 - S.7 Pinion, Belt Pulley
 - S.7A Screws, Pinion Fixing
 - S.8 Pulley, Belt Driving
 - S.8A Screws, Belt Pulley Fixing
 - S.9 Bolts, Retaining Spindle (10)
 - S.10 Spindle, Belt Tension Bracket
 - S.11 Arm, Belt Tension
 - S.12 Bolt, Clamping
 - S.13 Pulley, Belt Tension
 - S.14 Spindle, Belt Tension
 - S.15 Screws, Allen
 - S.16 Cover, Gear Bracket
 - S.17 Screws, Thumb
 - S.18 Bolts, Bracket Fixing
 - S.19 Bolts, Spoolbox Fixing
 - S.20 Bracket, Spoolbox
 - S.21 Bracket, Chain Tension
 - S.22 Collar, Packing
 - S.23 Screw, Arm Fixing
 - S.24 Screw, Sprocket Fixing
 - S.25 Collar, Sprocket Retaining
 - S.26 Sprocket, Tension
 - S.27 Arm, Bottom
 - S.28 Chain
 - S.29 Nut, Tension
 - S.30 Spring, Take Up Tension
 - S.31 Collar, Tension
 - S.32 Spindle, Take Up
 - S.33 Screws, Spoolbox
 - S.34 Screw, Bearing Fixing
 - S.35 Plate, Outer Friction Drive
 - S.36 Plates, Inner Friction
 - S.37 Washer, Friction
 - S.38 Sprocket, Take Up
 - S.39 Bearing, Take Up Spindle
 - S.40 Collar, Bearing Packing
 - S.41 Spindle, Top Fire Trap Roller
 - S.42 Roller, Top Fire Trap
 - S.43 Fire Trap
 - S.44 Lid, Fire Trap
 - S.45 Pin, Hinge
 - S.46 Spring, Hinge
 - S.47 Screws, Fire Trap Fixing
 - S.48 Roller, Bottom Fire Trap
 - S.49 Spindle, Bottom Fire Trap Roller

LARGE CAPACITY SPOOLS.

□ □ □

All KALEE Projector Outfits can be supplied with large capacity Spools, 17½ ins. diameter, with aluminium centre-piece 5 ins. diameter, built up with cheeks made from stampings in heavy gauge cold rolled steel, and Spool Boxes 20 ins. diameter, and with special spool arms, at an extra cost of £6 0s. 0d.

This price includes Two Spools, Two Spool Boxes and Two Special Spool Arms, in place of the smaller capacity type.

KALEE ELEVENOIL

(Red Label.)



The Lubrication and selection of a proper oil for projector mechanisms is an exceedingly important and vital item, often overlooked by operators.

Experience has proved that a good many faults attributed to the mechanism, are solely due to using common and unsuitable oils.

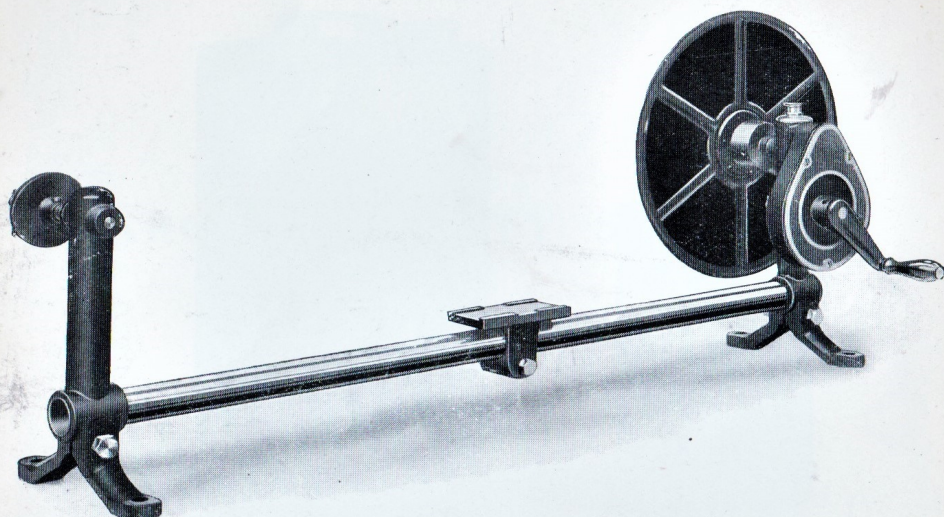
To uphold the reputation of the manufacturers of these mechanisms, it has been found necessary to give much thought, time and experiment to this all-important item, and there has been produced in **Kalee Elevenoil** an oil superior to any obtainable on the market.

The constituents of **Kalee Elevenoil** are the finest and purest quality obtainable; in first cost it will therefore appear to be expensive—its cheapness will only be apparent in its economy in use.

Kalee Elevenoil , Size A tin (1 pint)	...	3/-
Code Word : "ONZER"		
Kalee Elevenoil , Size B tin (½ gallon)	...	10/-
Code Word : "ONZAN"		

KALEE Film Rewinder

Type K.W.



Type K.W. Rewinder is a new model of heavy construction, built to withstand hard and continuous service.

The standards are made of cast-iron of novel design, accurately machined and coupled together by a strong steel tube 39 inches long. A cast-iron block machined out to film width is supplied as a simple fixture for scraping and jointing film. The Gears are machine cut and enclosed by a suitable cover. A 12 in. pressed steel disc is provided for loose film rewinding. Black stove enamel finish to castings, steel tube chromium plated.

Price complete with scraping block £3 10s. 0d.

Code Word : "KWINE."

Price without scraping block £3 5s. 0d.

Code Word : "KWILT."

Type S.W. Rewinder, similar to Type K.W. Rewinder except that a ball-bearing free wheel driving handle is fitted, a novel feature which will be appreciated by the projectionist.

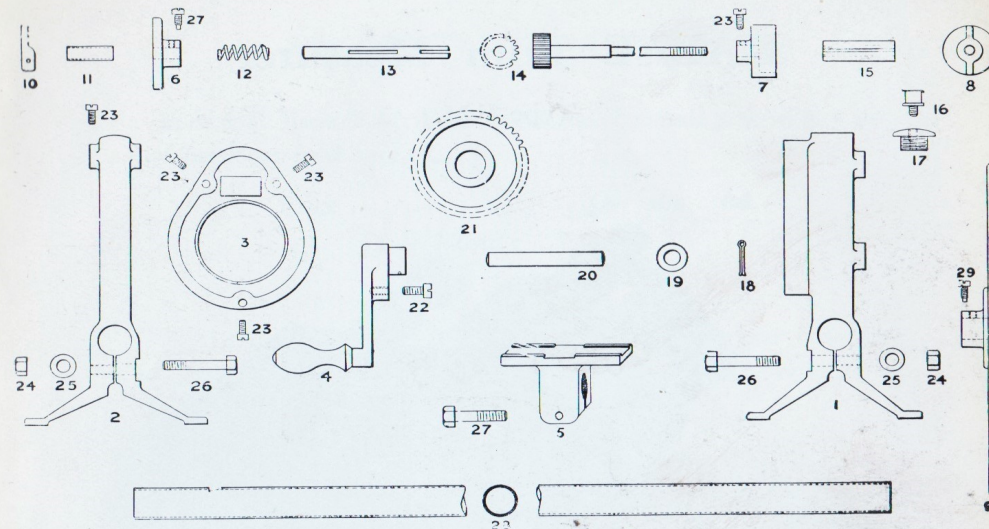
Price complete with scraping block £4 15s. 0d.

Code Word : "RAWIN."

Price without scraping block £4 10s. 0d.

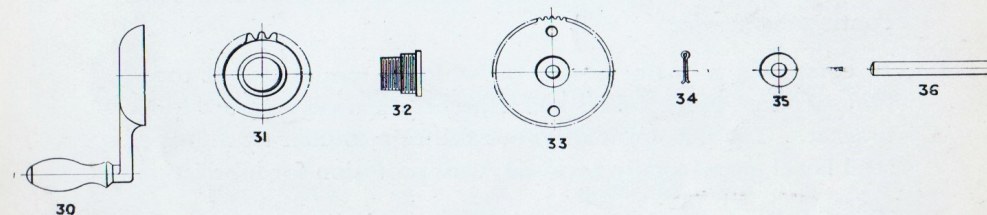
Code Word : "RAILT."

SPARE PARTS FOR K.W. REWINDER



No.	DESCRIPTION.	£	s.	d.	No.	DESCRIPTION.	£	s.	d.
1	Gear Standard each	12	0		16	Lubricator each			9
2	Plain Standard "	8	0		17	Cap for gear standard		2	3
3	Gear Cover "	2	3		18	Split Pin for No. 20 spindle ..			3
4	Handle and Crank "	6	0		19	Washer for No. 20 spindle ..			3
5	Jointing Table "	5	0		20	Main Gear Spindle "		2	0
6	Boss for plain standard	1	6		21	Main Gear Wheel "		6	0
7	Collar for Gear Standard	1	9		22	Screw for No. 4 "			4
8	Wing nut "	1	0		23	Screws for cover Nos. 2, 3 and 7			4
9	Steel Disc with boss "	5	0		24	Nuts for No. 26 "			3
10	Retaining Sneek for No. 13 ..		6		25	Washers for No. 25 "			3
11	Distance Tube "		6		26	Bolt, Clamping Steel Tube for Nos. 1 and 2 "			6
12	Spring for No. 6 boss "		6		27	Bolt for No. 5 "			6
13	Spindle for plain standard	1	6		27A	Screw for No. 6 "			6
14	Spindle and Pinion for gear standard	7	6		28	Stay Tube "		6	0
15	Brass Bush for No. 9 "	1	6		29	Screw for No. 9 "			6

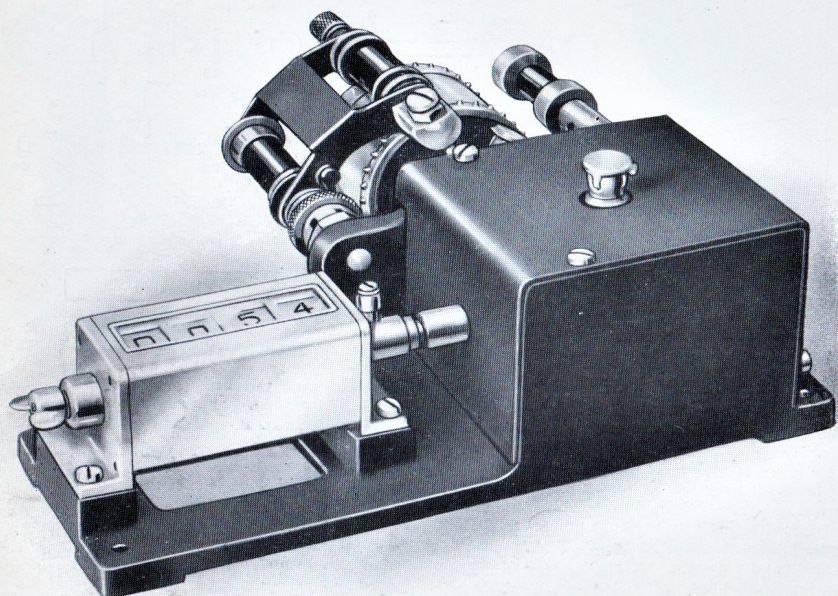
EXTRA SPARE PARTS FOR S.W. REWINDER.



No.	DESCRIPTION.	£	s.	d.	No.	DESCRIPTION.	£	s.	d.
30	Handle and Crank each	7	6		33	Main Gear Wheel each		8	0
31	Free Wheel "	5	0		34	Split Pin for No. 36 "			3
32	Sleeve for Main Gear Wheel	4	0		35	Collar for No. 36 "			3
					36	Main Gear Spindle "		2	0

KALEE Film Measurer

Type F.M.



This instrument has been designed to meet the demand for a robustly built film measuring machine to withstand hard continuous service.

It comprises a main casting on which is mounted a 32 tooth film sprocket, guide rollers and adjustable tension pressure roller bracket. The film sprocket is coupled to a counter by means of steel bevel gears, totally enclosed, with provision for lubrication.

The Counter registers up to 10,000 ft., and can be quickly set back to zero by means of a thumb nut.

SPECIFICATIONS AND PRICES :

KALEE Type F.M. Film Measurer for fixing to a flat base by means of four screws.

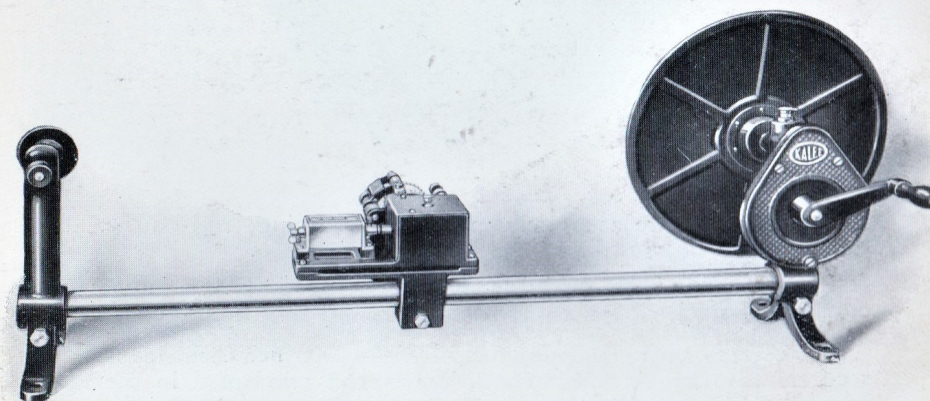
Price £8 10s. 0d.

Code Word : "FIMEA."

KALEE Type F.M. Film Measurer, with adapter baseplate to clamp on to the tube of a Type K.W. Film Rewinder as shewn in illustration below.

Price £9 0s. 0d.

Code Word : "KIMEK."

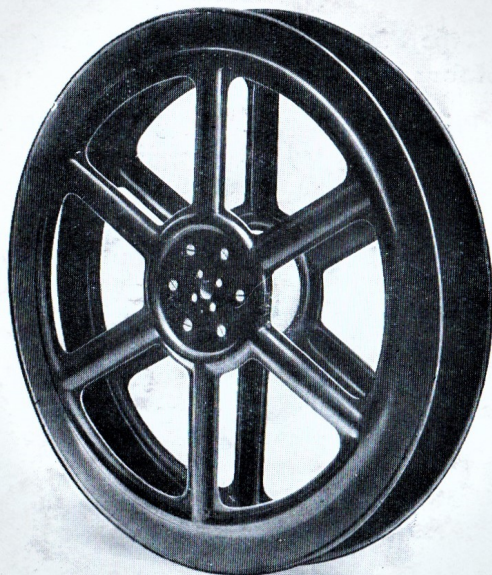


KALEE Type K.W. Standard Film Rewinder, with Type F.M. Film Measurer, complete as illustration above.

Price £12 5s. 0d.

Code Word : "KIFEM."

KALEE Steel Spools



These Spools are accurately made, true running, and of the highest class finish.

The sides or cheeks are made from stampings in heavy gauge cold rolled steel, ribbed to give strength and rigidity.

The centre or core is made of Birch wood to which each side is securely held by six steel wood screws and reinforced in the centre by a brass tube, spun over at each end.

This tube also forms a bearing for the spool to revolve on when in use.

The Film is gripped to the core by means of a hardened and tempered steel clip which is easily accessible and simple for an operator to manipulate.

These Spools are all made to fit $\frac{3}{8}$ in. spindles, and in four different diameters.

12 in. diam. Steel Spools, black enamelled 5/6 each, Code Kai.

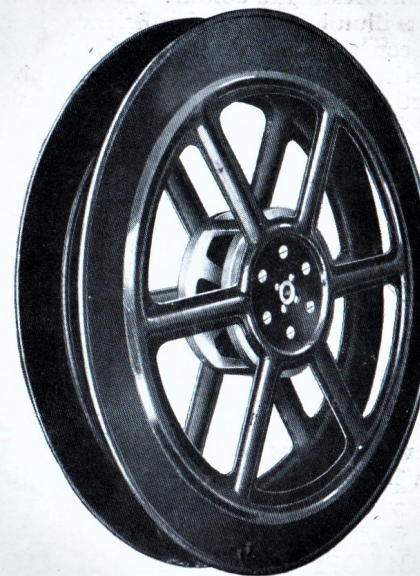
12 $\frac{3}{4}$ in. " " " " " 6/3 " " Kaid.

13 $\frac{3}{4}$ in. " " " " " 7/- " " Kaip.

14 $\frac{3}{4}$ in. " " " " " 7/9 " " Kafor.

KALEE Steel Spools

Aluminium Centre.



This Spool has been designed to meet the demand for an All-Metal Spool of better quality than the standard type with hardwood centre.

The cheeks are made from stampings in heavy gauge cold rolled steel, suitably ribbed to give strength and rigidity.

A cast aluminium centre piece, machined all over is used to carry the cheeks, which are securely held by machine screws.

Two sizes are made, 14 $\frac{3}{4}$ in. dia. and 17 $\frac{1}{2}$ in. dia., with 5 in. dia. centre, to fit $\frac{3}{8}$ in. dia. spindles.

The cheeks are finished bright black stoved enamel.

Price : 14 $\frac{3}{4}$ in. dia. ... 12/- each.

Code Word : "KEBIC."

Price : 17 $\frac{1}{2}$ in. dia. ... 18/- each.

Code Word : "KECAP."

"KERSHAW" Projection Lenses

Project a picture with perfectly clear definition over the full field, free from distortion and colour. No stops are used; therefore the highest illumination and efficiency is secured. Full advantage has been taken in designing these lenses to use the latest types of optical glasses, which are thoroughly transparent in respect of the actinic rays, hence the desired result of brilliancy.

Care of the Projection Lens

It is important to keep the lens clean, and care should be taken not to handle them with greasy fingers.

A dirty lens will never project a good, clear picture.

Use a soft, clean piece of silk or old fine linen for cleaning, after first removing grit or dust by means of a camel hair brush, otherwise scratches will appear in time, which impair the results and may mean the eventual repolishing of the lens. Grease can be removed with a little cotton moistened with spirits.

Selection of Correct Focal Length

The focus of the lens governs the size of the projected picture on the screen, the longer the focus the smaller the size of the picture and **vice-versa**.

The following tables of distances, etc., have been computed for Cinematograph Lenses, assuming a "silent" mask of 0.9 in. wide, and a "talkie" mask of 0.825 in. wide. A further table has been computed for Lantern Lenses working with a slide mask of 3 ins.

If, however, more accurate results are desired, these can be obtained from the formulae below.

D = Distance in feet from lens to screen.

P = Width in feet of picture on screen.

M = Width in inches of mask.

F = Focus in inches of lens.

$$F = \frac{D \times M}{P} \quad P = \frac{D \times M}{F} \quad D = \frac{P \times F}{M}$$

PROJECTION TABLE FOR CINEMATOGRAPH LENSES.

Showing width of Screen Picture at different distances with Lenses of different focal length.
"Silent" Mask aperture .9 in. wide.

Distance Lens to Screen. Feet.	Focus of Lens in Inches.																		Width of Picture																	
	1½ in. ft. in.	1¾ in. ft. in.	2 in. ft. in.	2¼ in. ft. in.	2½ in. ft. in.	2¾ in. ft. in.	3 in. ft. in.	3¼ in. ft. in.	3½ in. ft. in.	4 in. ft. in.	4½ in. ft. in.	4¾ in. ft. in.	5 in. ft. in.	5¼ in. ft. in.	5½ in. ft. in.	5¾ in. ft. in.	6 in. ft. in.																			
10	6	0	5	2	4	6	4	0	3	7	3	3	0	2	9	2	7	2	5	2	3	2	1	1	10	1	8	1	7	1	6					
12	7	2	6	3	5	5	4	10	4	4	3	11	3	7	3	4	3	1	2	11	2	8	2	2	2	2	1	1	11	1	10					
15	8	10	7	10	6	9	6	0	5	5	4	11	4	5	4	2	3	11	3	7	3	5	3	2	2	2	2	2	3	3	1	10				
20	12	0	10	4	9	0	7	2	6	2	6	7	6	0	5	7	5	2	4	10	4	6	4	3	5	3	3	3	3	1	3	0				
25	15	0	12	10	11	3	10	0	9	0	8	2	7	6	11	6	5	6	0	5	7	5	3	4	1	3	10	3	9	6	3	0				
30	18	0	15	6	13	6	12	0	10	9	9	10	9	0	8	4	7	9	7	3	6	9	6	4	5	2	4	11	4	8	4	6				
35	21	0	18	0	15	9	14	0	12	7	11	5	10	6	9	8	9	0	8	5	7	10	7	4	7	0	6	5	2	4	11	4	6			
40	24	0	20	8	18	0	16	0	14	4	13	2	12	0	11	21	0	4	9	8	9	0	8	5	6	4	6	0	5	9	5	5	3			
45	27	0	23	22	0	16	20	0	18	0	16	5	15	0	13	10	12	11	12	0	11	3	10	7	10	0	9	6	8	6	2	6	0			
50	30	0	25	10	22	6	20	0	19	0	18	9	16	5	15	13	12	11	10	10	1	9	6	9	8	7	1	7	8	7	4	11	6	9		
55	32	10	28	6	24	9	22	0	21	9	18	0	18	5	15	13	12	11	12	0	11	3	10	7	10	0	9	6	9	0	8	7	4	11	6	9
60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
85	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
90	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
95	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
110	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
120	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
130	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
140	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
160	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		

The height of the picture is approximately ⅔ the width.

The height of the picture is approximately 3/4 the width.

PROJECTION TABLE FOR CINEMATOGRAPH LENSES

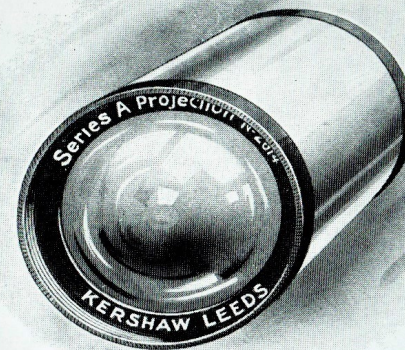
Showing width of Screen Picture at different distances with Lenses of different focal length.
 "Talkie" Mask aperture 0.825 in. wide.

FOCUS OF LENS IN INCHES.

Distance Lens to Screen. Feet.	1 1/2 in. ft. in. ft.	2 in. ft. in. ft.	2 1/4 in. ft. in. ft.	2 1/2 in. ft. in. ft.	3 in. ft. in. ft.	3 1/4 in. ft. in. ft.	3 1/2 in. ft. in. ft.	3 3/4 in. ft. in. ft.	4 in. ft. in. ft.	4 1/4 in. ft. in. ft.	4 1/2 in. ft. in. ft.	5 in. ft. in. ft.	5 1/2 in. ft. in. ft.	5 3/4 in. ft. in. ft.	6 in. ft. in. ft.	6 1/4 in. ft. in. ft.	6 1/2 in. ft. in. ft.	7 in. ft. in. ft.	Width of Picture
10	5 6 4	4 8 4	1 3 8	3 3 3	3 3 0	—	—	—	—	—	—	—	—	—	—	—	—	—	
12	6 10 5	5 10 5	1 4 7	4 1 3	3 9 3	3 5 3	2	—	—	—	—	—	—	—	—	—	—	—	
15	8 3 7	0 6 2	5 6 4	10 4 6	4 1 3	9 3 6	3 3 1	—	—	—	—	—	—	—	—	—	—	—	
20	11 0 9	5 8 3	7 4 6	6 6 0	5 6 5	0 4 8	4 5 4	1 3 10	3 8 3	5 3 3	3 1 3	0	—	—	—	—	—	—	
25	13 9 11	9 10 3	9 2 8	3 7 6	6 10 6	4 5 10	5 6 5	1 4 10	4 6 4	4 1 3	11 3 9	3 7	3 5 3	3 7	3 5 3	3 3 2	3 0	—	
30	16 6 14	0 12 4	11 0 9	9 0 8	3 7 6	7 0 6	4 5 10	5 6 5	1 4 10	4 6 4	4 1 3	11 3 9	3 7	3 5 3	3 3 2	3 0	—	—	
35	19 3 16	6 14 5	12 10 11	4 10 6	9 7 8	10 8 3	3 7 6	7 0 6	4 5 10	5 6 5	1 4 10	4 6 4	4 1 3	11 3 9	3 7	3 5 3	3 0	—	
40	22 0 18	10 16 6	14 8 13	0 12 0	11 0 10	0 9 5	8 9 8	3 7 8	7 4 6	11 6 6	3 6 0	5 8 5	6 1 5	11 5 11	5 8 5	4 5 0	4 10 4	8	
45	24 9 21	2 18 6	16 4 16	6 15 0	13 9 12	8 11 9	11 0 10	3 9 8	8 3 7	8 7 4	6 11 6	6 6 3	6 0 6	5 8 5	6 1 5	11 5 11	5 8 5	4 5 0	
50	27 6 23	7 20 7	18 4 16	6 15 0	13 9 12	8 11 9	11 0 10	3 9 8	8 3 7	8 7 4	6 11 6	6 6 3	6 0 6	5 8 5	6 1 5	11 5 11	5 8 5	4 5 0	
55	30 3 25	9 22 7	20 2 18	0 16 6	15 1 13	10 12 10	12 1 11	3 10 7	10 0 9	5 8 10	8 7 8	3 7 10	7 6 7	2 6 10	6 7 6	4 6 1	5 10	—	
60	33 0 28	0 24 8	22 0 19	6 18 0	16 6 15	0 14 0	13 2 12	4 11 6	11 0 10	2 9 9	9 4 0	8 6 8	3 8 0	7 6 7	2 6 10	6 7 6	4 6 1	5 10	
65	—	30 6 26	9 23 10	21 1 19	6 17 10	16 6 15	0 14 0	13 2 12	4 11 6	11 0 10	2 9 9	9 4 0	8 6 8	3 8 0	7 6 7	2 6 10	6 7 6	4 6 1	
70	—	33 0 28	10 25 8	22 8 21	0 19 3	17 8 16	6 15 4	14 5 13	4 12 10	11 10 11	10 11 4	10 10 10	6 10 0	9 7 9	2 8 10	8 6 8	3	—	
75	—	—	30 11 27	6 24 4	22 6 20	7 18 10	17 8 16	6 15 4	14 5 13	4 12 10	11 10 11	10 11 4	10 10 10	6 10 0	9 7 9	2 8 10	8 6 8	3	
80	—	—	—	33 0 29	4 26 0	22 0 20	0 18 10	17 8 16	6 15 4	14 5 13	4 12 10	11 10 11	10 11 4	10 10 10	6 10 0	9 7 9	2 8 10	8 6 8	
85	—	—	—	—	31 2 27	9 25 6	23 4 21	4 19 11	18 8 17	6 16 6	15 4 13	8 13 10	13 6 12	9 12 11	4 11 0	10 8 10	9 8 9	5	
90	—	—	—	—	33 0 29	6 27 0	24 9 22	8 21 2	21 9 10	18 6 17	4 16 6	15 4 13	8 13 10	13 6 12	9 12 11	4 11 0	10 8 10	9 8 9	
95	—	—	—	—	—	31 3 28	6 26 1	24 0 22	3 20 11	19 6 18	4 17 5	16 6 15	7 14 10	14 3 13	7 12 11	12 6 12	0 11 6	11	
100	—	—	—	—	—	—	33 0 30	0 27 6	25 4 23	7 22 0	7 19 4	18 4 17	4 16 6	15 4 13	8 13 10	13 6 12	0 11 6	11	
110	—	—	—	—	—	—	—	33 0 30	0 27 6	25 4 23	7 22 0	7 19 4	18 4 17	4 16 6	15 4 13	8 13 10	13 6 12	0 11 6	
120	—	—	—	—	—	—	—	—	33 0 30	0 28 6	26 4 24	8 23 0	22 0 20	4 19 6	18 8 18	0 17 0	16 6 15	0 14 8	
130	—	—	—	—	—	—	—	—	—	33 0 30	0 28 6	26 4 24	8 23 0	22 0 20	4 19 6	18 8 18	0 17 0	16 6 15	
140	—	—	—	—	—	—	—	—	—	—	33 0 30	0 28 6	26 4 24	8 23 0	22 0 20	4 19 6	18 8 18	0 17 0	
150	—	—	—	—	—	—	—	—	—	—	—	33 0 30	0 28 6	26 4 24	8 23 0	22 0 20	4 19 6	18 8 18	
160	—	—	—	—	—	—	—	—	—	—	—	—	33 0 30	0 28 6	26 4 24	8 23 0	22 0 20	4 19 6	

The height of the picture is approximately 3/4 the width.

"KERSHAW" Cinematograph Projection Lenses



Entirely British Made.

Series A.

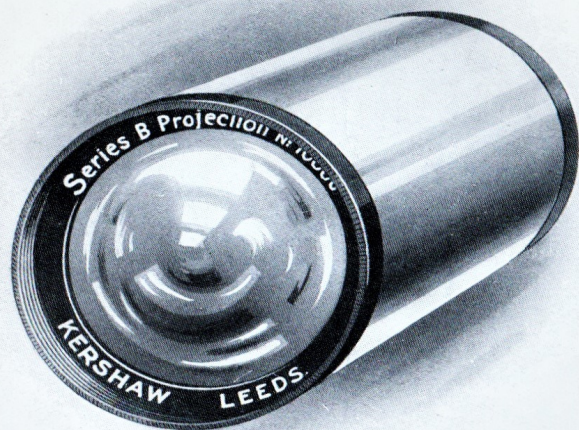
Standard Size Mount 1.68 inches dia.

Working at full aperture—no central stops—therefore allowing the maximum amount of light available to pass.

Focal Length Inches	F Value	Price Each	Code Word
2 1/2	F 2.0	£4 10s. 0d.	Acton
3	F 2.2		Acree
3 1/4	F 2.3		Actor
3 1/2	F 2.5		Actimo
3 3/4	F 2.7		Actinic
4	F 2.9		Actual
4 1/4	F 3.1		Acted
4 1/2	F 3.3		Actral
4 3/4	F 3.5		Actak
5	F 3.7		Actent
5 1/4	F 3.8		Adebo
5 1/2	F 4.0		Actist
5 3/4	F 4.2		Adice
6	F 4.4		Actaler
6 1/4	F 4.6		Adoda
6 1/2	F 4.8		Accent
6 3/4	F 5.0		Adugo
7	F 5.2		Aceso

Intermediate focal lengths ... 15/- extra.

“KERSHAW” Cinematograph Projection Lenses



Entirely British Made.

Series B. *Standard Size Mount 2.07 inches dia.*
LARGE APERTURE.

Similar in construction to series A, and of the same high quality. The larger diameter mount makes it possible to use larger diameter optical elements, therefore allowing more light to pass.

Focal Length Inches	F Value	Price Each	Code Word
3	F 1.7	£8 0s. 0d.	Bens
3 $\frac{1}{4}$	F 1.8		Benson
3 $\frac{1}{2}$	F 2.0		Bensit
3 $\frac{3}{4}$	F 2.1		Bend
4	F 2.2		Benton
4 $\frac{1}{4}$	F 2.4		Belt
4 $\frac{1}{2}$	F 2.5		Bentop
4 $\frac{3}{4}$	F 2.7		Bended
5	F 2.8		Bensize
5 $\frac{1}{4}$	F 2.9		Becam
5 $\frac{1}{2}$	F 3.1		Bensal
5 $\frac{3}{4}$	F 3.2		Bedin
6	F 3.3		Bensix
6 $\frac{1}{4}$	F 3.5		Begop
6 $\frac{1}{2}$	F 3.7		Bensosit
6 $\frac{3}{4}$	F 3.8		Behur
7	F 4.0		Benseven

Intermediate focal lengths ... 20/- extra.

“KERSHAW” Cinematograph Projection Lenses



Entirely British Made.

Series “Super B.” *Standard Size Mount 1.68 inches dia.*

An entirely new optical system, constructed on original principles. The design allows the back element to collect the maximum amount of light and project it through the larger front element, giving even illumination on the screen. The definition throughout the whole series is of a high order.

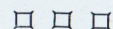
Focal Length Inches	F Value	Price Each	Code Word
3	F 1.7	£10 10s. 0d.	Bacah
3 $\frac{1}{4}$	F 1.8		Badek
3 $\frac{1}{2}$	F 2.0		Bafil
3 $\frac{3}{4}$	F 2.1		Bagom
4	F 2.2		Bicek
4 $\frac{1}{4}$	F 2.4		Bidil
4 $\frac{1}{2}$	F 2.5		Bifom
4 $\frac{3}{4}$	F 2.7		Bigum
5	F 2.8		Bucil
5 $\frac{1}{4}$	F 2.9		Bodom
5 $\frac{1}{2}$	F 3.1		Bofun
5 $\frac{3}{4}$	F 3.2		Bogap
6	F 3.3		Bucom
6 $\frac{1}{4}$	F 3.5		Budun
6 $\frac{1}{2}$	F 3.7		Bufap
6 $\frac{3}{4}$	F 3.8		Buher
7	F 4.0		Buhis

Intermediate focal lengths ... 20/- extra.

“KERSHAW”

Series C Super

Cinematograph Projection Lenses



These excellent lenses are of recent and novel design and represent a remarkable new development in projection optics.

The whole range of **Kershaw Series C Super Lenses** possess a constant F value. This means that the diameters of the lenses increase in direct proportion to the focal lengths, so that lenses of each focal length pass the same maximum amount of light to the screen, while the optical corrections ensure extremely fine, crisp definition and even illumination over the screen. The extended overall length of this series allows the back lens to approach close to the film and collect the maximum angle of light, and the large front component provides a clear path for the rays to reach the screen without being cut off. This range is very effective with the Model Eleven Projector, although naturally the increased diameters permit them to be used to advantage under any conditions.

The cells containing the lenses are black enamelled and robustly mounted in bright polished chromium plated tube.

“KERSHAW” Cinematograph Projection Lenses



Entirely British Made.

Series Super C.

Constant F value F 2.2

Focal Length in Inches	Price £ s. d.	Code Word
3	11 10 0	Celar
3 1/4	11 17 6	Cemes
3 1/2	12 5 0	Cenit
3 3/4	12 12 6	Cepow
4	13 0 0	Cerax
4 1/4	13 7 6	Cesev
4 1/2	13 15 0	Cetiz
4 3/4	14 2 6	Cevob
5	14 10 0	Cewuc
5 1/4	15 7 6	Cexad
5 1/2	15 15 0	Ceyef
5 3/4	16 0 0	Cezig
6	16 10 0	Cebuh
6 1/4	16 17 6	Cecak
6 1/2	17 5 0	Cedel
6 3/4	17 12 6	Cefim
7	18 0 0	Cegon

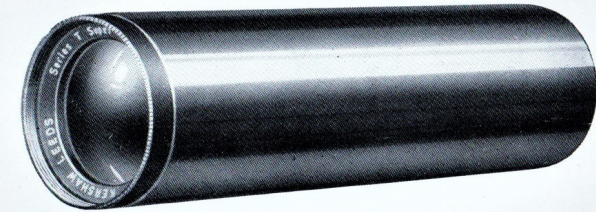
Intermediate Focal Lengths ... 20/- extra.

PROJECTION TABLE FOR LANTERN LENSES.

Showing Size of Screen Picture at different distances with Lenses of different focal length.
Mask Size 3 inches.

Distance Lens to Screen Feet	Focus of Lens in Inches.										Size of Picture			
	4 in. ft. in.	6 in. ft. in.	8 in. ft. in.	10 in. ft. in.	12 in. ft. in.	14 in. ft. in.	16 in. ft. in.	18 in. ft. in.	20 in. ft. in.	22 in. ft. in.	24 in. ft. in.	26 in. ft. in.	28 in. ft. in.	
10	7	6	3	3	2	2	1	1	1	1	1	1	1	1
12	9	0	4	3	2	2	2	2	1	1	1	1	1	1
15	11	3	6	4	3	3	2	2	2	2	1	1	1	1
20	15	0	10	6	4	4	3	3	3	2	2	2	2	2
25	18	9	12	6	5	5	4	4	3	3	3	2	2	2
30	22	6	15	0	6	6	5	5	4	4	3	3	3	3
35	26	3	17	6	7	7	6	6	5	5	4	4	4	4
40	30	0	20	0	8	8	7	7	6	6	5	5	5	5
45	33	9	22	6	10	9	8	8	7	7	6	6	6	6
50	37	6	25	0	12	10	9	9	8	8	7	7	7	7
60	45	0	30	0	15	12	11	10	9	9	8	8	8	8
70	52	6	35	0	17	14	13	12	11	11	10	10	10	10
80	60	0	40	0	20	16	15	14	13	13	12	12	12	12
90	67	6	45	0	22	18	17	16	15	15	14	14	14	14
100	75	0	50	0	25	21	20	19	18	18	17	17	17	17

"KERSHAW" Lantern or Title Projection Lenses



Entirely British Made.

Series "Super T."

Standard Size Mount 2.07 inches dia.

A new series of Lenses embodying an extremely efficient optical system.

Designed with a short back focus, enabling the lens to focus nearer to the slide, thereby collecting a considerable increase of light.

8 in. to 30 in., equiv. focus £2 5s. 0d. each
(Advancing by 2 in.)

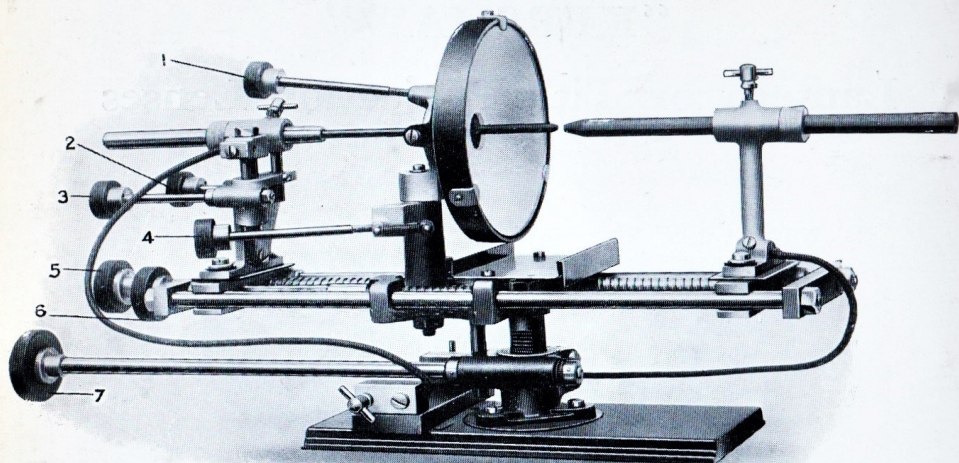
Intermediate focal lengths 5s. 0d. extra

Code Word : "SUTIL."

When Coding add focus in inches to Code Word.

KALEE Mirror Arc Lamp

Type R.L.



The KALEE MIRROR ARC LAMP has been designed to give all the advantages obtained by the mirror type of Arc Lamp, controlled in the easiest possible manner. Constructed of selected materials, of robust build, and manufactured on the latest interchangeable system, to withstand hard, continuous service.

Advantages.—Highest possible light efficiency. 75 per cent. saved in current consumption. Elimination of condensers. Small diameter carbon, reduced cost.

Materials.—Body and base of cast-iron; carbon holders and supports, gun-metal; actuating screws, steel; mirror holder, aluminium.

Finish.—Iron and aluminium castings, black stove enamel; gun-metal and steel parts, dull nickel-plated.

Insulation.—Heavy sheet mica and porcelain bushes, handles of hard vulcanised fibre. Terminals are separately mounted on a vulcanised fibre block fixed to the main base.

Mirror.—Best quality glass, silvered with hard protective backing.

Spares.—All the component parts are manufactured in jigs and fixtures, hence easy replacement.

Carbons.—Each lamp is provided with holders to take the following sizes of carbons:—

Positive 10 and 12 mm. diam. ... Negative 6, 7 and 8 mm. diam.

Amperage.—We recommend the following combination of carbons:—

0-10 Amperes, 6 mm. negative, and 10 mm. positive.

10-20 " 7 mm. " and 10 mm. "

20-35 " 8 mm. " and 12 mm. "

Price of Arc Lamp complete with set of carbon holders ... £11 0s. 0d.

Weight of Arc Lamp, approx., 18 lbs.

Code Word: "MIRAC."

Instructions for working

The KALEE Type R.L. Mirror Arc Lamp

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The following mechanical feed and centering motions are provided:—

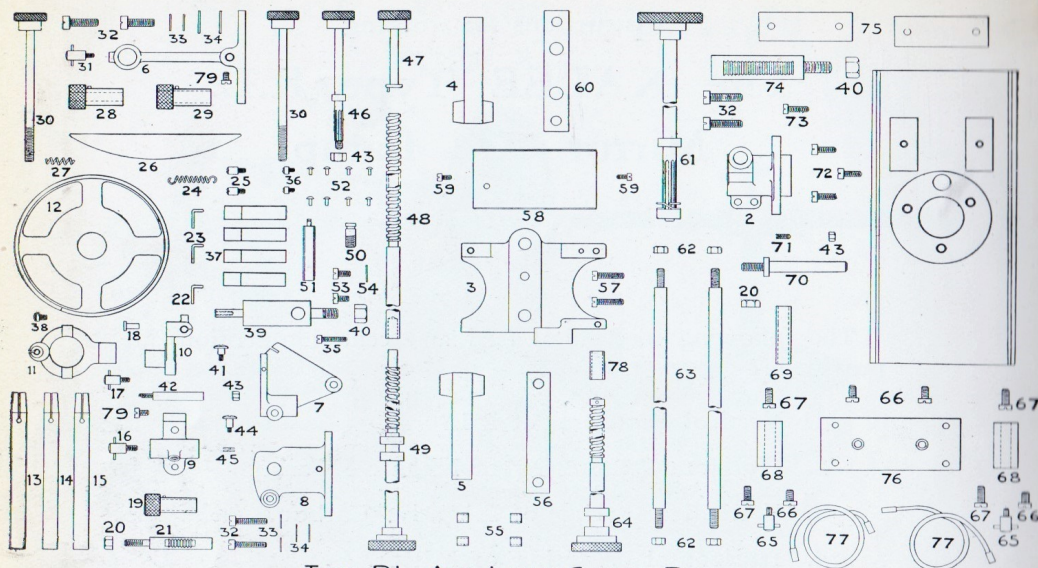
1. Vertical centering of Mirror.
2. Horizontal centering of Negative Carbon.
3. Vertical centering of Negative Carbon.
4. Horizontal centering of Mirror.
5. Carbon feed, quick and accurate.
6. Backward and forward movement of crater in relation to mirror.
7. Vertical adjustment of optical centre.

Open out the carbon feed (5) as far as possible, insert the negative carbon in the back holder so as to project through the hole in Mirror about $2\frac{1}{2}$ ins. Insert the positive (cored) carbon in the front holder so that its point is separated $\frac{1}{4}$ in. from the negative carbon point. Be careful to see that the lamp is connected up to current supply in the correct polarity direction. By observation, roughly adjust mirror central with carbons.

Allow a working distance of about 15 ins. to 17 ins. from the Arc Crater to Projector Gate.

The lamp house runners should be carefully adjusted to ensure the carbon being lineable with the optical axis of the projector. The Arc should be maintained, as far as possible, at $\frac{1}{8}$ in. to avoid shadow effect.

By careful manipulation of the various motions a user will quickly find the best positions to obtain the maximum efficiency.

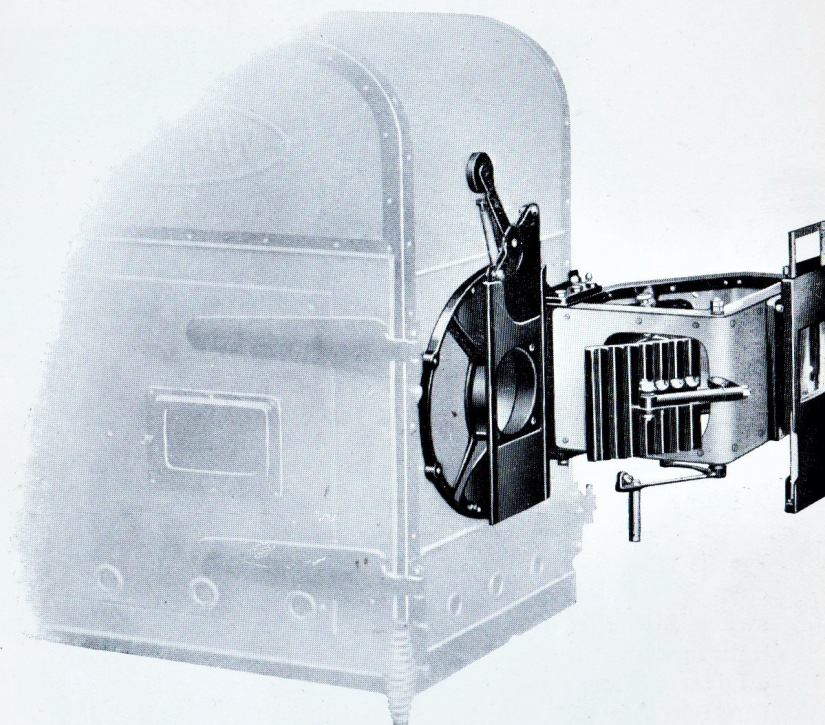


TYPE R.L. ARC LAMP SPARE PARTS.

No.	DESCRIPTION.	£	s.	d.	No.	DESCRIPTION.	£	s.	d.
1	Base	each	9	0	38	Screw for Mirror Clip No. 22 ..	each	4	4
2	Body	15	0	39	Pillar for Mirror Brackets ..	6	6	6	
3	Centre Bracket	9	0	40	Nuts for Nos. 39 and 74 Pillars ..	4	4	4	
4	Positive Carbon Holder Slide ..	12	0	41	Pivot Screw for No. 7 Bracket ..	1	0	0	
5	Negative Carbon Holder Slide ..	12	0	42	Guide Pin, Negative Carbon ..	1	0	0	
6	Positive Carbon Holder Support ..	10	0	43	Holder	1	0	0	
7	Centering Bracket Negative ..	11	0	44	Nuts for Nos. 42, 46 and 71 ..	3	3	3	
8	Bracket for Negative Carbon ..	9	0	45	Screw for Centering Bracket ..	1	0	0	
9	Holder	9	0	46	Spring Washer	4	4	4	
10	Negative Carbon Holder Support ..	8	0	47	Elevating Pinion Negative Carbon ..	3	6	6	
11	Horizontal Centering Bracket for ..	8	0	48	Holder	3	0	0	
12	Mirror	9	0	49	Centering Crank, Negative Carbon ..	12	0	0	
13	Vertical Centering Bracket for ..	9	0	50	Stud for No. 24 Spring ..	each	6	6	
14	Mirror Holder	13	0	51	Crossbar Mirror Adjustment ..	1	6	6	
15	Negative Carbon Holder 6 mm. ..	5	0	52	(horizontal)	3	3	3	
16	Negative Carbon Holder 7 mm. ..	5	0	53	Screws for Mirror Holder	4	4	4	
17	Negative Carbon Holder 8 mm. ..	5	0	54	Screws for Nos. 10 and 29 ..	3	3	3	
18	Clamping Screw, Negative Carbon ..	1	0	55	Washer for Screw No. 53 on No. ..	3	3	3	
19	Clamping Screw, Mirror Bracket ..	1	0	56	10	3	3	3	
20	No. 10	1	0	57	Porcelain Bushes	3	3	3	
21	Rivet for Pad Mirror Holder ..	4	4	58	Back Slide Bar	1	6	6	
22	Negative Carbon Holder Sleeves ..	4	0	59	Screws for No. 3	1	6	6	
23	Nut for No. 21—Elevating Rack ..	3	3	60	Carbon Dust Tray	3	3	3	
24	Elevating Rack, Negative Carbon ..	2	3	61	Screws for Tray	3	3	3	
25	Holder	9	9	62	Front Slide Bar	3	6	6	
26	Clip securing Mirror, top	1	3	63	Elevating Pinion	9	0	0	
27	Clip securing Mirror, side	1	3	64	Nuts for Slide Rails	4	4	4	
28	Spring for No. 10 Bracket	4	4	65	Slide Rails	2	3	3	
29	Screws for Mirror Holder	1	3	66	Focussing Screw	8	0	0	
30	Mirror	4	4	67	Tommy Screws for Terminals ..	1	0	0	
31	Spring, Vertical Centering Mirror ..	4	4	68	Lead Screws for Terminals ..	6	6	6	
32	Positive Carbon Holder Sleeve, ..	4	0	69	Screws fixing Terminals to Fibre ..	3	3	3	
33	10 mm.	4	0	70	Block	2	3	3	
34	Positive Carbon Holder Sleeve, ..	4	0	71	Terminals	1	3	3	
35	12 mm.	4	0	72	Distance Tube	2	0	0	
36	Centering Screws for Mirror ..	2	6	73	Guide Pin for Body	3	3	3	
37	Clamping Screws Positive Carbon ..	1	0	74	Grub Screw for Body	6	6	6	
38	Screws for Nos. 2, 4 and 5 ..	6	6	75	Screws for Base	6	6	6	
39	Washers for Nos. 4 and 5 ..	3	3	76	Screw for Body	6	6	6	
40	Mica Washers for Nos. 4 and 5 ..	4	4	77	Main Pillar	6	0	0	
41	Screws, Clamping Guide Pin, Neg. ..	6	6	78	Mica Insulators	1	0	0	
42	Carbon Holder	6	6	79	Fibre Terminal Block	2	3	3	
43	Screws for Mirror Clips, No. 23 ..	6	6	80	Leads	3	6	6	
44	Pressure Springs for Mirror ..	9	9	81	Distance tube for Focus Screw ..	each	1	0	0
45	Lead Screws for Nos. 6 and 9 ..	4	4	82	Lead Screws for Nos. 6 and 9 ..	4	4	4	

KALEE Kerascope

For projecting Lantern Slides with R.L. Type
Mirror Arc Lamps.



Kalee Kerascope as fitted to Kalee No. 7 Lamp House, with
Vertical Steel Slide Carrier and Steel Curtain Cut-off.

KALEE KERASCOPE, as illustration, but without Steel
Curtain Cut-off.

Price £6 0s. 0d.

Code Word: "KERAS."

KALEE Steel Curtain Light Cut-off.

Price £2 0s. 0d.

Code Word: "STOFF."

For Specification see overleaf.

KALEE Kerascope

□ □ □

SPECIFICATION.

The KALEE KERASCOPE is a special apparatus which is mounted on the Lamp House front in place of the ordinary condenser housing, for projecting Lantern Slides with Mirror Arc Lamps, of the R.L. Type.

In use the apparatus entirely obviates the objectionable black centre spot which appears on the screen when using Mirror Arc Lamps with the ordinary condenser arrangement.

It is not necessary to slide over the Lamp House when changing over from Cine to Slide projection; a vertically swung Mirror is brought into action, which intercepts the light rays from the Arc Lamp. The rays then pass through a Diverging Lens and are then reflected by a second Mirror, through a special Condenser which is mounted behind the Slide Carrier. The projected image then passes through the Lantern Objective in the ordinary manner.

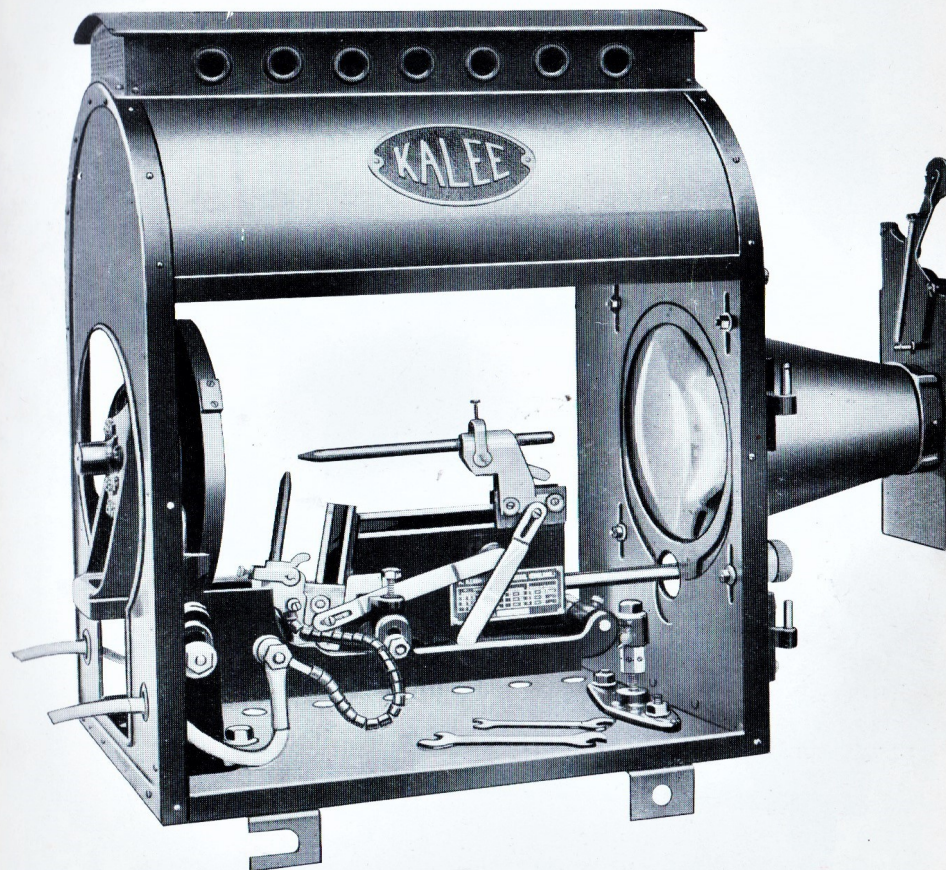
The whole apparatus is substantially constructed of Aluminium castings encased with Blued Sheet Steel; the Optical Components are specially selected and of superior quality.

A special type of Vertical Slide Carrier is fitted and the slides are carried in separate metal holders. This simple action of withdrawing the bottom slide, allows the next slide to come into correct register for projection.

KALEE Type 8M.L.

High-Power Mirror Arc Lamp.

(8 in. dia. Mirror [and 8 in. [dia. Condenser).



KALEE Type 8M.L. High-Power Mirror Arc Lamp, complete with Single Lamp House, Light Cone and Steel Curtain Cut-off. Complete as illustration.

PRICE £28 0s. 0d.

Code Word: "HIPOW."

KALEE Type 8M.L. High-Power Mirror Arc Lamp, complete, with Single Lamp House, Type 8M.L. Kerascope, Light Cone, Steel Curtain Cut-off, Vertical Steel Slide Carrier and Slide Holder Frames.

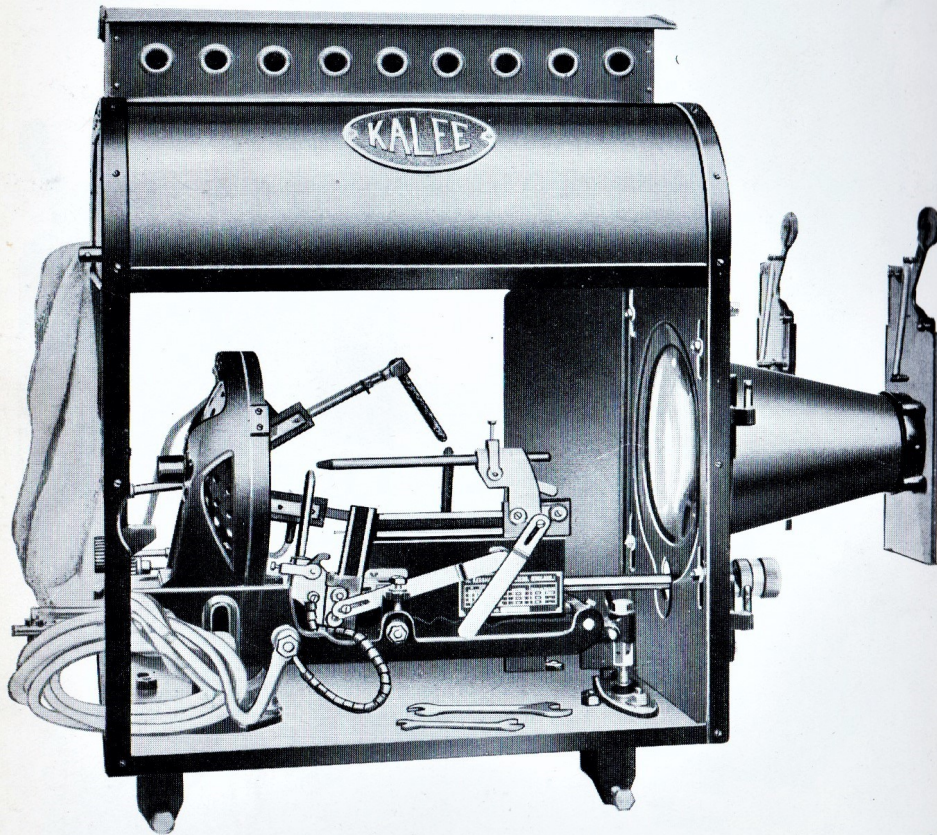
PRICE £38 0s. 0d.

Code Word: "HIKER."

KALEE Type 8M.L.

High-Power Mirror Arc Lamp.

(8 in. dia. Mirror and 8 in. dia. Condenser).



KALEE Type 8M.L. High-Power Mirror Arc Lamp, complete with Double Lamp House, Light Cone and Steel Curtain Cut-off.

Type "S.L." Scissors Arc Lamp, Mechanical Tray, Condenser Cell, Condenser Lenses, Vertical Steel Slide Carrier, Slide Holder Frames, and Steel Curtain Cut-off.

Complete as illustration.

PRICE £45 0s. 0d.

Code Word: "DUPOW."

KALEE Type 8M.L.

High-Power Mirror Arc Lamp.

□ □ □

SPECIFICATION.

The **KALEE** Type 8M.L. High-Power Mirror Arc Lamp represents the latest developments in Mirror Arc construction and is an evolutionary design, gained by experience in manufacturing large numbers of Mirror Arc Lamps.

ADVANTAGES.

1. Increased light efficiency by using a large diameter (8 in.) mirror without a central hole.
2. Arc crater, placed at the most efficient light collecting position.
3. Large diameter (8 in.) condenser finally converges the beam of light on to the projector gate mask and at the same time absorbs heat which would otherwise be transmitted to the mechanism.
4. Ease of operation—when correctly set up in the first instance—it is only necessary to operate the carbon feed knobs, both work on the one spindle, and can be locked to work simultaneously.

MATERIALS.

Only selected materials are used—base, body and mirror holder cast-iron—steel worms—gun-metal segments—pressed steel carbon holders.

FINISH.

Castings, etc., black stove enamelled—gun-metal and steel components, dull, nickel-plated.

INSULATION.

Heavy sheet mica—hard vulcanized fibre carbon feed knobs.

MIRROR.

Best quality heat-resisting glass, heavily silvered and coated with a special hard protective backing.

CONDENSER.

Best quality heat-absorbing glass, transparent and thoroughly annealed.

SPARES.

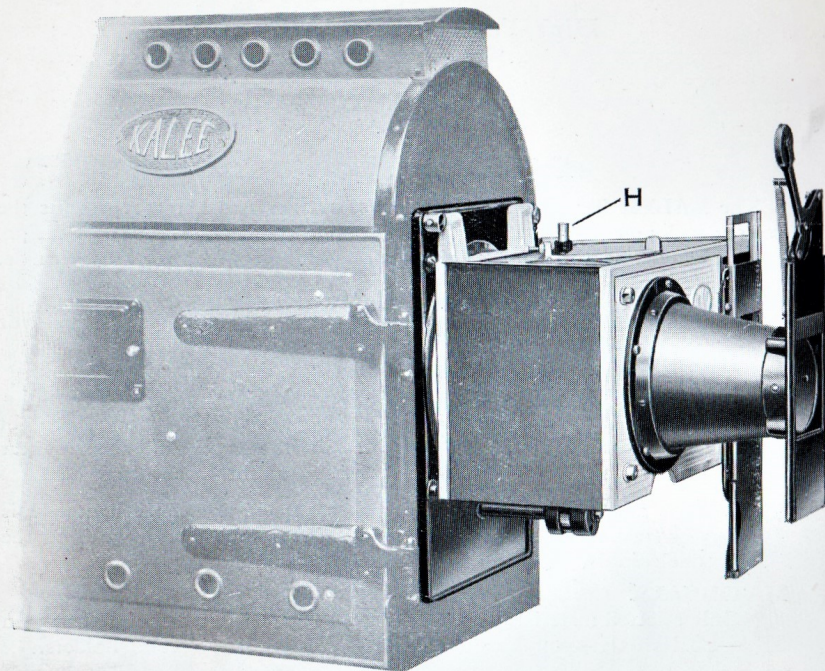
All component parts are manufactured by the most modern methods in jigs and fixtures to close limits—hence easy replacements.

AMPERAGE.

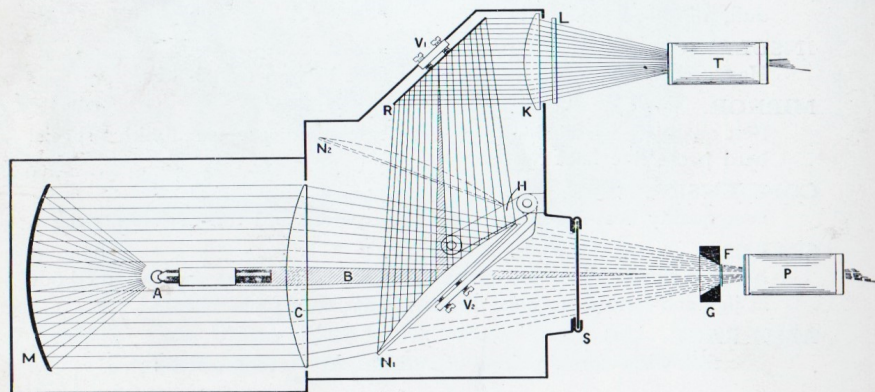
The following combinations of carbons are recommended:

+ CARBONS — Positive. Negative.		Amperes.	Width of Picture.
12 m.m.	10 m.m.	15—20	18—24 feet
10 m.m.	8 m.m.	9—14	12—18 feet
7 m.m.	6 m.m.	5—8	9—12 feet

KALEE Kerascope



Type M.L. Kerascope fitted to Type M.L. Lamp House.



Sectional plan line drawing showing the path of the light rays when projecting both film and lantern slides.

When projecting slides, a convex mirror (N) intercepts the convergent beam after passing through the condenser (C).

The light rays are then reflected on to a plane mirror (R); then through a special condenser (K), mounted behind the slide carrier (L).

The projected image then passes through the lantern objective (T) in the ordinary manner.

Adjusting screws are provided for setting the mirrors in the correct positions.

To change over from film to slide projection it is only necessary to close the cut-off and swing over the mirror lever (H).

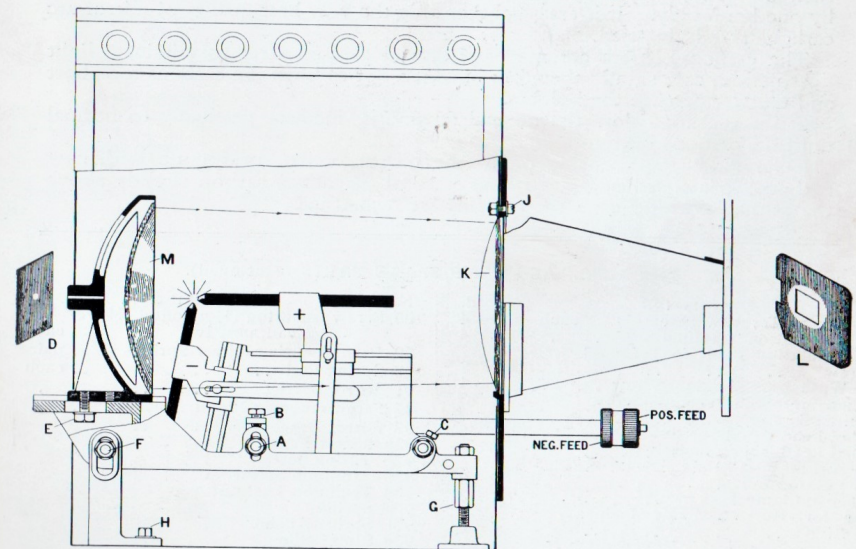
To ensure perfect covering of lantern slides it is necessary to state the focal length of the lantern lens to be used with it, so that the correct focus condenser can be supplied. The following combinations of lantern objectives and condensers should be used.

OBJECTIVE FOCUS	CONDENSER FOCUS
6 inch to 12 inch	9 inch
12 inch to 25 inch	16 inch
25 inch upwards	20 inch

INSTRUCTIONS for SETTING UP and WORKING

KALEE Type M.L.

High-Power Mirror Arc Lamp.



To obtain maximum efficiency with Kalee Type M.L. Arc Lamps, care in setting up in the first instance should be taken in making the following essential adjustments:

1. The centre of the condenser (K) must be in alignment with the optical centre of the mechanism.
2. The Arc Crater must be relatively true with the mirror (M).
3. The Condenser (K) must be just flooded with light.
4. The Mask Plate (L) must be just flooded over the corners of the aperture.

Instructions for Setting Up and Working KALEE Type M.L. (continued).

All these adjustments are provided for in a very simple manner as follows :

1. The set screws (j) allow the condenser (κ) to be raised or lowered. For Kalee mechanisms, a line marked on the housing should coincide with a line on the body.
2. Slacken nut (A), the lamp can then be moved vertically by screw (B). Lateral movement can be made when set screw (C) is slackened. When correctly set, an image of the crater will be projected through the small hole in the back of mirror housing. To verify, a piece of card can be held at the position (D), as shown on line drawing.
3. Slacken bolt (E) which will then allow the mirror housing to be moved backward or forward, so that the condenser (κ) is just flooded. If the flooding is not central, vertical adjustments are provided for by bolt (F) and screw (G) and horizontal adjustment by screw (H).
4. By moving the whole lamp house bodily on the stand, the circle of light covering the gate mask plate can be adjusted to the correct size, which should fully cover the corners of the mask aperture. If the circle of light is not clearly defined, i.e., should a double or ghost circle appear, then the foregoing instructions have not been correctly carried out and should be verified.

After a little experience all adjustments are quickly and readily made, and when correct, all bolts, nuts, etc., can be definitely locked. The only adjustments then required to work the lamp are the two carbon feed knobs, both of which are on the same spindle. When the crater has been formed by operating each knob separately, they can be locked together, the feeding is then operated by one knob only. It is essential that only the very best quality of mirror arc carbons should be used.

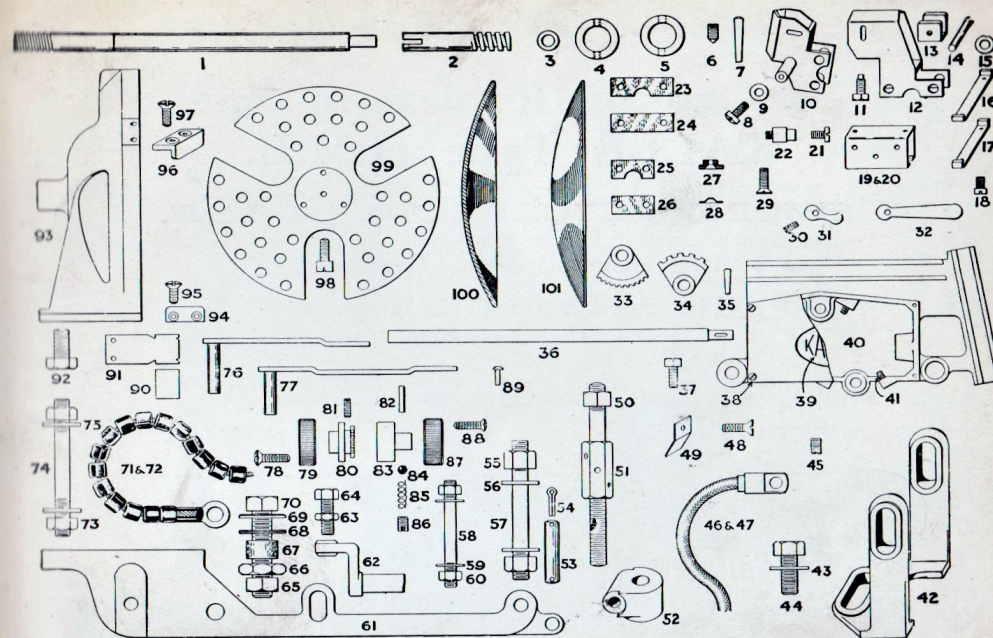
The carbon holders are made of special pressed steel to eliminate light obstruction, care should therefore be taken not to burn the carbons too short and thereby damage the holders.

Strike the arc below the normal amperage, increase gradually to normal until the carbons burn in.

To avoid flame shooting on to the mirror, when striking up with new carbons, it is an advantage to have vertical (negative) carbon slightly above the normal position until the carbons are heated up.

Type 8 M.L. ARC LAMP SPARE PARTS (continued).

No.	DESCRIPTION.	£	s.	d.	No.	DESCRIPTION.	£	s.	d.
65	Hex. Nut on Terminal Screw .. each	4			88	Screw securing Horizontal Movement Head, positive .. each	3		
66	Thin Locknut on Terminal Screw ..	4			89	Rivet securing Mirror Springs .. pair	3		
67	Mica Insulation Bush on Terminal Screw ..	9			90	Spring Pad .. each	3		
68	Mica Washer on Terminal Screw ..	4			91	Mirror Spring ..	9		
69	Washer (Metal) on Terminal Screw ..	3			92	Screw securing Mirror Bracket ..	6		
70	Terminal Screws ..	9			93	Mirror Bracket ..	1	10	0
71	Beaded Lead (long) positive ..	3	6		93a	Mirror Frame ..	1	5	0
72	Beaded Lead (short) negative ..	3	6		93b	Tilting Screw ..	3	6	
73	Hex. Nut on Part 74 ..	2	0		93c	Trunnion Screw ..	9		
74	Cradle Clamp Bolt ..	3			93d	Trunnion Locknut ..	4		
75	Washer in Clamp Bolt ..	3			93e	Spring ..	1	0	
76	Lever for Horizontal Movement, positive ..	4	6		93f	Spring Anchor ..	1	0	
77	Lever for Vertical Movement, negative ..	4	6		93g	Stop Collar ..	1	0	
78	Screw securing Vertical Movement Head, negative ..	3			93h	Flame Guard ..	8	6	
79	Vertical (negative) Movement Head ..	2	6		93i	Tilting Knob ..	3	0	
80	Multi Tooth Clutch ..	6	0		93j	Tilting Knob Boss ..	2	6	
81	Grub Screw for Part 80 ..	3			94	Mirror Retaining Plate ..	9		
82	Driving Pin for Movement Spindle ..	3			95	Screw securing Retaining Plate ..	3		
83	Single Tooth Clutch ..	6	0		96	Mirror Retaining Plate (Angular) ..	1	6	
84	Ball Click ..	3			97	Screw securing Angular Retaining Plate ..	3		
85	Click Spring ..	3			98	Screw securing Mirror Guard ..	3		
86	Click Grub Screw ..	3			99	Mirror Guard ..	6	0	
87	Horizontal Movement Head, positive ..	3	0		100	Concave Mirror 8 in. dia. ..	2	5	0
					101	Condenser Lens 8 in. dia. ..	1	15	0



Type 8 M.L. ARC LAMP SPARE PARTS.

No.	DESCRIPTION.	£	s.	d.	No.	DESCRIPTION.	£	s.	d.
1	Fine Feed Screw .. each	9	0		30	Grub Screws on Cam Handle .. each	3		
2	Coarse Feed Screw ..	9	0		31	Vertical Carbon Cam Handle ..	1	6	
3	Feed Screw Spacer Ring ..	6			32	Horizontal Carbon Cam Handle ..	2	0	
4	Feed Screw Thrust Washer (Tapped hole) ..	2	0		33	Fine Feed Quadrant ..	6	0	
5	Feed Screw Thrust Washer (Plain hole) ..	2	0		34	Coarse Feed Quadrant ..	6	0	
6	Grub Screw for Part 4 ..	3			35	Taper Pins for Parts 33 and 34 ..	3		
7	Taper Pin for Part 5 ..	3			36	Feed Screw Spindle ..	5	0	
8	Securing Screw for Beaded Flex ..	6			37	Screw securing Body to Hinge Bolt ..	3		
9	Washer for Part 8 ..	3			38	Screw for Cover Plate ..	3		
10	Vertical Carbon Holder (negative) ..	10	0		39	Cover Plate ..	2	0	
11	Adjusting Screw for Cbn. Holders ..	1	0		40	Lamp Body Casting ..	2	0	0
12	Horizontal Cbn. Holder (positive) ..	12	0		41	Stop Screws for Quadrants ..	3		
13	Carbon Clamp Cradle ..	1	6		42	Lamphouse Cradle for Lamp ..	7	6	
14	Pin for Part 13 ..	1	3		43	Washer on Part 44 ..	3		
15	Washer for Part 13 ..	3			44	Screw Securing Cradle ..	6		
16	Slide Slip for Horizontal Carbon Holder ..	1	0		45	Grub Screw securing Stop Bracket in Body ..	3		
17	Slide Slip for Vertical Cbn. Holder ..	1	0		46	Asbestos Lead for Single Lamphouse (3ft.) .. pair	12	0	
18	Adjusting Screws for Parts 16 & 17 ..	3			47	Asbestos Lead for Twin Lamphouse (4ft.) ..	15	0	
19	Slide for Horizontal Cbn. Holder ..	6	0		48	Screw fixing Condenser Clip .. each	3		
20	Slide for Vertical Carbon Holder ..	6	0		49	Condenser Clip ..	3		
21	Retaining Screws for Levers ..	3			50	Retaining Nut on Part 51 ..	4		
22	Driving Studs on Cbn. Holder Slides ..	1	0		51	Elevating Screw for Lamp ..	4	6	
23	Mica Insulation for Horizontal Carbon Holder ..	6			52	Elevating Block for Lamp ..	3	0	
24	Mica Insulation for Horizontal Carbon Holder ..	6			53	Hinge Pin on Block ..	1	0	
25	Mica Insulation for Vertical Carbon Holder ..	6			54	Split Pins on Part 53 .. pair	3		
26	Mica Insulation for Vertical Carbon Holder ..	6			55	Hex. Nut on Hinge Bolt .. each	4		
27	Mica Bushes on Cbn. Holder Slides ..	6			56	Washer on Hinge Bolt ..	3		
28	Dished Washers on Carbon Holder Slides ..	6			57	Body Hinge Bolt ..	2	0	
29	Screws securing Carbon Holders to Slides ..	3			58	Clamp Bolt on Body Cradle ..	1	9	

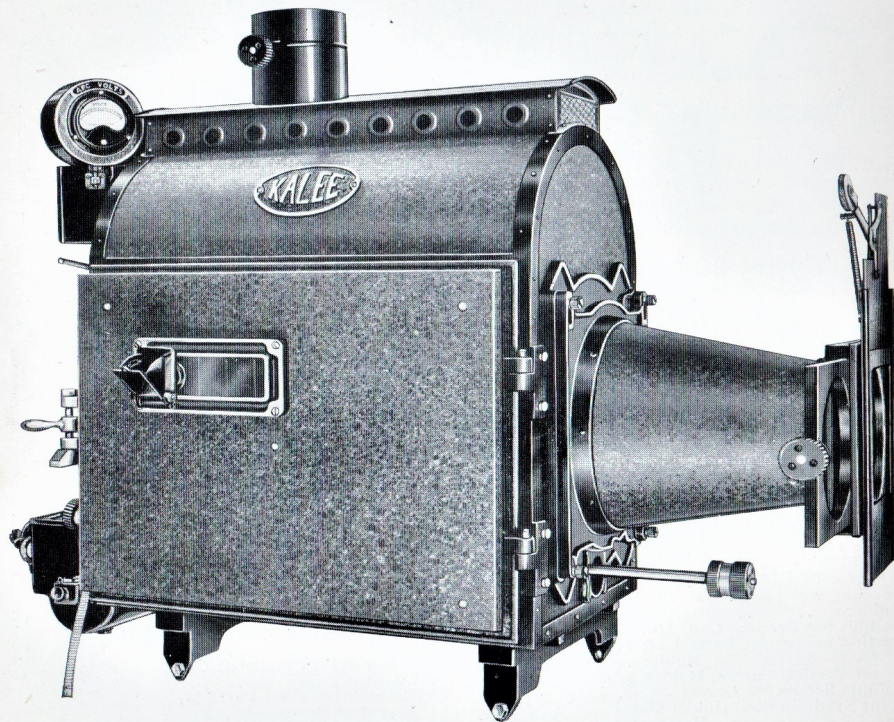
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KALEE Type H.M.L.

HIGH INTENSITY REFLECTOR ARC LAMP.

10 in. diam. Mirror and Condenser.

For currents up to 75 amperes.



Detailed description and prices are contained in the following pages.

KALEE Type H.M.L. High Intensity Reflector Arc Lamp

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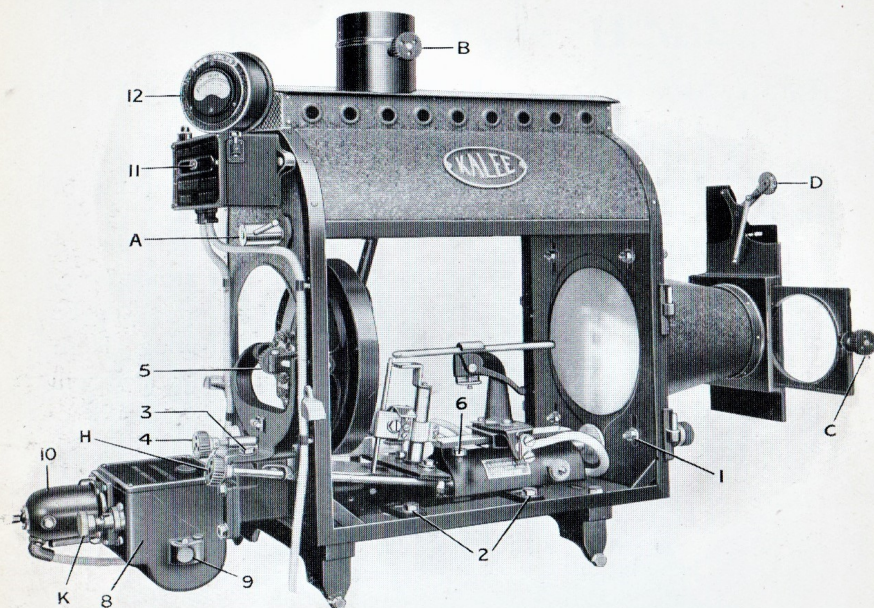
Has been developed to meet the exacting requirements of modern Picture Projection.

It is a dual purpose Arc Lamp. Given a clear atmosphere, moderate throw and screen area, brilliant illumination can be obtained with Low Intensity Carbons. Substituting High Intensity Carbons, brilliant illumination is obtained which will penetrate heavy smoke or fog laden atmospheres.

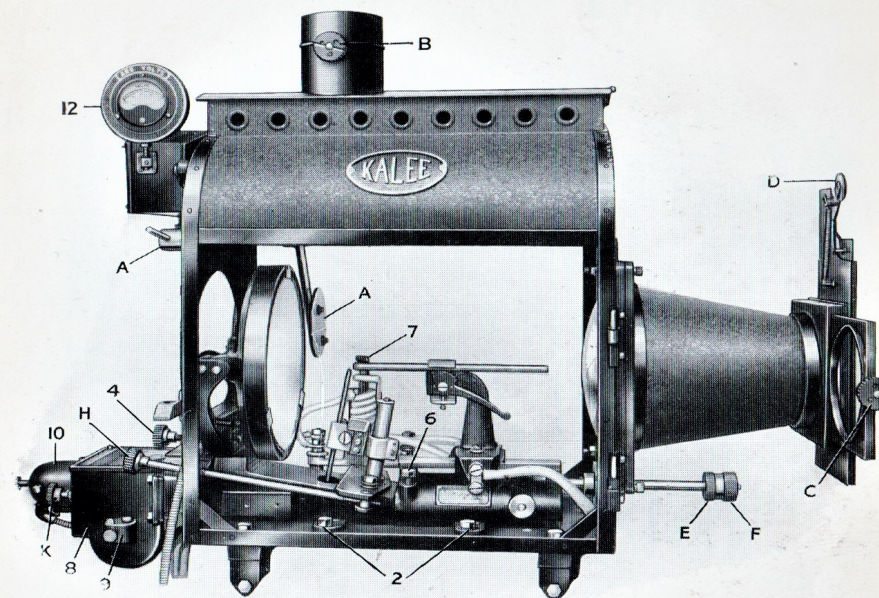
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OUTSTANDING FEATURES.

1. Specially designed optical system ensuring maximum light efficiency.
2. Complete automatic arc control, allowing the Projectionist to give full attention to the sound system.
3. Sturdy construction and accessibility to the vital parts.
4. Instantaneous clutch release, allowing hand control to be used for carbon adjustments.
5. Heat resisting 10 in. dia. Mirror and Condenser.
6. Magnetic Arc Flame Controller, deflects the arc flame away from the mirror, thereby increasing its life especially when projecting at a steep angle.

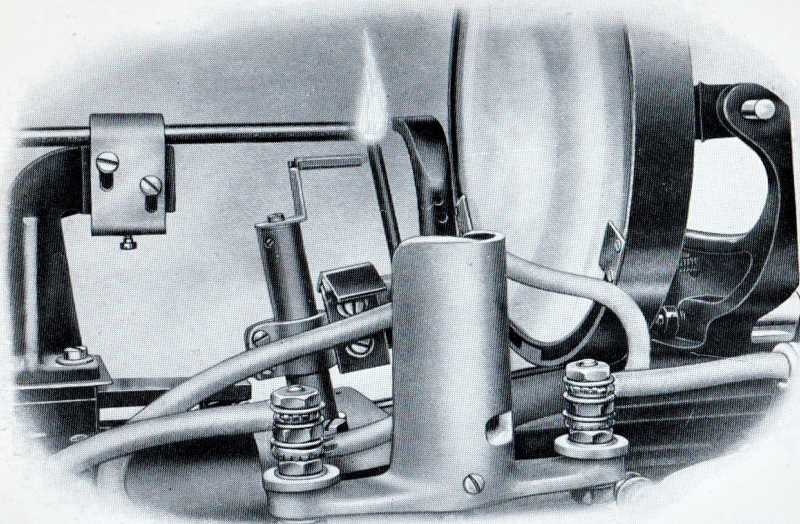


1. Vertical Adjustment (4 nuts) to condenser and front.
2. Horizontal Movement to Lamp.
3. Bolt Clamping Mirror Holder for setting mirror to correct focus.
4. Vertical Centering to Mirror.
5. Horizontal Centering to Mirror.
6. Vertical Adjustment to Lamp.
7. Magnetic Arc Flame Control.
8. Auto Feed Gear Box.
9. Gear Box Oil Filler and Level.
10. Auto Feed Motor.
11. Potentiometer Resistance Control.
12. Arc Voltmeter.



- A. Arc Flame Shield to protect Mirror when striking Arc.
- B. Ventilator Damper.
- C. Heavy Heat Cut-off.
- D. Quick Action Light Cut-off.
- E. Hand Feed to Negative Carbon.
- F. Hand Feed to Positive Carbon.
- EF. When F is pulled out, simultaneous hand feed of both carbons is obtained ; when F is pushed in separate hand feed is obtained to each carbon.
- H. Horizontal Centering to Negative Carbon.
- K. Clutch Knob for Automatic Feed.

The Magnetic Arc Flame Deflector



Fitted to each KALEE TYPE H.M.L. REFLECTOR ARC LAMP is a specially designed Magnetic Arc Flame Deflector.

When heavy currents are used with Arc Lamps of the Angle Burning type, an Arc Flame is produced and directed towards the mirror. The Magnet will be found to exercise complete control over the Arc Flame, directing it in a vertical zone, thus preventing mirror breakage and also increasing the Arc efficiency.

The Magnetic Control has been critically tested and adjusted at the Factory to obtain the most accurate results. **Its position under no circumstances must be altered or the direction of the winding changed.**

CARBONS.

The following combinations are recommended.

HIGH INTENSITY. Copper Coated.

Amp- eres	Positive +	Negative —	Arc Volts
45	8 m/m	6 m/m	42
60	9 m/m	6 m/m	42
75	10 m/m	7 m/m	42

LOW INTENSITY.

Amp- eres	Positive +	Negative —	Arc Volts
20	10 m/m	7 m/m	50
30	12 m/m	8 m/m	50
35	13 m/m	9 m/m	50
40	14 m/m	10 m/m	50

KALEE Type H.M.L. Automatic Feed Control

□ □ □

When operating the KALEE TYPE H.M.L. REFLECTOR ARC LAMP it is necessary to maintain the correct arc voltages recommended for the carbon combination in order to obtain efficient and constantly even screen illumination.

To obtain these results automatically, a potentiometer resistance controlled shunt wound motor is coupled through a gear box to the carbon feed spindle; a simple clutch provides for releasing the feed so that hand feed can be used for striking the arc and setting the carbons in the correct relative positions which can be observed by the crater reflector.

The best working position of the carbons is with the negative carbon point just below and in front of the positive carbon crater.

If the arc flame splits, or a side lip is formed on the positive crater, rectify by checking lateral position of negative carbon.

The motor field windings and the Potentiometer are connected in parallel across the lamp terminals. One of the armature leads is connected to one of the fixed terminals and the other lead to the sliding contact respectively of the Potentiometer.

When the arc is in operation, the full arc voltage is impressed on the field windings and the Potentiometer; the voltage applied to the armature being variable from zero to arc voltage according to the position of the sliding contact of the Potentiometer.

To maintain a perfectly steady arc, it is necessary that the change of speed of the motor is sensitive to any slight variation of arc voltage due to burning away of the carbons.

This is accomplished by employing a motor which has been designed so that when running on arc voltage, the degree of magnetic saturation is low, and therefore the speed is extremely sensitive to any slight change of arc voltage.

The setting of the sliding contact of the Potentiometer determines the arc voltage necessary for the particular combination of carbons.

Each lamp is sent out from the Works with an instruction card attached. *See that you get this.*

KALEE Type H.M.L. High Intensity Reflector Arc Lamp,
complete in Lamp House with triple ventilated doors. Operating
side door is fitted with large observation window and an adjust-
able arc reflector.

Quick action light cut-off and heavy heat cut-off.

10 in. dia Mirror and 10 in. dia. Condenser.

Automatic Carbon Feed, Potentiometer, Motor and Gear Box.

Magnetic Arc Flame Control, Flexible Copper Asbestos covered
Leads, Tin of Gear Box Oil and Spanners.

Price £90 0s. 0d.

Code Word: "AUTOL."

KALEE Type H.M.L. High Intensity Reflector Arc Lamp,
as above specification but **without** Automatic Feed (Motor and
Gear Box), arranged for Carbon Hand Feed only.

Price £50 0s. 0d.

Code Word: "HANAL."

KALEE Arc Voltmeter.

Consists of a 2½ in. dia. Voltmeter mounted on the back of
the Lamp House. It is coupled across the arc and constantly
indicates the arc volts.

Price £4 0s. 0d.

Code Word: "ARVOL."

KALEE H.M.L. Gear Box Oil.

No. 1 size Tin (½ pint) £0 1s. 9d.

Code Word: "GEGOL."

KALEE Superoil.

No. 1 size Tin (½ pint) £0 1s. 9d.

Code Word: "SUPIT."

KALEE Superoil should only be used for lubricating parts
which are not subjected to heat; for the burner parts which
are subjected to heat a special graphite blended lubricant has
been produced.

KALEE Arc Burner Lubricant.

Per Tin £0 3s. 6d.

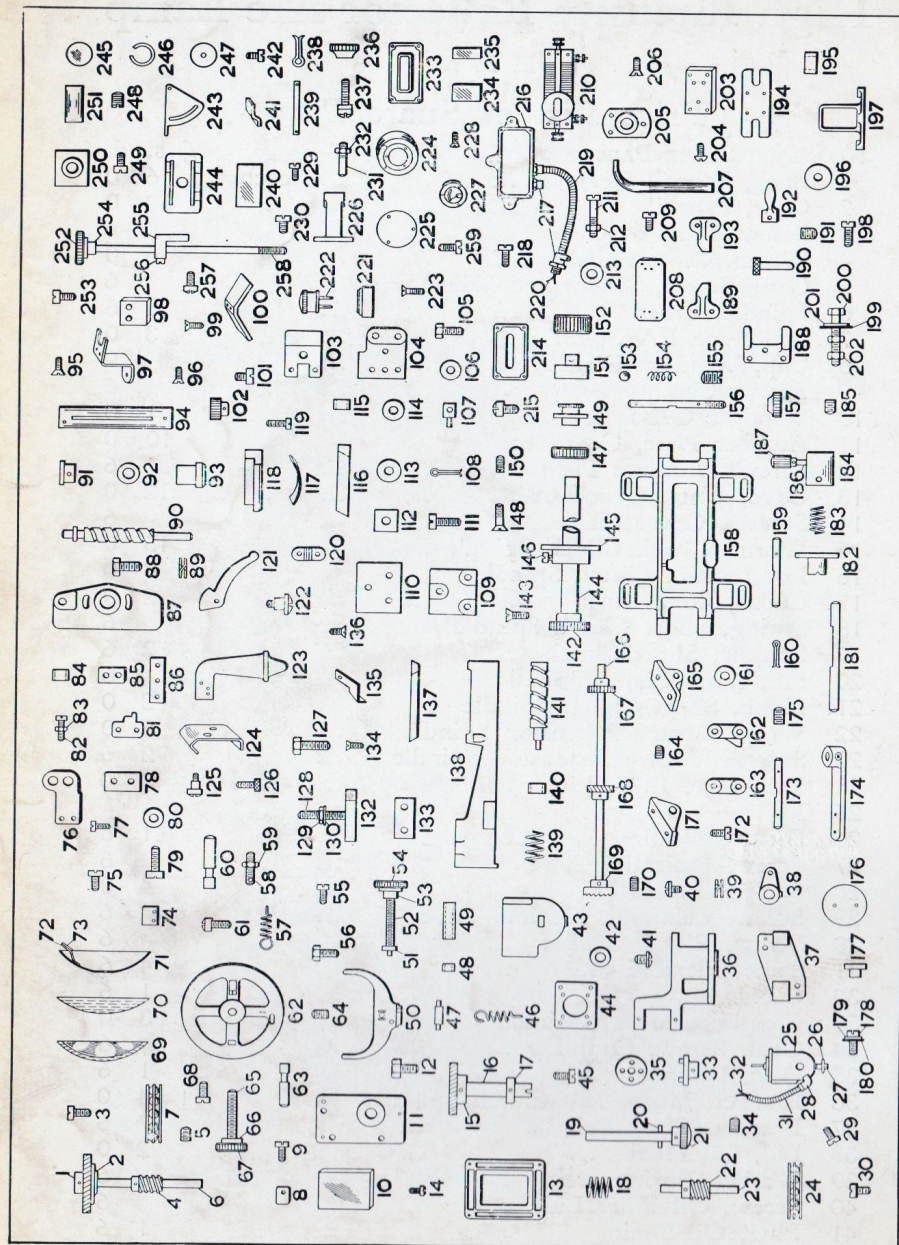
Code Word: "HETOL."

KALEE Type H.M.L. High Intensity Reflector Arc Lamp

□ □ □

Price List of Spare Parts.

No.	SPARE PART.	£	s.	d.
1	Bush, Fabroil Gear each	6	0	
2	Gear, Fabroil "	12	0	
3	Screw, Bush to Gear "		6	
4	Worm, Cross Spindle "	6	0	
5	Grub Screw, Worm and Wheel "		6	
6	Spindle, Cross "	3	6	
7	Ball Race, E.W. ¾ in. "	3	0	
8	Clip, Window Glass "		9	
9	Screw, Clip "		6	
10	Window Glass "	1	0	
11	Adapter Plate, Gear Box "	10	0	
12	Screws, Adapter Plate "		6	
13	Cover Plate, Gear Box "	12	0	
14	Screws, Cover Plate "		6	
15	Worm Wheel, Clutch Spindle "	15	0	
16	Long Bush, Clutch Spindle "	8	0	
17	Collar, Long Bush "	2	0	
18	Spring, Short Clutch Spindle "		6	
19	Spindle, Short Clutch "	2	6	
20	Pin, Short Clutch Spindle "		6	
21	Knob, Short Clutch Spindle "	2	0	
22	Worm, Motor Extension Spindle "	5	0	
23	Spindle, Motor Extension Spindle "	2	6	
24	Ball Race, E.W. ¼ in. "	3	0	
25	Motor "			
26	Disc, Indicating "	1	6	
27	Screw, Indicating Disc "		6	
28	Socket, Elbow "	4	0	
29	Screw, Clamping Flexible Tube "		6	
30	Screw, Elbow Socket "		6	
31	Tube, Flexible "	4	6	
32	Cable "	1	6	
33	Coupling, Motor Spindle "	3	0	
34	Grub Screw, Coupling "		6	
35	Disc, Leather "	1	6	
36	Bracket, Motor and Clutch Spindles "	1	4	0
37	Bracket, Cross Spindle "		7	6
38	Lid, Oil Filler "	2	0	
39	Washer, Spring "		6	
40	Screw, Oil Filler Lid "		6	
41	Plug, Oil Drain "	1	6	
42	Washer, Fibre "		6	



Spare Parts for KALEE Type H.M.L. High Intensity Reflector Arc Lamps

KALEE Type H.M.L. Arc Lamp

Price List of Spare Parts—Continued.

No.	SPARE PART	each	£	s.	d.
43	Gear Box	...			
44	Adapter Plate, Motor	...		5	0
45	Screws, Adapter Plate	...			6
46	Spring, Tension (long)	...			9
47	Holder, Tension Spring	...			9
48	Tube, Stop (short)	...			9
49	Tube, Stop (long)	...		1	6
50	Bracket, Mirror Tilting	...	1	2	6
51	Collar	...			6
52	Screw, Tilting	...		3	0
53	Boss	...		2	0
54	Knob	...		3	0
55	Screws, Knob	...			6
56	Screw, Tilting Bracket	...			6
57	Tension Spring (short)	...			9
58	Anchor, Tension Spring	...		1	0
59	Locknut	...			4
60	Slide Pin, Mirror Holder (R.H.)	...		2	0
61	Clamp Screw, Mirror Frame	...			6
62	Mirror Frame	...	1	1	0
63	Slide Pin, Mirror Holder (L.H.)	...		2	0
64	Grub Screws, Slide Pins	...			6
65	Screw, Adjusting	...		2	6
66	Boss	...		2	0
67	Knob	...		3	0
68	Screw, Knob	...			6
69	Mirror	...			
70	Condenser	...			
71	Guard, Mirror	...		9	0
72	Springs, Mirror	...		1	0
73	Pads, Spring	...			4
74	Clips, Mirror	...		1	0
75	Screws, Clips	...			6
76	Slide, Neg. Carbon Holder	...			
77	Screw, Slide	...			6
78	Strip, Mica Insulating (large)	...		1	6
79	Screw, Insulating Strip	...			6
80	Washer, Insulating Strip	...			4
81	Tooth, Single	...		2	6
82	Screw, Single Tooth	...			6
83	Nut, Single Tooth	...			4
84	Bushes, Insulating	...		1	0
85	Strip, Mica Insulating	...		1	6
86	Ribbon, connecting	...		2	0
87	Base, Neg. Carbon Holder	...		15	0
88	Screw, Base	...			6
89	Spring Washer, Base Screw	...			6

KALEE H.M.L. Type Arc Lamp

Price List of Spare Parts—Continued.

No.	SPARE PART	£	s.	d.
90	Feed Screw (Neg. Car.) each	8	0	
91	Bush, Tube (top) "	2	0	
92	Washer, Thrust "		4	
93	Bush, Tube (bottom) "	2	6	
94	Tube "	4	6	
95	Screws, Top Bush "		6	
96	Screws, Bottom Bush "		6	
97	Bracket, Steatite Pad "	3	6	
98	Pad, Steatite "	6	0	
99	Screws, Cover Shield "		6	
100	Cover Shield "	3	6	
101	Screw, Bracket for Steatite Pad and Ribbon "		6	
102	Gear, Feed Screw "	4	6	
103	Plate, Clamping "	4	0	
104	Clamp, Neg. Carbon "	6	0	
105	Screw, Clamping Plate and Outer Connection Plate "		6	
106	Washer for 105 "		4	
107	Stud, Swivelling Bracket "	1	6	
108	Split Pin, Stud "		3	
109	Slide, Pos. Car. Holder "	6	0	
110	Base, Mica "	2	0	
111	Screw, Pos. Car. Holder "		6	
112	Washers, Insulating "	1	0	
113	Washers, Insulating "		4	
114	Washers, Positive Carbon Holder Screw "		4	
115	Bush, Insulating "	1	0	
116	Slide, Slip "	3	0	
117	Spring "		9	
118	Slip, Bracket "	4	0	
119	Screws, Bracket for Slip "		6	
120	Plate, outer connection "	1	9	
121	Lever, Clamping "	4	0	
122	Screw, Clamping Lever "	1	0	
123	Holder, Positive Carbon "	1	1	0
124	Clamp, Positive Carbon Holder "	4	0	
125	Screw, Clamp "		9	
126	Screw, Adjusting "	1	0	
127	Screw, Adjusting Optical Centre "		6	
128	Screw, Terminal "	1	6	
129	Locknuts, Cable "		4	
130	Washers "		4	
131 "			
132	Block Terminal "	2	6	
133	Strip, Mica Insulating "	1	6	
134	Screw, Terminal Block "		6	
135	Tooth, single "	2	0	
136	Screw, single tooth "		6	

KALEE Type H.M.L. Arc Lamp

Price List of Spare Parts—Continued.

No.	SPARE PART	£	s.	d.
137	Rail each	8	0	
138	Body "			
139	Spring, Feed Screw "		6	
140	Collar, loose "		9	
141	Screw, Feed "	10	0	
142	Gear, Extension Tube "	6	0	
143	Screw, Extension Tube Gear "		6	
144	Tube, Extension "	4	0	
145	Adapter Extension Tube "	7	6	
146	Screw, Extension Tube Adapter "		6	
147	Head, knurled (pos.) "	2	6	
148	Screws, knurled head "		6	
149	Clutch, multi-tooth "	6	0	
150	Screw, Clutch "		6	
151	Clutch, single tooth "	6	0	
152	Head, knurled (neg.) "	3	0	
153	Ball "		3	
154	Spring, Ball "		6	
155	Screw "		6	
156	Spindle, Connecting Link, top (front) "	3	0	
157	Nut, Clamp "	2	0	
158	Carriage "	13	0	
159	Spindles, Connecting Link, bottom "	2	3	
160	Pin, Split "		3	
161	Washers "		4	
162	Link, Front, Connecting "	3	0	
163	Link, Back, Connecting "	3	0	
164	Screws, Connecting Link Spindles "		6	
165	Bracket, Spindle Support (front) "	3	0	
166	Spindle, Long Clutch "	2	0	
167	Gear, Fixed Clutch Spindle (34T) "	6	0	
168	Gear, Fixed Clutch Spindle (14T) "	6	0	
169	Clutch "	9	0	
170	Screw, Clutch "		6	
171	Bracket, Spindle Support (back) "	4	6	
172	Screw, Spindle Support Bracket (back and front) "		6	
173	Spindle, Connecting Link Top (back) "	2	3	
174	Arm, Dowser "	3	0	
175	Screw, Arm "		6	
176	Dowser "	3	0	
177	Bushes "	1	0	
178	Screws, Bushes "		6	
179	Washers "		4	
180	Washers, Mica "		4	
181	Spindle, Dowser "	2	3	
182	Bearing, Spindle "	3	6	
183	Spring "		6	

KALEE Type H.M.L. Arc Lamp

Price List of Spare Parts—Continued.

No.	SPARE PART	£	s.	d.
184	Retainer, Spring each	3	6	
185	Screw, Retainer "		6	
186	Pin "	1	6	
187	Knob, Dowser "	1	6	
188	Bracket, Door Catch "	5	0	
189	Lug, Door Catch (L.H.) "	4	0	
190	Pins, Door Catch "	2	6	
191	Screws, Handle "		6	
192	Handles "	2	6	
193	Lug, Door Catch (R.H.) "	4	0	
194	Base Plate, Arc Deflector "	6	0	
195	Bush, Insulating "	1	0	
196	Washer, Insulating (Micanite) "	1	0	
197	Cover, Arc Deflector Coil "	6	0	
198	Screw, Adjusting Cover "		6	
199	Washer, Mica "		4	
200	Screw, Cable "		6	
201	Washers (Metal) "		4	
202	Locknuts "		4	
203	Base, Insulating "	4	0	
204	Screw, Base "		6	
205	Stand "	5	0	
206	Screws, Stand "		6	
207	Core "	4	0	
208	Base, Potentiometer Insulating "	4	6	
209	Screw, Base "		6	
210	Potentiometer "		6	
211	Screw, Potentiometer "		6	
212	Nuts for 211 "		4	
213	Washers for 211 "		4	
214	Lid, Box "	9	0	
215	Screws, Lid "		6	
216	Box, Potentiometer "			
217	Socket, Cable "	4	0	
218	Screws, Cable "		6	
219	Tubing, Flexible "	4	6	
220	Cable "	1	6	
221	Socket, Plug "			
222	Plug "			
223	Screws, Socket "		6	
224	Bracket, Voltmeter "			
225	Cover, Voltmeter Bracket "			
226	Holder, Voltmeter "	5	0	
227	Voltmeter "			
228	Screws, Voltmeter "		6	
229	Screw, Adjusting Voltmeter "		6	
230	Screw, Holder "		6	

KALEE Type H.M.L. Arc Lamp

Price List of Spare Parts—Continued.

No.	SPARE PART	£	s.	d.
231	Stud each	1	6	
232	Nuts "		4	
233	Frame, Window "	4	0	
234	Window (large) "	2	0	
235	Window (small) "	1	9	
236	Nut, Clamp "	1	6	
237	Screw, Clamp Nut "		9	
238	Pins, Split "		3	
239	Pin, Hinge "		9	
240	Mirror "	1	6	
241	Retainer, Mirror "		9	
242	Screw, Retainer "		6	
243	Holder, Mirror "	3	6	
244	Plate, Base "	4	0	
245	Lens "	1	6	
246	Spring, Lens "		9	
247	Disc, Lens Tube "	1	6	
248	Screw, Periscope "		6	
249	Screw, Base Plate "		6	
250	Adapter Plate, Base "	2	6	
251	Tube, Lens "	2	6	
252	Knob "	3	0	
253	Screws, Knob "		6	
254	Boss "	2	0	
255	Support Bracket, Swivelling Screw "	3	0	
256	Screw, Stop "	1	6	
257	Screw, Support Bracket "		6	
258	Screw, Swivelling "	3	0	
259	Screw, Voltmeter Bracket Cover "		6	

KALEE Type H.L. High Intensity Projection Arc Lamp

(Sperry Patents).

For D.C. current 75 to 140 amperes.

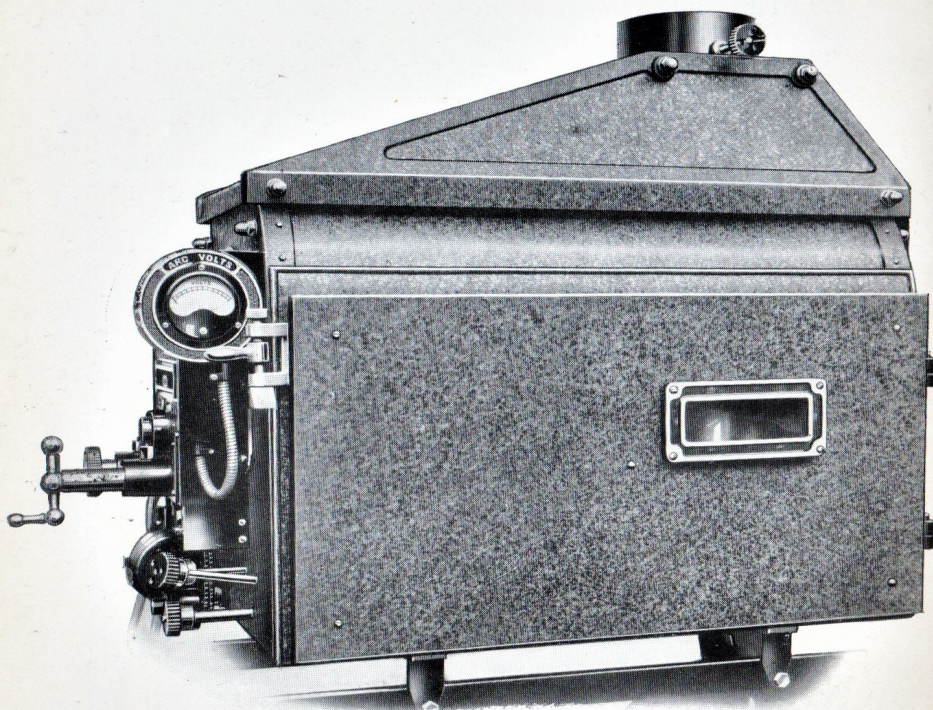


FIG. 1

Detailed description and prices are contained in the following pages.

KALEE Type H.L. High Intensity Projection Arc Lamp

(Sperry Patents).

Has been designed to meet the hard usage of modern picture projection, especially where heavy currents are required for long throws, large screen area, smoky and fog laden atmospheres.

The whole Lamp is of very sturdy construction, coupled with simplicity in operation.

The normal rating of the lamp is 75 to 140 amperes, and used with the correct carbons, it will project a picture with the real high intensity clear white light.

Although the maximum current is rated at 140 amperes, its design is sufficiently robust to carry a reasonable overload.

OUTSTANDING FEATURES.

1. Heavy robust general construction.
2. High current capacity, 75 to 140 amperes.
3. Revolving Positive Carbon, maintaining a perfectly formed crater, ensuring maximum and efficient illumination.
4. Automatic carbon feed, controlling the arc voltage required for the carbon combination.
5. Release clutches to positive and negative feeds, to allow of hand adjustment, striking arc, etc.
6. Dowser to protect condenser when striking arc.
7. Heavy condenser mount to reduce breakage.
8. Triple ventilated and air cooled doors.
9. Voltmeter, which constantly indicates the arc voltage.

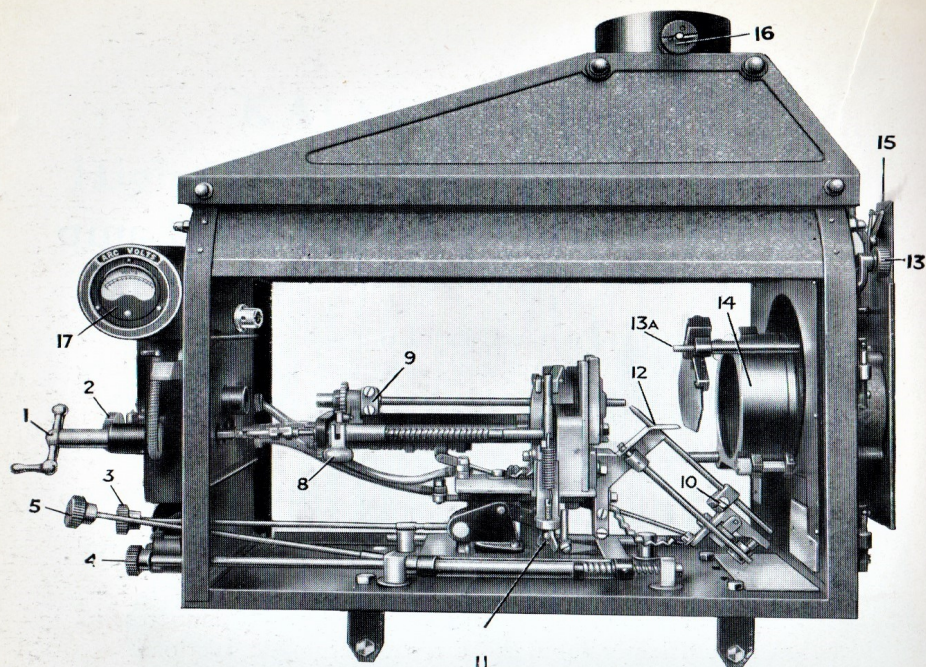


FIG. 2

1. Positive Carbon Feed Knob pull out for Auto feed and push in for hand feed.
2. Negative Carbon Feed Knob, pull out for auto feed and push in for hand feed, strike the arc with this knob.
3. Vertical centering to burner.
4. Backwards and forward movement to burner to set the arc crater to the correct focal position.
5. Lateral centering to burner.
6. Auto feed Motor (Fig. 3).
7. Potentiometer, controlling the motor armature speed relative to the burning rate of the carbons and so maintaining the correct arc voltage (Fig. 3).
8. Quick release nut to positive carbon feed, to facilitate re-trimming, etc.
9. Cap Grip for positive carbon.
10. Cap Grip for negative carbon.

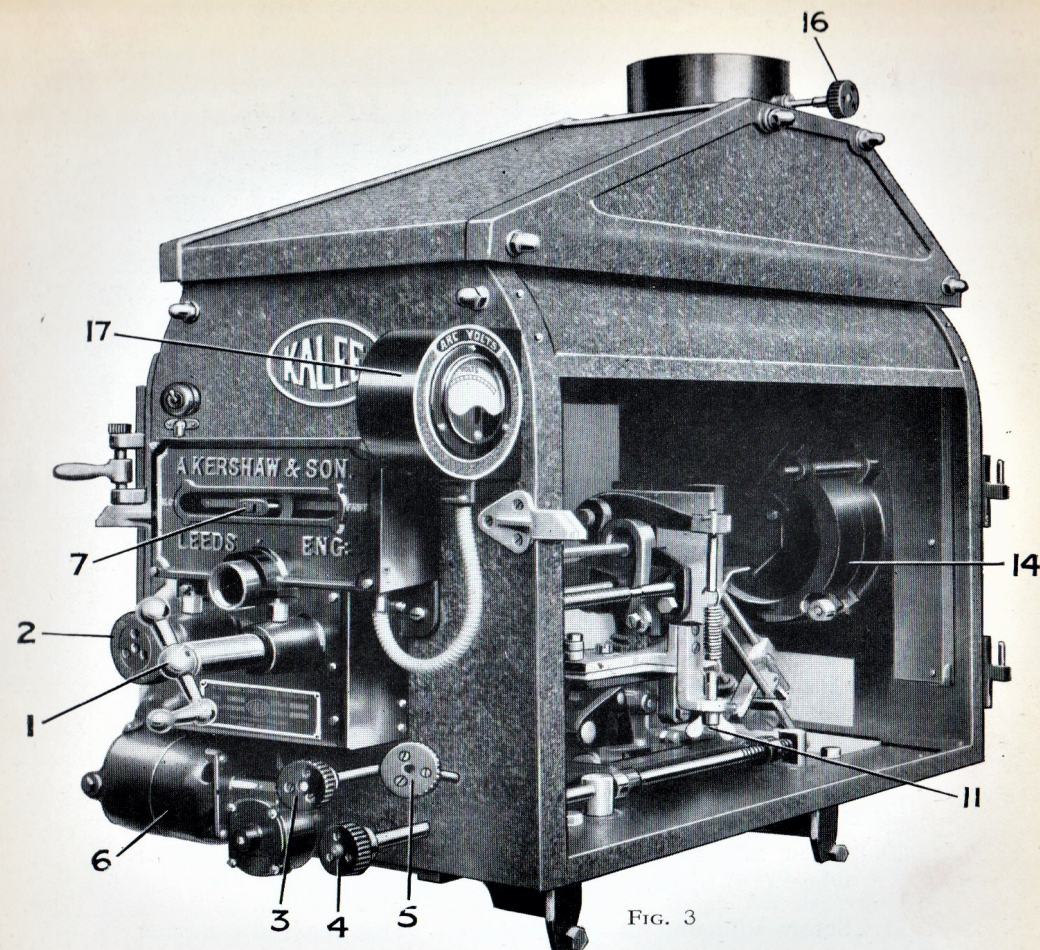
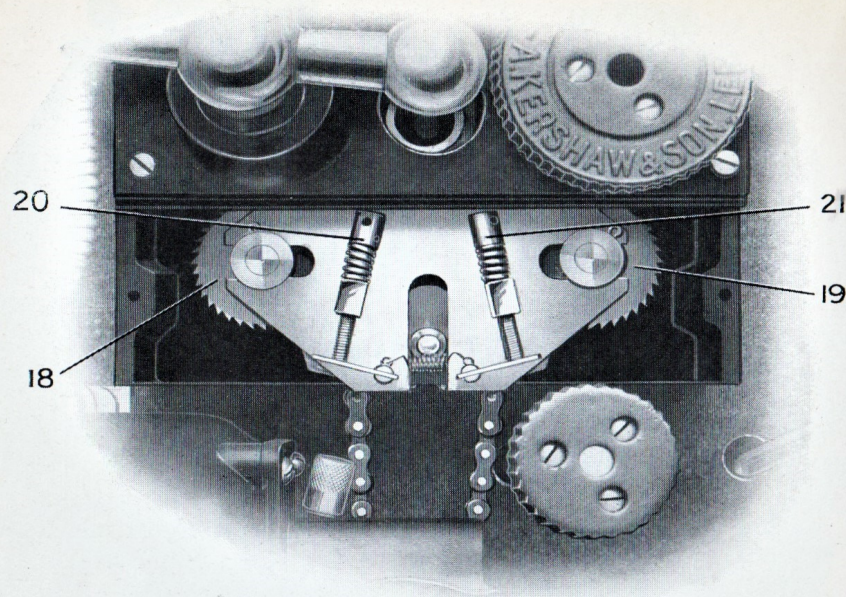


FIG. 3

11. Nut, adjusting tension of positive carbon jaws ; this tension should only be sufficient to ensure wiping electrical contact to the carbon. If adjusted too tight it is liable to break the carbon. The correct tension is such that when the cap grip (9) is loose, the carbon can be revolved with the fingers.
12. Heat resisting carbon dust deflector (Fig. 2).
13. Dowser handle, controlling Dowser (13A) to protect condensers when striking arc (Fig. 2).
14. Condenser holder, two plano convex lenses 6 in. dia., 9 in. focus, the plano faces of both lenses face the arc. The lens nearest to the arc is made of special heat resisting glass. When refitting new lenses, care should be taken to see that the asbestos packing is correctly placed so that the lenses do not touch metal—are not gripped too tight—do not touch each other.
15. Quick action light cut off (Fig. 2).
16. Adjustable ventilator damper.
17. Voltmeter, which constantly registers the voltage across the arc.

KALEE Type H.L. Automatic Feed Control

□ □ □



18. Ratchet wheel on the negative carbon feed spindle.
19. Ratchet wheel on the positive carbon feed spindle.
20. Screw adjusting the ratchet pawl which feeds the ratchet wheel (18) by either one, two or three teeth.
21. Screw adjusting the ratchet pawl which feeds the ratchet wheel (19) by either one, two or three teeth.

CARBONS.—The following combinations are recommended :

HIGH INTENSITY.

Amperes	Positive +	Negative—	Arc Volts
75	11 m.m.	9 m.m.	50
100	13.6 m.m.	10 m.m.	55
120	13.6 m.m.	10 m.m.	60
130	13.6 m.m.	11 m.m.	62
140	13.6 m.m.	11 m.m.	65
150	16 m.m.	12 m.m.	67
160	16 m.m.	12 m.m.	68
170	16 m.m.	12 m.m.	70

The Automatic Carbon Feed fitted to the KALEE Type H.L. High Intensity Arc Lamp is driven by a potentiometer resistance controlled shunt wound motor coupled to the carbon feeding mechanism through a suitable reduction gear.

The motor field windings, and the potentiometer are connected in parallel across the lamp terminals. One of the armature leads is connected to one of the fixed terminals and the other lead to the sliding contact respectively of the potentiometer.

When the arc is in operation, the full arc voltage is impressed on the field windings and the potentiometer ; the voltage applied to the armature being variable from zero to arc voltage, according to the position of the sliding contact of the potentiometer.

To maintain a perfectly steady arc, it is necessary that the change of speed of the motor is sensitive to any slight variation of arc voltage due to burning away of the carbons.

This is accomplished by employing a motor which has been designed so that, when running on arc voltage, the degree of magnetic saturation is low, and therefore the speed is extremely sensitive to any slight change of arc voltage.

The setting of the sliding contact of the potentiometer determines the arc voltage necessary for the particular combination of carbons.

Provision is also made to compensate for using carbons where the burning rate is not equal for both positive and negative carbons.

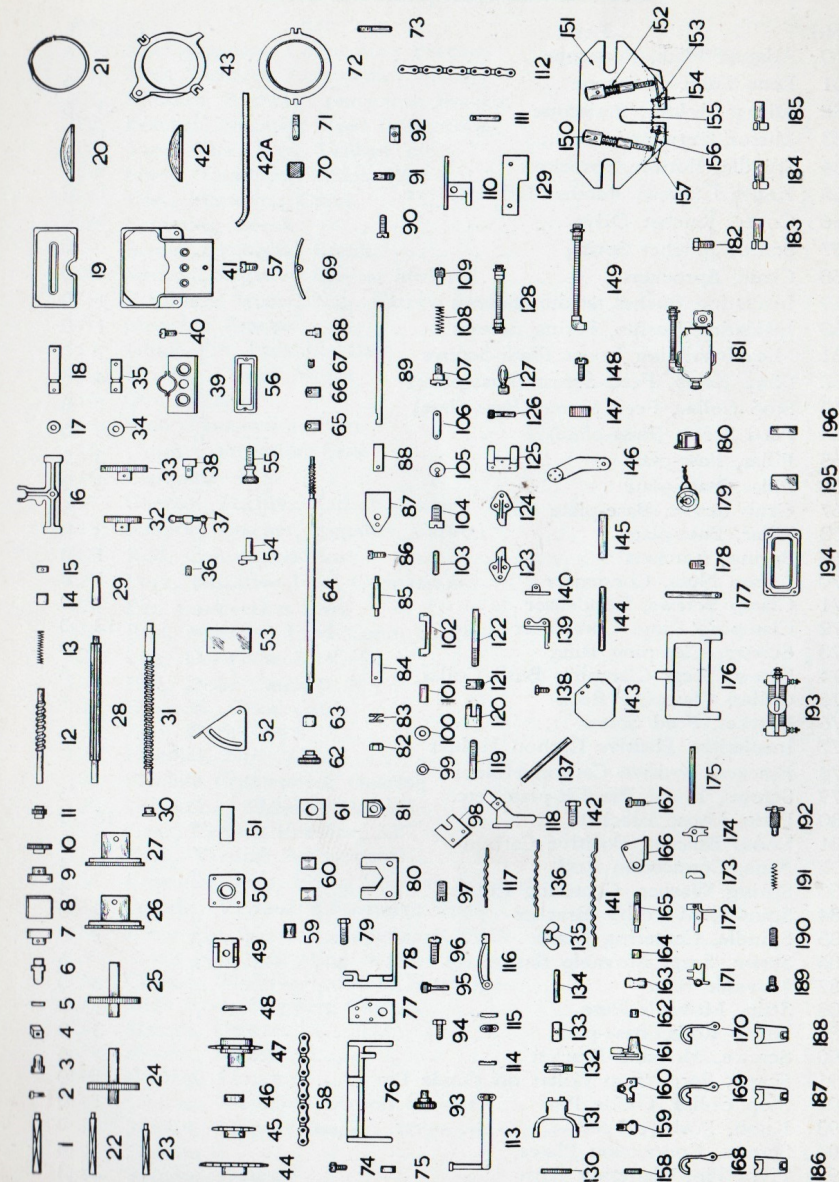
The carbon feed spindles are coupled to the reduction gear-box through ratchet pawls, these pawls can be adjusted to gather either one, two or three teeth of the ratchet wheel and so alter the relative speeds of the carbons.

Each lamp is sent out from the Works with an instruction card attached. *See that you get this.*

KALEE Type H.L. High Intensity Projection Arc Lamp Spare Parts

□ □ □

No.	PART	£	s.	d.
1	Rod, Extension for Positive Carbon	...	...	...
2	Screws, Flexible Coupling Block	...	...	...
3	Coupling, Flexible (Faucet end)	...	...	...
4	Block, Flexible Coupling	...	...	...
5	Pin, Block	...	...	...
6	Coupling, Flexible (Spigot end)	...	...	...
7	Joint, Extension	...	...	...
8	Mica, Insulation (joint)	...	...	...
9	Joint, Extension	...	...	...
10	Gear, Neg. Feed Screw (32.T)	...	...	...
11	Gear, Guide Spindle (15.T)	...	...	...
12	Feed Screw, Negative Carbon	...	...	...
13	Spring, Negative Feed Screw	...	...	...
14	Loose Collar, Negative Feed Screw	...	...	...
15	Collar, Negative Feed and Guide Spindles	...	...	...
16	Bracket, Chain Sprockets	...	...	...
17	Washer, Screw retaining, Ratchet Spring	...	...	...
18	Bush, Positive Feed Screw	...	...	...
19	Cover, Resistance	...	...	...
20	Condenser, 6 in. x 9 in. (heat-resisting)	...	...	...
21	Spacing Ring, Condenser	...	...	...
22	Rod, Extension for Positive Carbon Drive	...	...	...
23	Rod, Extension for Negative Carbon Drive	...	...	...
24	Ratchet Wheel 32.T (R.H.)	...	...	...
25	Ratchet Wheel 32.T (L.H.)	...	...	...
26	Gear, Positive Carbon, 42.T	...	...	...
27	Gear, Negative Carbon, 48.T	...	...	...
28	Spindle, Positive Carbon Revolving	...	...	...
29	Taper Pins, Collars	...	...	...
30	Bush, Feed Screw, Positive Carbon	...	...	...
31	Feed Screw, Positive Carbon	...	...	...
32	Gear, Negative Drive, 20.T	...	...	...
33	Gear, Positive Drive, 36.T	...	...	...
34	Washers, Ratchet Spindles	...	...	...
35	Bush, Negative Feed Screw	...	...	...
36	Screw, Retaining, Negative Handle	...	...	...
37	Handle, Negative Feed Screw	...	...	...
38	Shank, Handle	...	...	...
39	Cover, Control Knob	...	...	...
40	Screws, Covers	...	...	...
41	Gear Bracket	...	...	...
42	Condenser, 6 in. x 9 in.	...	...	...
42A	Asbestos Packing, Condensers	...	...	...
43	Condenser Mount	...	...	...
44	Chain Sprocket (15.T)	...	...	...
45	Chain Sprocket (8.T)	...	...	...
46	Collar, Ratchet Spindle	...	...	...
47	Chain, Sprocket (12.T)	...	...	...
48	Taper Pins, Sprockets	...	...	...
49	Base Plate, Periscope	...	...	...



KALEE Type H.L. High Intensity Arc Lamp Spare Parts

KALEE Type H.L. Arc Lamp

Price List of Spare Parts—Continued.

No.	PART	£	s.	d.
50	Adapter Plate, Periscope each	2	6	
51	Lens Tube, Periscope "	2	6	
52	Mirror Holder, Periscope "	3	6	
53	Mirror, Periscope "	1	6	
54	Spindle, Bottom Sprockets "	6	0	
55	Knurled Screw, Ratchet Drive Cover "	1	0	
56	Cover, Ratchet Drive "	6	0	
57	Screw, Ratchet Spring "		6	
58	Chain, Sprockets "	9	0	
59	Insulating Bushes, Fixing Screws "	1	0	
60	Insulating Bushes, Fixing Screws "	1	0	
61	Mica Insulation Loose Plate Screws "	1	0	
62	Fibre Knob, Feed Screw (Base-plate) "	4	6	
63	Stop Collar, Feed Screw (Base-plate) "	1	6	
64	Feed Screw (Base-plate) "	15	0	
65	Pillar, Base-plate "	3	0	
66	Pillar, Base-plate "	3	0	
67	Grub Screw, Base-plate Pillar "		6	
68	Pillar, Base-plate "	3	0	
69	Spring, Ratchets "	1	0	
70	Clamp Nuts, Condenser "	1	0	
71	Clamp Screws, Condenser "	1	0	
72	Clamping Ring, Condenser "	12	0	
73	Screws, Clamping Ring "		9	
74	Screw, Secg. Clamping Bush Collar "		6	
75	Collar, Clamping Bush "		9	
76	Bracket, Feed Screw "			
77	Insulation, Positive Carbon Holder "	3	6	
78	Bracket, Positive Carbon Holder "			
79	Screws, Loose Bracket-plate, etc. "		6	
80	Plate, Loose Bracket "	15	0	
81	Loose Bracket, Positive Carbon "	3	6	
82	Nuts, Connection Rod "		4	
83	Spring Washer, Centering Crank "		4	
84	Spindle, Moveable Bracket "	2	0	
85	Spindle, Centering Crank "	2	0	
86	Screw, Secg. Movable Base Strip "		6	
87	Movable Base "	15	0	
88	Strip, Movable Base "	1	0	
89	Guide Rods, Base-plate "	3	0	
90	Screws, Movable Bracket "		6	
91	Screw, Secg. Stop Collar on Guide Pin "	1	0	
92	Stop Collar, Guide Pin "	1	0	
93	Knob, Positive Feed "	6	0	
94	Screws, Connection Plates "		6	
95	Pivot Pin, Clamping Arm "	2	3	
96	Screw, Pivot Pin "		6	
97	Screw, Negative Slide Rods "		6	
98	Cover Shield, Negative Carbon "	7	6	

KALEE Type H.L. Arc Lamp

Price List of Spare Parts—Continued.

No.	PART	£	s.	d.
99	Steel Washers, Connection Bracket each			4
100	Mica Washers, Connection Bracket "			4
101	Micanite Bushes, Connection Bracket "	1	0	
102	Bracket, Negative Feed Connection "	4	0	
103	Taper Pins, Secg. Collars, etc. "		3	
104	Screw, Centering Crank Disc "		6	
105	Disc, Centering Crank "	6	0	
106	Centering Crank "	3	0	
107	Screw, Centering Crank "	1	0	
108	Spring, Negative Carbon Holder "		6	
109	Retaining Screw, Neg. Carbon Holder Spring "	1	0	
110	Movable Bracket "	1	1	0
111	Guide Pin, Movable Base "	1	6	
112	Driving Chain, Motor "	8	0	
113	Contact Arm "	12	0	
114	Inner Connection Plate "	1	9	
115	Outer Connection Plate "	1	9	
116	Clamping Arm "	7	6	
117	Contact, Positive Carbon Clamp "	2	0	
118	Support Bracket, Negative Carbon "	1	4	0
119	Rod, Connection Fork "	1	6	
120	Fork, Negative Feed Connection "	2	6	
121	Pin, Connection Fork "		9	
122	Rod, Negative Feed Conn. Bracket "	1	9	
123	Lug, Door Catch (R.H.) "	4	0	
124	Lug, Door Catch (L.H.) "	4	0	
125	Brackets, Door Catch "	5	0	
126	Pins, Door Catch "	2	6	
127	Handles, Door Catch "	2	6	
128	Flexible Connection, Gearing "	9	0	
129	Insulation, Movable Bracket "	3	0	
130	Gear, Carbon Revolve, 32.T "	6	6	
131	Fork, Vertical Adjustment "	12	0	
132	Engaging Pins, Fork, Vertical Adjustment "	1	0	
133	Spindle, Vertical Adjustment Fork "	1	6	
134	Pivot Pin, Vertical Adjustment Fork "		9	
135	Wing Nut, Adjusting Screw "		9	
136	Contact, Positive Carbon Clamp Base "	2	3	
137	Slide Rod, Negative Carbon "	1	6	
138	Screws, Dowser "		6	
139	Holder, Dowser "	5	0	
140	Bracket, Dowser "	4	6	
141	Contact, Negative Carbon Holder "	3	0	
142	Screws, Support Bracket, Negative Carbon "		6	
143	Dowser "	6	0	
144	Spindle, Dowser "	1	6	
145	Tubes, Condenser "	2	0	
146	Operating Arm, Dowser "	6	0	
147	Tension Block, Chain "	1	6	

KALEE Type H.L. Arc Lamp

Price List of Spare Parts—Continued.

No.	PART	£	s.	d.
148	Screw, Chain Tension Block each			6
149	Flexible Connection, Gearing "		9	0
150	Adjusting Screws, Pawl Mechanism "		1	6
151	Sliding Plate, Pawl Mechanism "	12		0
152	Springs, Adjusting Screw, Pawl Mechanism "			6
153	Pin, Pawl, Pawl Mechanism "		1	6
154	Split Pins, Pawl Mechanism "			3
155	Spring, Pawl Tension "			6
156	Stop Strip, Pawl Mechanism "		1	3
157	Pawl "		3	0
158	Pinion, Carbon Revolve, 16.T "		3	6
159	Weight, Positive Feed Tooth "		4	0
160	Bracket, Positive Feed Tooth "		4	0
161	Travelling Bracket, Positive Carbon "	1	1	0
162	Collars, Vertical Adjusting Spindle "		1	0
163	Spindle, Vertical Adjustment, Bracket "		3	0
164	Collars, Vertical Adjusting Spindle "		1	0
165	Spindle, Vertical Adjustment "		3	0
166	Bracket, Vertical Adjustment "	18		9
167	Screws, Vertical Adjustment Bracket "			6
168	Clamp, Positive Carbon (16 m/m) "		12	0
169	Clamp, Positive Carbon (13.6 m/m) "		12	0
170	Clamp, Positive Carbon (11 m/m) "		12	0
171	Slide, Negative Carbon Holder "	1	1	0
172	Holder, Negative Carbon "		15	0
173	Clamping Lug "		2	0
174	Travelling Bracket, Negative Feed Screw "		9	0
175	Guide Spindle, Negative Feed "		1	0
176	Carriage "		15	0
177	Spindle, Carriage "		2	6
178	Screw, Movable Bracket Spindle "			6
179	Switch (5 amp. tumbler) "			
180	Socket, Pilot Lamp "			
181	Motor, Reduction Gear and "			
182	Screw, Clamping Bush "			6
183	Clamping Bush (16 m/m) "		12	0
184	Clamping Bush (13.6 m/m) "		12	0
185	Clamping Bush (11 m/m) "		12	0
186	Base, Positive Carbon Clamp (16 m/m) "		12	0
187	Base, Positive Carbon Clamp (13.6 m/m) "		12	0
188	Base, Positive Carbon Clamp (11 m/m) "		12	0
189	Stop Screw, Wing Nut "			6
190	Adjusting Screw, Clamping Arm "		1	3
191	Spring, Clamping Arm Spindle "			6
192	Spindle, Clamping Arm "		2	0
193	Potentiometer "			
194	Frame, Window "		4	0
195	Purple Glass, Window (large) "		2	0
196	Purple Glass, Window (small) "		1	9

KALEE Type H.L.

High Intensity Projection Arc Lamp

□ □ □

Complete in Lamp House with triple ventilated and air cooled doors. Operating side door is fitted with a large observation window, the offside door is provided with an adjustable arc reflector.

Quick action light cut-off.

Full automatic motor driven carbon feed.

Condenser mount with 6 ins. dia. by 9 ins. focus plano convex lenses.

Flexible copper asbestos covered leads and spanners.

(Arc voltmeter extra, see below).

Price £95 0s. 0d.

Code Word : "SPALA."

KALEE ARC VOLTMETER.

Consists of a 2½ in. dia. Voltmeter mounted on the back of the Lamp House. It is coupled across the arc and constantly indicates the arc volts.

Price £4 0s. 0d.

Code Word : "ARVOL."

For Lubricating moving parts which are not subjected to heat we recommend :—**KALEE SUPEROIL.**

No. 1 size Tin (½ pint) £0 1s. 9d.

Code Word : "SUPIT."

For lubricating burner parts which are subjected to heat a special graphite blended lubricant has been produced :—

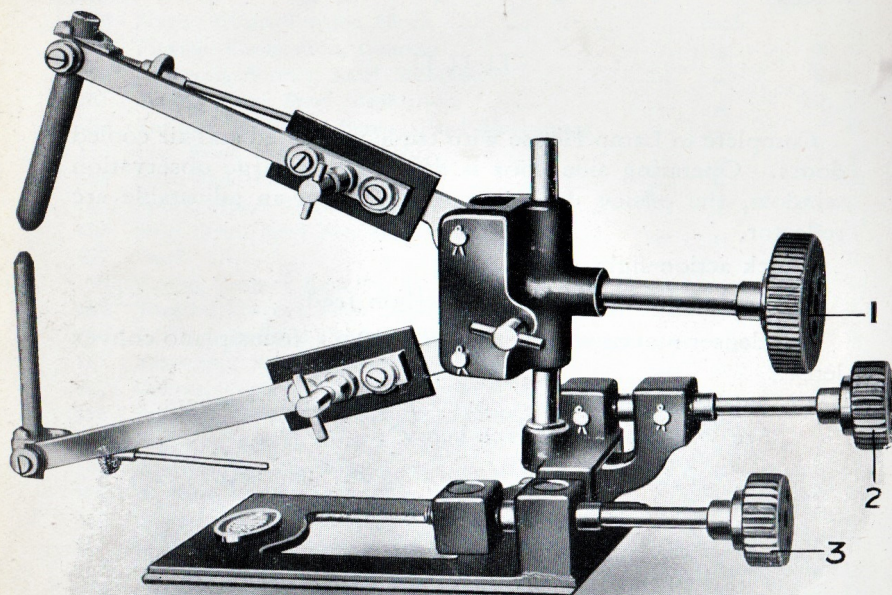
KALEE ARC BURNER LUBRICANT.

Per Tin £0 3s. 6d.

Code Word : "HETOL."

KALEE

Type S.L. Scissors Arc Lamp



For Stage Boxes—Spot Lights—Lanterns, etc., Scissors Arc Lamps have been proved to be of most convenient form.

The Kalee Type “S.L.” Lamp has been designed on engineering lines, strong, rigid, and capable of withstanding hard, continuous service.

The scissors arms are positively fed by a steel worm connected to feed knob (1), Vertical centering (2), and Horizontal centering (3), is provided.

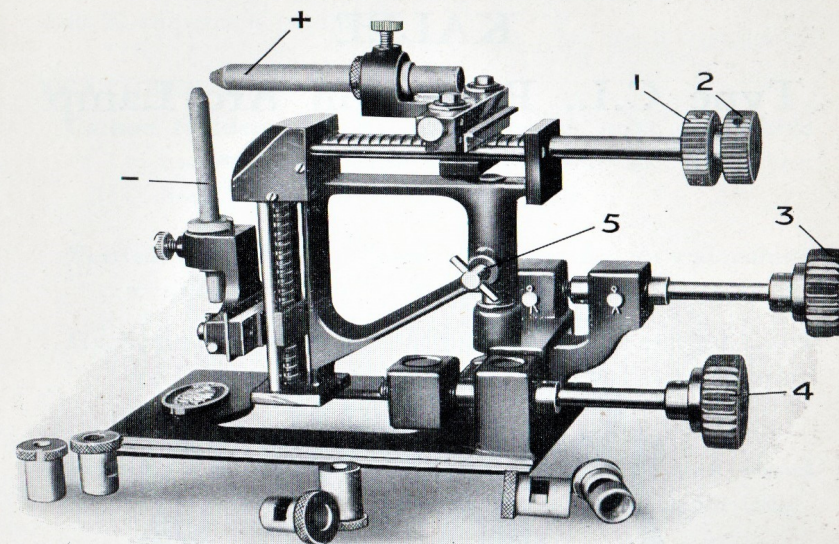
Both carbon holders will take carbons up to 14 mm. dia., and can be tilted, making the lamp suitable either for Direct or Alternating currents.

Castings finished in best black enamel, machined parts dull nickel plated. Approximate weight, 8 lbs.

Price, each **£3 3s. 0d.** Code Word : “SLARC.”

KALEE

Type X.L. Right Angle Arc Lamp



An improved type of Right Angle Arc Lamp, embodying many novel features of construction. An ideal lamp for use with Slide Projection Lanterns, Microscopic Projection, etc.

The carbons can be fed separately or simultaneously (1 and 2), Vertical centering (3), Horizontal centering (4), and variation of $5\frac{1}{2}$ in. to $6\frac{1}{4}$ in. optical centre height of lantern can be roughly made by (5).

Carbons, 6, 8, 10 and 12 mm. diameter can be used by means of special adapters shown in illustration. Without adapters, the lamp will take 14 mm. diameter carbons.

The Lamp is suitable for either Direct or Alternating Currents.

Materials are specially selected, castings are finished in black enamel, machined parts dull nickel-plated.

Insulation : Steatite bushes and heavy mica washers, knobs of hard vulcanised fibre. Approximate weight, 5 lbs.

Price, each **£3 10s. 0d.** Code Word : “RIGHT.”

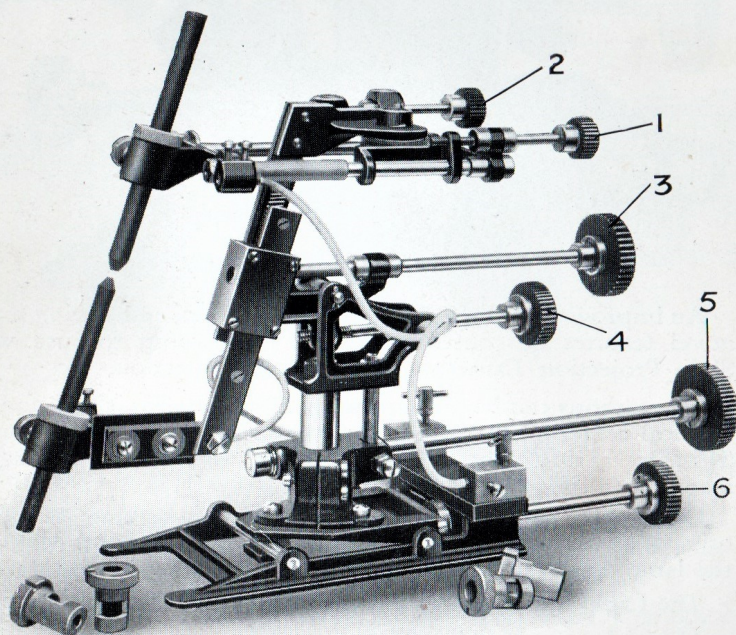
The above price includes two Carbon Holder Bushes, and unless ordered otherwise, one each 8 and 12 mm. is supplied.

Extra Bushes—6, 8, 10 or 12 mm. diameter, 3/- each.

KALEE

Type C.L. Projection Arc Lamp

For Currents up to 50 Amperes.



The KALEE TYPE "CL" PROJECTION ARC LAMP has been designed on similar lines to the Type "YL," but lighter and less in size. It is suitable for ordinary slide projection or for Kinematograph projection, where a current of not more than 50 amperes is required.

FEATURES.

Carbon Holders.—Special sleeve bushes make it possible to use any size of carbon up to 18 mm. dia., the carbon is directly clamped by one screw only.

Vertical Centering.—Adjustment is provided for maintaining tension.

Horizontal Centering.—In place of rack and pinion, a combination of crank and toggle lever with tension spring is provided.

Materials.—Gun-metal and iron castings, black stove enamel finish. All racks, pinions and screws are steel, bright finish.

Insulation.—Heavy sheet mica, steatite bushes and knobs of hard vulcanised fibre with deep machine-cut knurls.

Mechanical Feed and Centering Motions.—

1. Backward and forward movement to top carbon holder.
2. Lateral movement to top carbon holder.
3. Carbon feed, quick and accurate.
4. Tilting movement to lamp.
5. Vertical centering movement.
6. Lateral movement to lamp.

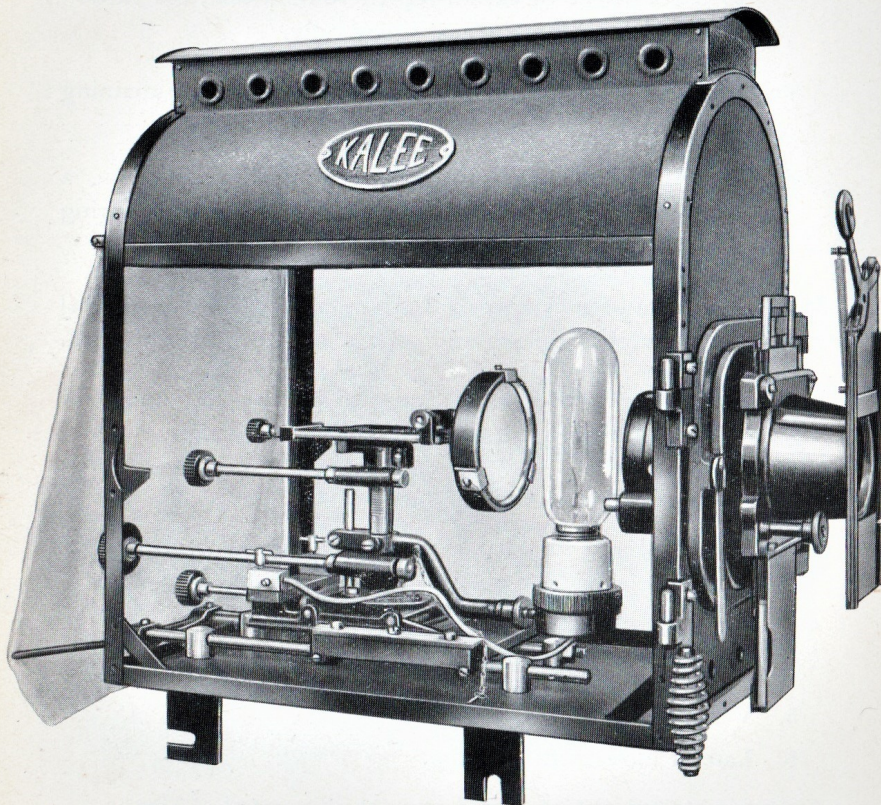
Approximate weight of Arc Lamp, as illustrated, 12 lbs.

Price, each £7 5s. 0d. Code Word : "CEFEL."

The above price includes two Carbon Holder Bushes, and unless ordered otherwise, one each 12 and 14 mm. is supplied.

Extra Bushes—8, 10, 12 or 14 mm., 5/- each.

**KALEE Type L.W.L.
Incandescent Reflector Lamp**
(For Alternating Current).



Complete with lamp house and $4\frac{3}{4}$ in. Mirror and
 $4\frac{1}{2}$ in. Triple Condensers.

**KALEE
Type L.W.L. Lamp**

For use with Filament Projection Bulb, 30 volts, 900 watts.

□ □ □

Has been designed to meet the demand for Bulb Projection, where the throw and screen size are comparatively small and where alternating current is available.

The lamphouse is sturdily constructed of planished steel, crystalline enamelled and gives easy access to the Type W.L. Incandescent Lamp Mechanical Tray and adjustments.

All necessary movements are provided for centering both the mirror and the lamp.

□ □ □

Price : complete with Lamphouse,
 $4\frac{3}{4}$ in. Mirror, $4\frac{1}{2}$ in. Triple Condensers (but without Bulb)

£16 16s. 0d.

Code Word : "LOWEL."

KALEE Type T.W.L. Portable Transformer

(For use with 30 volts, 900 watts Projection Bulbs).



KALEE Type T.W.L. Portable Transformer

□ □ □

A transformer of novel design, contained in a substantial housing built up of enamelled aluminium castings and perforated steel, and provided with two polished carrying handles.

It is important that Projection Bulbs be operated at the correct amperage. To facilitate this, a slide resistance is incorporated in the primary side and an ammeter in series with the secondary winding, so that the lamp can be operated at exactly 30 amperes, as a higher current will reduce the life of the lamp and a lower current will give less illumination.

The transformer is intended for use off mains 180 to 260 volts A.C., and gives an output of 30 amperes at 30 volts. Four tappings marked 190, 210, 230, 250 are provided and three marked — 10, 0, and +10 enable the primary side to be adjusted for 180 to 260 volts in ten volt steps.

□ □ □

Price : complete with ammeter and resistance

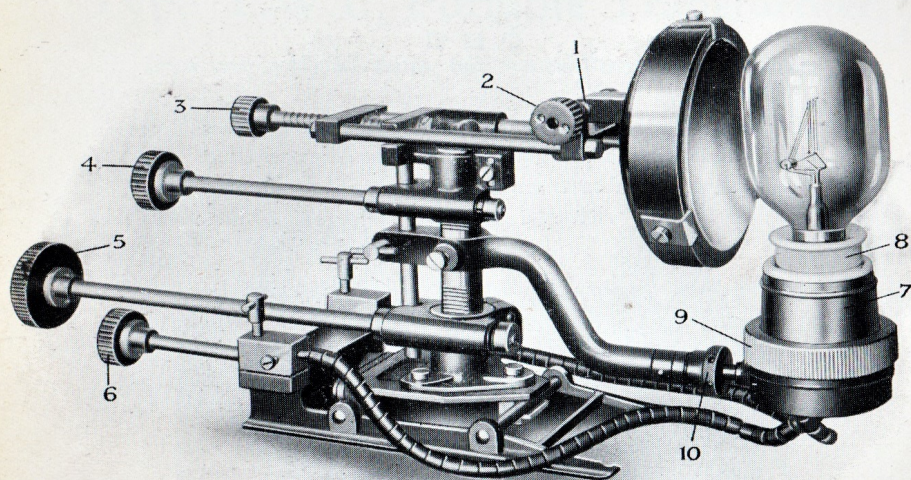
£27 0s. 0d.

Code Word : "TRANS."

KALEE

Incandescent Lamp Mechanical Tray

Type W.L.



A substantially built Mechanical Tray to carry the latest types of Projection Incandescent Lamps now on the market.

All necessary movements are provided for centering both the mirror and the lamp, as follows :

1. Vertical tilt to mirror.
2. Lateral movement to mirror.
3. Backward and forward movement to mirror.
4. Vertical centering to mirror.
5. Vertical centering to lamp.
6. Lateral movement to lamp.
- 7 & 8. Goliath type screw lamp holder.
9. Clamp collar, to set filament position.
10. Ball joint, to set filament position.

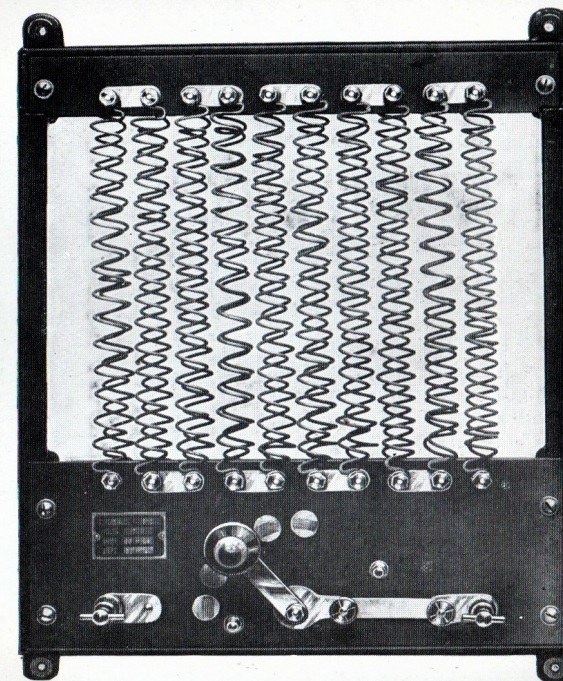
Price, as illustrated, but without Lamp ... £7 7s. 0d.

Code Word : "WOBEL."

KALEE

Wall Type Series Resistances

Type CR.



SPECIFICATION.

Frame.—Substantially constructed frame of welded wrought-iron, black stove enamelled.

Slates.—Specially selected.

Wire.—High resistance alloy, having negligible temperature co-efficient.

Switch.—Gun-metal with brush contact of laminated phosphor bronze. Contact studs, Terminals and Fuse connections are made of hard brass.

Cover.—Blue planished steel cover is provided, with aluminium quadrant (as shown on page 157 D.M.R. Type).

See special list giving prices of regular standard types ; Resistances quoted for to suit any voltage and amperage.

KALEE

Wall Type Series Resistance

Type M.R.

SPECIFICATION :

Designed for use with Mirror Arc Lamps, but equally suitable for other types of Arc Lamps used with Slide Lanterns, Spot Lights, etc.

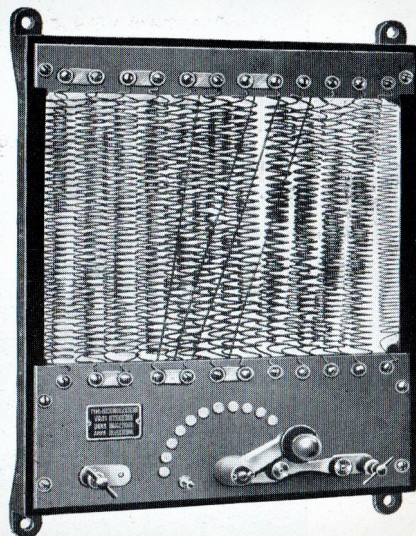
Frame.—Substantially constructed of welded wrought iron, black stove enamelled.

Slates.—Specially selected.

Wire.—High resistance alloy, having negligible temperature coefficient.

Switch, etc.—Gun-metal, with brush contact of laminated phosphor bronze, 11 contact studs, connections, etc., of hard brass.

Cover.—Blue planished steel cover, with aluminium quadrant (as shown on page 157, D.M.R. Type).



PRICES of "M.R." Type RESISTANCES.

Type	Supply Volts	Amperes	Size of Frame (inches)	Price £ s. d.	Code Word
M.R.A. ...	60	5—30	17 × 20	4 10 0	Merap
M.R.B. ...	70	"	"	4 12 0	Merab
M.R.C. ...	80	"	"	5 2 6	Mercy
M.R.D. ...	110	"	"	6 7 0	Merdy
M.R.E. ...	200	"	2—17 × 20	8 15 0	Merek
M.R.F. ...	220	"	"	9 5 0	Merfy
M.R.G. ...	230	"	"	9 10 0	Mergy
M.R.H. ...	60	5—40	17 × 20	5 10 0	Merha
M.R.I. ...	70	"	"	5 16 0	Merin
M.R.K. ...	80	"	"	6 0 0	Merky
M.R.L. ...	110	"	"	6 15 0	Merly
M.R.M. ...	200	"	2—17 × 20	10 10 0	Meram
M.R.N. ...	220	"	"	11 10 0	Merny
M.R.O. ...	230	"	"	11 15 0	Meroy

The above are standard types. Resistances can be supplied for any voltage and amperage.

KALEE

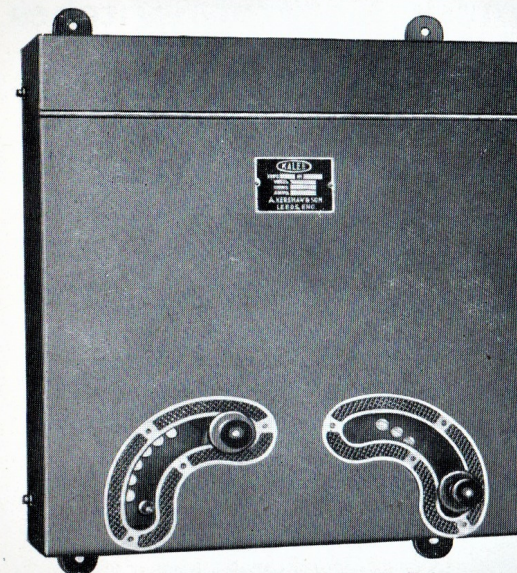
Duplex Wall Type Series Resistances

Type D.M.R.

SPECIFICATION.

Similar Resistances to Type "M.R.," substantially built of the same kind of materials, fittings, etc., but arranged for controlling Two Arc Lamps.

Illustration shows the type of blue planished steel cover which is also used on Types "C.R." and "M.R." Resistances.



PRICES of "D.M.R." Type RESISTANCES.

Type	Supply Volts	Amperes	Size of Frame (inches)	Price £ s. d.	Code Word
D.M.R.A. ...	60	5—30	17—20	6 10 0	Daram
D.M.R.B. ...	70	"	"	6 17 0	Darab
D.M.R.C. ...	80	"	"	7 5 0	Darad
D.M.R.D. ...	110	"	2—17 × 20	13 0 0	Darac
D.M.R.E. ...	200	"	2—20 × 24	16 15 0	Darak
D.M.R.F. ...	220	"	"	17 0 0	Darap
D.M.R.G. ...	230	"	"	17 10 0	Darag
D.M.R.H. ...	60	5—40	17 × 20	7 5 0	Darar
D.M.R.I. ...	70	"	"	7 12 0	Darat
D.M.R.K. ...	80	"	20 × 24	8 2 0	Daraw
D.M.R.L. ...	110	"	2—17 × 20	12 0 0	Daray
D.M.R.M. ...	200	"	3—20 × 24	22 0 0	Darax
D.M.R.N. ...	220	"	"	23 0 0	Daraz
D.M.R.O. ...	230	"	"	24 0 0	Daral

The above are standard types. Resistances can be supplied for any voltage and amperage.

KALEE

Parallel Resistances, Control Switches and Switchboards

□ □ □

FOR USE WITH

KALEE Type H.L. High Intensity Projector Arc Lamps,

KALEE Type H.M.L. Reflector Arc Lamps
(High and Low Intensity),

KALEE Type 8M.L. Mirror Arc Lamps,

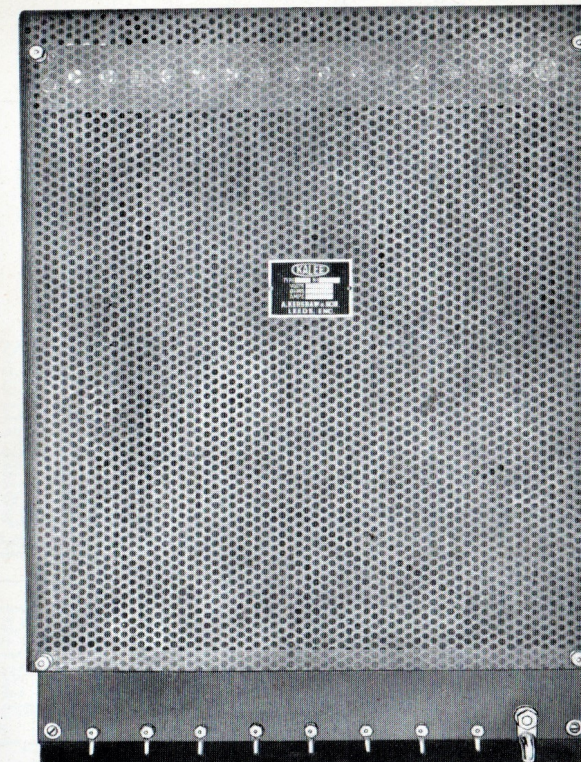
KALEE Type 10M.L. Mirror Arc Lamps,

and other Arc Lamps of similar designs.

□ □ □

Detailed descriptions and prices are contained in the
following pages.

KALEE Parallel Resistances



Parallel Type Resistances offer many advantages over the Series Type of Resistances :—

Remote Control.—Only the Control Switch Box need be fixed in the projection room, the Resistance can be fixed in a convenient room outside, thereby reducing the risk of fire, and which is now demanded by most licensing authorities.

Resistance Coils are wound in sections, each section allows the minimum current to flow, therefore at maximum current, all the coils are brought into use.

SPECIFICATION.

Frame.—Mild Steel Frame, substantially constructed, Black Stove Enamelled.

Slates.—Specially selected.

Wire.—High resistance alloy, having negligible temperature coefficient.

Cover.—Perforated Steel, Black Stove Enamelled.

Prices.—As per schedules on pages 160, 161 and 162; according to type of Arc Lamp, etc. Prices of Resistances do not include Control Switch Box, these are shown on page 163.

KALEE Parallel Resistances

For use with KALEE Type H.L. High Intensity Projection Arc Lamps.

(Control Switch Boxes extra, see page 163).

Max. Amps.	SECTIONS		Arc Volts	Type	75 Volts £ s. d.		Type	80 Volts £ s. d.		Type	100 Volts £ s. d.		Type	110 Volts. £ s. d.	
	No.	Amps.													
75	8	9.375	50	S1	3	10	0	S8	4	0	0	S15	6	5	0
100	8	12.5	55	S2	3	10	0	S9	4	0	0	S16	6	5	0
120	8	15	60	S3	3	10	0	S10	4	0	0	S17	6	15	0
130	10	13	62	S4	4	0	0	S11	4	10	0	S18	7	10	0
140	10	14	65	S5	4	0	0	S12	4	10	0	S19	7	10	0
150	10	15	67	S6	4	0	0	S13	4	10	0	S20	7	10	0
170	12	14.166	70	S7	4	0	0	S14	4	10	0	S21	7	10	0

The above are standard types.

Resistances can be supplied to suit other Voltages and Amperage.

KALEE Parallel Resistances

For use with KALEE Type H.M.L. Reflector Arc Lamps—Burning Copper Coated High Intensity Carbons.

(Control Switch Boxes extra, see page 163).

Max. Amps.	SECTIONS		Arc Volts	Type	75 Volts £ s. d.		Type	80 Volts £ s. d.		Type	100 Volts £ s. d.		Type	110 Volts. £ s. d.	
	No.	Amps.													
45	8	5.625	42	H1	3	15	0	H4	4	0	0	H7	5	10	0
60	8	7.50	42	H2	5	10	0	H5	5	10	0	H8	6	10	0
75	8	9.375	42	H3	5	15	0	H6	6	0	0	H9	7	0	0

The above are standard types.

Resistances can be supplied to suit other Voltages and Amperage.

These Resistances are also suitable for other Arc Lamps of similar design burning Copper Coated High Intensity Carbons.

KALEE Parallel Resistances

For use with KALEE Type H.M.L. Reflector Arc Lamps—Burning Low Intensity Carbons.
(Control Switch Boxes extra, see page 163).

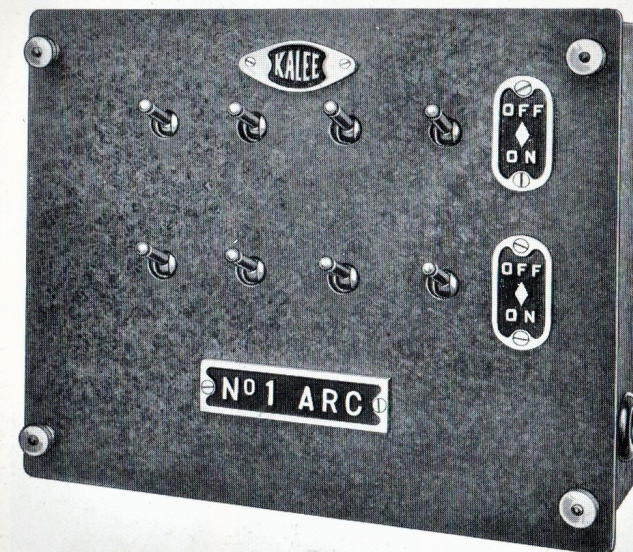
Max. Amps.	SECTIONS		Arc Volts	Type	75 Volts		Type	80 Volts		Type	100 Volts		Type	110 Volts.	
	No.	Amps.			£	s. d.		£	s. d.		£	s. d.		£	s. d.
20	8	2.5	50	L1	4	10 0	L5	4	15 0	L9	5	0 0	L13	5	5 0
30	8	3.75	50	L2	3	5 0	L6	3	10 0	L10	5	0 0	L14	5	10 0
35	8	4.375	50	L3	3	10 0	L7	3	15 0	L11	5	0 0	L15	5	15 0
40	8	5	50	L4	3	15 0	L8	4	0 0	L12	5	5 0	L16	6	0 0

The above are standard types.

Resistances can be supplied to suit other Voltages and Amperage.

These Resistances are also suitable for use with KALEE Type 8M.L., Type 10M.L. and other Arc Lamps of similar design burning Low Intensity Carbons.

KALEE Control Switch Boxes



For use with KALEE Parallel Resistances. The outer case is made of welded sheet steel with a loose steel cover, Black Stove Enamelled.

The Switches are quick make and break type, substantially mounted.

Three standard types are made : 8, 10 and 12 sections.

Type C1	...	8 sections	...	Each	£2 0s. 0d.
Type C2	...	10 sections	...	Each	£2 10s. 0d.
Type C3	...	12 sections	...	Each	£3 0s. 0d.

KALEE Switchboards

For Two Arc Lamps.



These Switchboards have been designed for use with KALEE Projection Arc Lamps or other Arc Lamps of similar designs. The main frame is substantially constructed of angle steel, on which is mounted an enamelled slate panel carrying a voltmeter, two ammeters (one for each arc lamp).

A main switch and two arc lamp switches are provided, all double pole, quick break, iron clad with combined fuses. Above each arc switch, a KALEE Control Switch Box is fitted.

These Switchboards have been standardised for use with KALEE Parallel Resistances, and will meet most requirements.

Switchboards built to meet customer's special requirements.

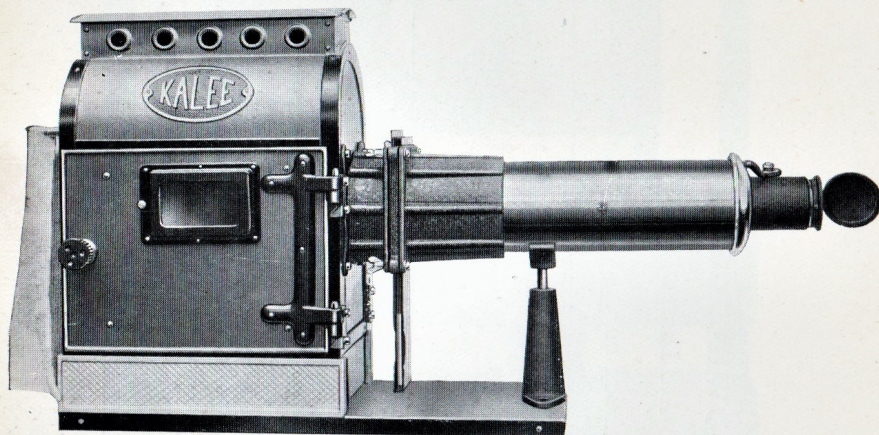
KALEE Switchboards

For Two Arc Lamps.

Prices are for Complete Switchboards as Specification on page 164, but do not include Resistances.

Type	VOLTMETER		AMMETERS		Control Switch Boxes Section	PRICE £ s. d.	Suitable for use with the following KALEE Parallel Resistances
	Dial Dia.	Reading Volts.	Dial Dia.	Reading Amps.			
B1	4in.	0-120	4in.	0-50	8	28 0 0	Types L1, to L16 inclusive
B2	4in.	0-120	4in.	0-100	8	35 0 0	Types H1, to H12 inclusive
B3	6in.	0-120	6in.	0-200	8	46 0 0	Types S1, 2, 3, 8, 9, 10, 15, 16, 17, 22, 23 & 24
B4	6in.	0-120	6in.	0-200	10	48 0 0	Types S4, 5, 6, 11, 12, 13, 18, 19, 20, 25, 26 & 27
B5	6in.	0-120	6in.	0-250	12	75 0 0	Types S7, 14, 21 and 28

KALEE No. 2 Slide Lantern



The KALEE No. 2 Slide Lantern is built on entirely new lines, substantial construction to withstand hard, continuous service.

Lamp House and Base, is formed by a wrought-iron framework with blue planished steel panels.

Front, and Condenser housing, constructed of aluminium castings, crystalline black finish.

Condenser, pair of $4\frac{1}{2}$ in. dia. Meniscus and Biconvex Condenser Lenses.

Slide Carrier, Vertical Type, made of Steel, with separate slide carrier frames.

Lens Jacket, lever focussing with clamping nut.

Projection Lens, Kershaw Lantern Lens, Series "Super T."

KALEE No. 2 Slide Lantern

Complete as specified, with condenser, slide carrier, curtain and the following Kershaw Series "Super T" Projection Lenses.

						PRICE			Code Word
						£	s.	d.	
With	6in.	focus	Kershaw	Projection	Lens	10	10	0	Bante
"	8in.	"	"	"	"	10	15	0	Cante
"	10in.	"	"	"	"	11	0	0	Fante
"	12in.	"	"	"	"	12	0	0	Kante
"	14in.	"	"	"	"	12	5	0	Pante
"	16in.	"	"	"	"	12	10	0	Sante
"	18in.	"	"	"	"	12	15	0	Vante
"	20in.	"	"	"	"	13	0	0	Tante
"	22in.	"	"	"	"	13	5	0	Mante
"	24in.	"	"	"	"	13	10	0	Nante
"	26in.	"	"	"	"	13	15	0	Wante
"	28in.	"	"	"	"	14	0	0	Hante
"	30in.	"	"	"	"	14	5	0	Lante

Please state focus of lens when ordering.

Longer focal lengths can be supplied at extra cost.

Lanterns with lenses up to 10 in. focus are not provided with the extra support shown on illustration, this support is provided with all Lanterns having lenses 12 in. and longer focus.

Above prices do not include illuminants; suitable Arc Lamps (Types "S.L." and "X.L.") and Resistances can be supplied.

KALEE

Model No. 8 Stereopticon Lantern



KALEE Model No. 8

Stereopticon Lantern

A perfect Lantern for projecting Lantern Slides, and specially suitable for advertising purposes.

It has been designed to conform in general appearance with the Model No. 8 Projector.

It is thoroughly well-made, of ample proportions, robust, vibrationless, all metal construction, and will last a lifetime.

The universal movements of the pedestal stand along with the swivelling slide carrier front, provide for centering and squaring the projected picture in absolute coincidence with the masked screen.

Further, the cut-off is located between the condenser and the slide carrier; slides are therefore not exposed to the light rays until they are actually in projection.

SPECIFICATION.

Lamp House. Made of blue planished steel on a substantial wrought-iron framework. Two large doors with large inspection windows. Mechanical tray for moving the Arc Lamp to or from the condenser. Ample ventilation is provided.

Condenser. Pair of 4½ in. diameter Condenser Lenses, each carried in a separate cast-iron screw cap cell, fitted into "U" shaped holders, mechanical means provided for separation adjustment.

Slide Carrier. Vertical type, made of steel, with separate slide carrier frames.

Curtain Cut-off. Made of steel, attached to the slide carrier.

Lens Jacket. Rackwork type, made of brass, cut steel pinion and brass rack, fitted with flasher and tinter slot. The jacket is screwed into a brass extension tube which is carried by a rigid cast-iron support.

Projection Lens. Kershaw Lantern Lens, Series "T."

Stand. Heavy cast-iron pedestal type with universal movements.

Arc Lamp. Type "C.L." for currents up to 50 amperes.

Leads. Pair of 50 ampere Asbestos-covered Flexible Copper Leads.

Switch. No. 1 Double Pole Switch and Adapter.

KALEE Model No. 8 STEREOPTICON LANTERN

complete as above specification and as illustration with Kershaw Series "Super T" Lantern Lens, 8 in. to 18 in. focus.

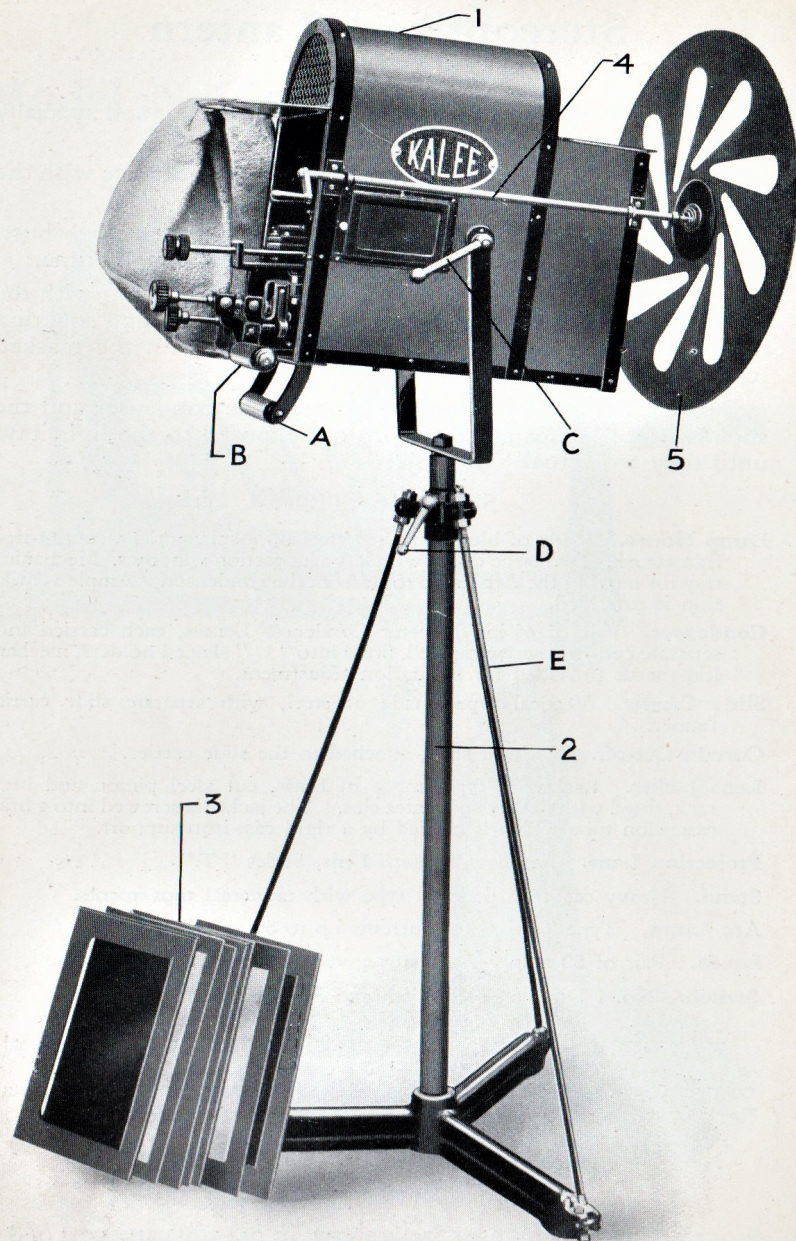
Price £40 0s. 0d.

Code Word: "STECO."

For every one inch longer focus above 18 in., add extra cost of 3/-.

When coding, follow Code Word with Lens Code Word (see Lens list).

KALEE No. 1 Spotlight Projector with Accessories



KALEE No. 1 Spotlight Projector and Accessories

□ □ □

SPECIFICATION.

Projector (1)—The Body is a substantially constructed wrought-iron framework with blue planished steel panels.

Swung in a wrought-iron cradle, with large hand clamping lever (C).

Larger size arc inspection window which can be quickly replaced.

The Arc Lamp base allows the lamp to be fixed, the base itself being slotted and controlled by a large polished wood handle (B).

This arrangement prevents the arc lamp slipping out of the body, and, at the same time, allows free and easy operation from a flood to a spot, etc.

The large polished wood handle (A) gives full control to the projector and ease in following up the subject illuminated. The standard lens fitted is 6 inches diameter and 9 inches focus, mounted on a removable panel which slides into the body.

Seven cardboard tinter frames (3) are supplied with each projector, five are fitted with replaceable coloured gelatines, one frosted gelatine for diffusing and one blank for cut-off.

Stage Projector (as above Specification) Price, £7 15s. 0d.

Code Word : "FLOSP."

Stand (2)—Novel design of sound construction and extremely rigid.

An enamelled cast-iron base and head with a wrought-iron distance tube held rigidly together by three steel rods (E) in tension. The stand can be readily dismantled for transit purposes etc., and then occupies small space.

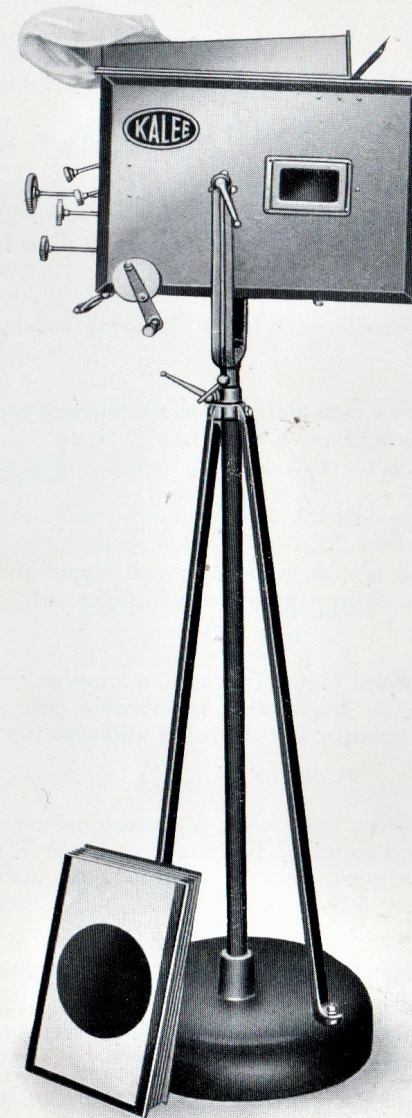
A sliding internal tube clamped by lever (D) allows the optical centre of the Projector to be adjustable from 4 ft. to 5 ft.

Projector Stand (as above Specification)...Price, £1 15s. 0d.

Code Word : "STALO."

KALEE No. 2

Spotlight Projector with Accessories



For detailed description see overleaf.

Page One Hundred and Seventy-three

Projector Clamp—When it is required to swing the projector from a beam, etc., an enamelled iron clamp is supplied. The Projector cradle can be either above or below the body. Two nuts are supplied for cradle spindle.

Price, 15/- Code Word : "CLAST."

Revolving Spindle (4)—Made of steel with substantial handle, for revolving Flicker or Rainbow Wheels.

Price, 12/- Code Word : "RESPI."

Flicker Wheel (5)—Made of blue planished steel, turned over, and Wired edge with centre boss.

Price, £1 5s. 0d. Code Word : "FLEEL."

Rainbow Wheel—Similar in construction to the Flicker Wheel but fitted with coloured gelatines.

Price, £1 10s. 0d. Code Word : "RANEL."

Iris Diaphragm—Mounted on a steel plate which slides into the front of the Projector body. It allows of a clear aperture of 6 inches which can be gradually reduced to an entire cut-off. Substantially constructed of gun-metal and phosphor bronze.

Price, £3 10s. 0d. Code Word : "IRAGM."

Lantern Slide Attachment—Mounted on a steel plate which slides into the front of the Projector body. The plate carries a condenser lens, vertical slide carrier, slide holders, steel rod with focussing jacket and Kershaw Series "Super T" Title Lens (8 in. to 28 in. focus).

Price, £6 10s. 0d. Code Word : "SPOLA."

When coding, follow Code Word with Lens Code Word (see Lens list).

Type X.L. Arc Lamp—A right angle type of Arc Lamp, for full specification, see page 147.

Price, £3 10s. 0d. Code Word : "RIGHT."

Type S.L. Arc Lamp—A scissors type of Arc Lamp, see page 146 for full specification.

Price, £3 3s. 0d. Code Word : "SLARC."

Resistances—All types supplied.

Projector Lenses—Spare lenses can be supplied for various foci. They are made of best quality glass, double annealed, optically worked.

Diameter	Focus	Price each		Code Word
		£	s. d.	
6 ins. ...	6 ins. ...	1	15 0	"SLINS."
6 ins. ...	7 ins. ...	1	10 0	"SEVIS."
6 ins. ...	8 ins. ...	1	5 0	"EIGNS."
6 ins. ...	9 ins. ...	1	0 0	"NILEN."
6 ins. ...	10 ins. ...	0	17 6	"TENEN."
6 ins. ...	12 ins. ...	0	15 0	"TWENS."

KALEE No. 2

Stage Flood and Spotlight Projector

□ □ □

SPECIFICATION.

Lamp House.

Of ample capacity to take all types of suitable Arc Lamps. The main frame work is made of wrought iron with steel panels, the whole body finished crystalline black.

Cradle.

Swung in a cradle with large clamping levers.

Control.

Is operated by a rack and pinion, allowing of rapid movement of the Arc Lamp from a flood to a spot, etc. A large handle at the rear, gives full control in following up the subject illuminated.

Lens.

The standard lens fitted is 7 inches diameter and 12 inches focus, mounted in a panel which slides into the body.

Tinters.

Seven cardboard tinter frames are supplied with each projector, five are fitted with replaceable coloured gelatines, one frosted gelatine for diffusing and one blank for cut off.

Stand.

Heavy cast-iron base with a wrought-iron distance tube rigidly braced together by means of three T section struts. The stand allows of an adjustment of optical centre of approximately 5 ft. to 6 ft. 6 ins.

Kalee No. 2 Stage Projector, complete with Stand (as above specification):

Price, **£13 0s. 0d.**

Code Word : "TWOSP."

Kalee No. 2 Stage Projector, as above, **without** Stand but with Beam Clamp :

Price, **£10 10s. 0d.**

Code Word : "TWEST."

Type X.L. Arc Lamp.

A right angle type of Arc Lamp, for full specification see page 147 :

Price, **£3 10s. 0d.**

Code Word : "RIGHT."

Type S.L. Arc Lamp.

A Scissors type of Arc Lamp, see page 146 for full specification.

Price, **£3 3s. 0d.**

Code Word : "SLARC."

Type C.L. Arc Lamp.

A heavy type of straight Arc Lamp, see page 149 for full specification.

Price, **£7 5s. 0d.**

Code Word : "CEFEL."

Resistances.

All types supplied, to suit any voltage and amperage.

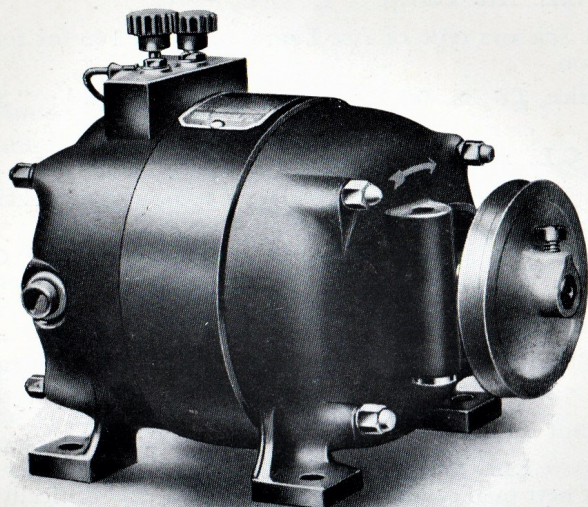
Projector Lenses.

Spare Lenses can be supplied of various foci. They are made of best quality glass, double annealed, and optically worked.

Diameter		Focus		Price each			Code Word
				£	s.	d.	
7 ins.	...	8 ins.	...	1	8	0	"TWEGI."
7 ins.	...	9 ins.	...	1	3	0	"TWINI."
7 ins.	...	10 ins.	...	1	1	0	"TWASI."
7 ins.	...	12 ins.	...	0	18	0	"TWUTA."

KALEE Cinematograph Driving Motors

For D.C. and A.C. Circuits.



Kalee Motors are British Made, specially designed and built for driving Cinematograph Projectors.

Selected materials are used in their construction, neat and attractive in appearance, reliable in operation, they will operate continuously at full load with a low temperature rise.

SPECIFICATION.

Armature. The coils are wound directly into the slots of the laminated armature core, and are treated with a special moisture-proof varnish. The core slots are set spiral to give silence when running at high speed. The commutator is constructed from best selected bar copper and mica.

Ventilation. Amply provided for by means of small fan fixed on the pulley end of the armature shaft.

Bearings. Made from phosphor bronze.

Lubrication. Provided for by large waste packed oil reservoirs cast on the end shields. They are drip proof, the motors can be used either way up without the necessity of altering the position of the end shields.

Field Coils. These are former wound and treated with moisture-proof varnish. The field magnets are laminated, firmly rivetted together, and form the main frame of the motor.

Brushes. Made of carbon, held in box type brush holders.

SPECIFICATION—Continued.

Pulley—A standard $3\frac{1}{2}$ in. diameter pulley is provided unless otherwise stated. The diameter of the pulley shaft is $\frac{1}{2}$ in., on which is milled a flat to allow of single screw fixing. The direction of rotation is clockwise, viewed at pulley end.

Terminal Block. A substantial terminal block is fixed on the end shield to facilitate connecting up.

PRICES OF KALEE MOTORS.

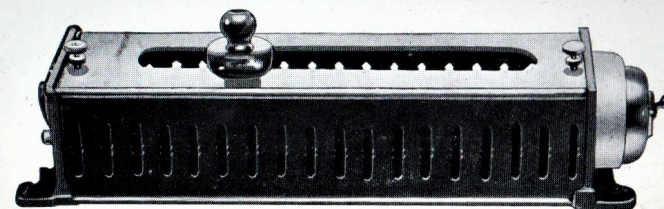
H.P.	Voltage	D.C. or A.C.	Frame No.	Price (each) £ s. d.	Code Word.
$\frac{1}{8}$	60/70	D.C.	1236	6 0 0	Kabea
$\frac{1}{4}$	80	D.C.	1236	6 0 0	Kabib
$\frac{3}{8}$	100/110	D.C.	1236	6 0 0	Kabac
$\frac{1}{2}$	200/240	D.C.	1236	6 10 0	Kabod
$\frac{3}{4}$	200/230	A.C. 50 cycles	1246	8 0 0	Kabuh
1	60/70	D.C.	1246	8 0 0	Kabem
1	80	D.C.	1246	8 0 0	Kabin
1	100/110	D.C.	1246	8 0 0	Kabap
1	200/230	D.C.	1246	8 0 0	Kabor
1	240/250	D.C.	1246	8 0 0	Kabuz
1	200/230	A.C. 50 cycles	—	14 0 0	Kabsy

The above prices include a standard pulley, $3\frac{1}{2}$ in. diameter.

PULLEYS.

Diameter inches m/ms		Bore inches m/ms		Price (each) £ s. d.
$2\frac{3}{4}$	70	$\frac{1}{2}$	12.7	0 3 6
3	76	$\frac{1}{2}$	12.7	0 3 6
$3\frac{1}{4}$	83	$\frac{1}{2}$	12.7	0 3 6
$3\frac{1}{2}$	89	$\frac{1}{2}$	12.7	0 3 6
4	102	$\frac{1}{2}$	12.7	0 4 6
5	127	$\frac{1}{2}$	12.7	0 5 6

KALEE MOTOR SPEED REGULATORS.

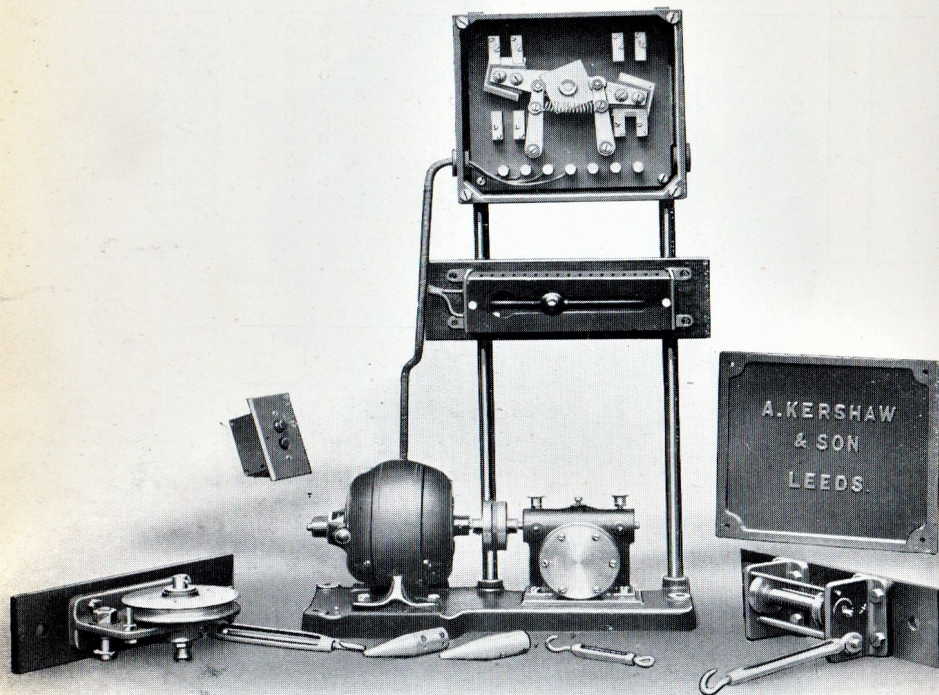


This type of Sliding Regulator is most suitable for adjusting the speed of Kalee Motors, fine adjustment and wide range of speed is obtained. Supplied for D.C. or A.C., and fitted with tumbler switch.

H.P.	Voltage	D.C. or A.C.	Price (each) £ s. d.	Code Word
$\frac{1}{8}$	60/80	D.C.	1 16 0	Regad
$\frac{1}{4}$	100/110	D.C.	1 16 0	Regip
$\frac{3}{8}$	200/250	D.C.	1 16 0	Regok
$\frac{1}{2}$	200/230	A.C.	1 16 0	Regul
$\frac{3}{4}$	60/80	D.C.	2 2 0	Regry
1	100/110	D.C.	2 2 0	Regmo
1	200/250	D.C.	2 2 0	Regli
1	200/230	A.C.	3 3 0	Regsy

KALEE

Electric Curtain Control



Complete Electric Control unit as illustrated, including pulley brackets, $\frac{3}{8}$ in. and $\frac{1}{8}$ in. steel cable with strainers, and two-way operating switch.

Price £30 0s. 0d.

Code Word: "CUROL."

(When ordering, please state voltage).

Estimates given for installing, also for supplying suitable curtains.

SPECIFICATION.

□ □ □

The KALEE ELECTRIC CURTAIN CONTROL is robust in design, and substantially constructed of selected materials to withstand hard, continuous service.

It is controlled by means of a two-way switch fixed in the operating room. The curtain can be opened as the picture commences, and closed as the picture finishes.

It entirely obviates the objectionable showing of the open White screen.

Motor (A) The Motor is $\frac{1}{8}$ h.p., series wound.

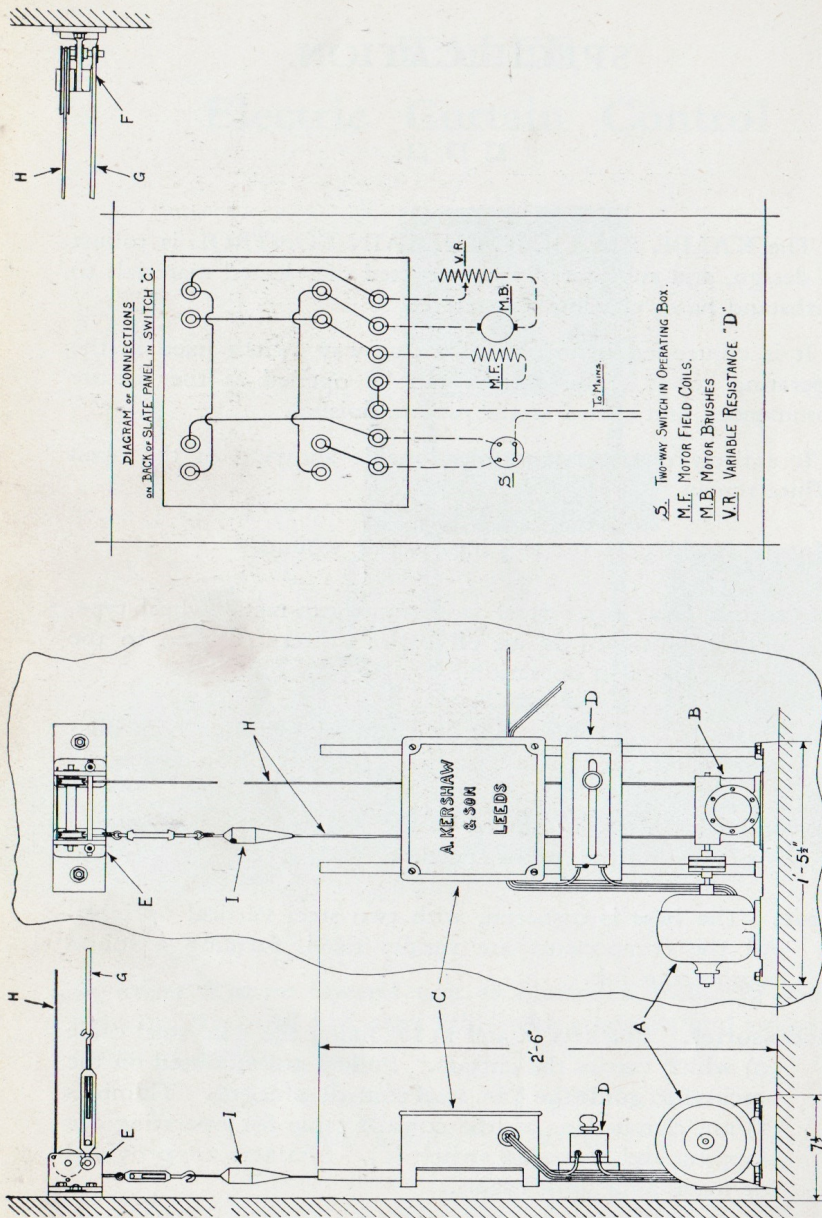
Reduction Gear (B). Steel worm and gun-metal wheel type, entirely enclosed in an oil bath; direct coupled to the motor, silent in operation.

Controller (C). The stopping and reversing switch controller is mounted on a slate base, fixed inside an iron-clad box.

Resistance (D). A resistance of the sliding type is provided for adjusting the motor speed.

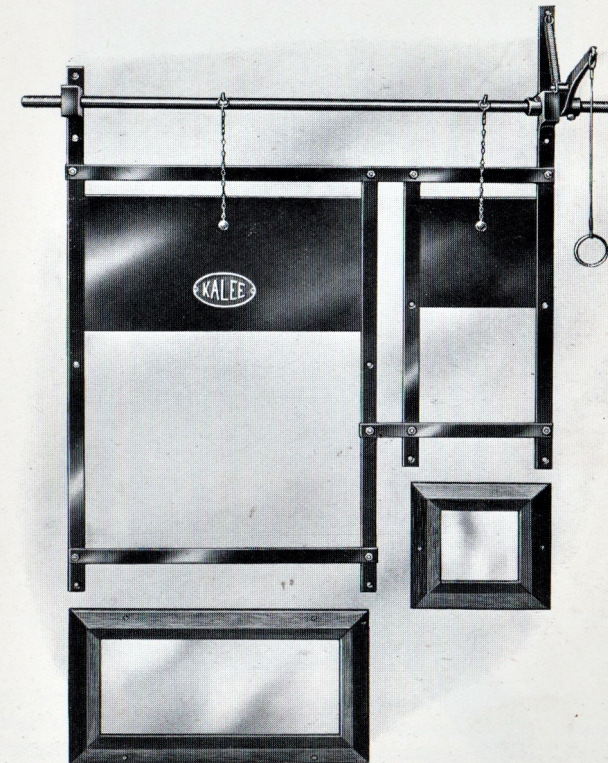
Base. The base is cast-iron, with two steel vertical uprights. All the components are rigidly fixed, forming a sound engineering job.

Accessories. Brackets (E and F) for fixing the $\frac{3}{8}$ in. steel cable (G) which carries the curtain. Pulleys are mounted on the brackets to guide the $\frac{1}{8}$ in. steel control cable (H). Thimbles (I) are clamped on to the control cable for operating the stopping and reversing switch (C). Strainers are provided for tensioning both cables.



Line drawing showing the general fixing arrangement of the Kalee Curtain Control; and diagram of the electrical connections. The lettering is referred to in the Specification.

KALEE Fire Shutters for Projection Rooms



Kalee Fire Shutters are substantially constructed of mild steel bars with steel shutters, finished in black stove enamel. The larger aperture allows of sufficient width for both Cine and Title projection, and the smaller aperture is for observation. Both shutters are held up by hooks controlled by the top spring rotating bar. One, two or more sets can be joined together so that all will release simultaneously.

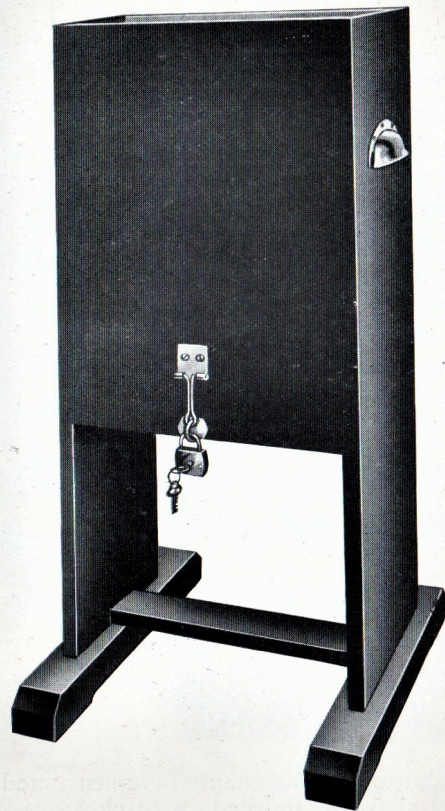
The aperture windows are of substantial plate-glass, mounted in hinged, polished oak frames.

Kalee Fire Shutter, complete with large aperture window, 18 in. \times 8 in. (wall aperture 20 $\frac{1}{2}$ in. \times 10 $\frac{1}{2}$ in.) and small observation window, 6 in. \times 6 in. (wall aperture 8 $\frac{1}{2}$ in. \times 8 $\frac{1}{2}$ in.), pulley cord and ring.

Price per set, £7 0s. 0d.

Code Word: "FITER."

KALEE Check Boxes



Kalee Check Boxes are substantially constructed, made from selected wood, stained to mahogany colour, complete with fittings. Outside sizes, 28 in. \times 12 in. \times 8 in.

Price **£1 7s. 0d.** each.

Code Word : "CHECK."

Kalee Check Boxes as above, but made in solid mahogany.

Price **£1 17s. 6d.** each.

Code Word : "CHEMA."

KALEE Spool Cabinets



Kalee Spool Cabinets are substantially constructed of blue planished steel with a wrought-iron framework. Each spool compartment is provided with a self-closing spring door which is numbered.

The Cabinet is fireproof and meets with the most stringent regulations.

The Stand is constructed of wrought-iron, rigidly braced by struts.

12 Spool Cabinet with Stand.

Price, **£8 0s. 0d.**

Code Word : "CATWE."

12 Spool Cabinet without Stand.

Price, **£6 0s. 0d.**

Code Word : "CATEL."

15 Spool Cabinet with Stand.

Price, **£10 0s. 0d.**

Code Word : "CAFIF."

15 Spool Cabinet without Stand.

Price, **£7 10s. 0d.**

Code Word : "CAFOY."

KALEE Music Stand



The Kalee Music Stand is made of stout sheet steel, black enamelled. The shade is fitted with two lamp holders.

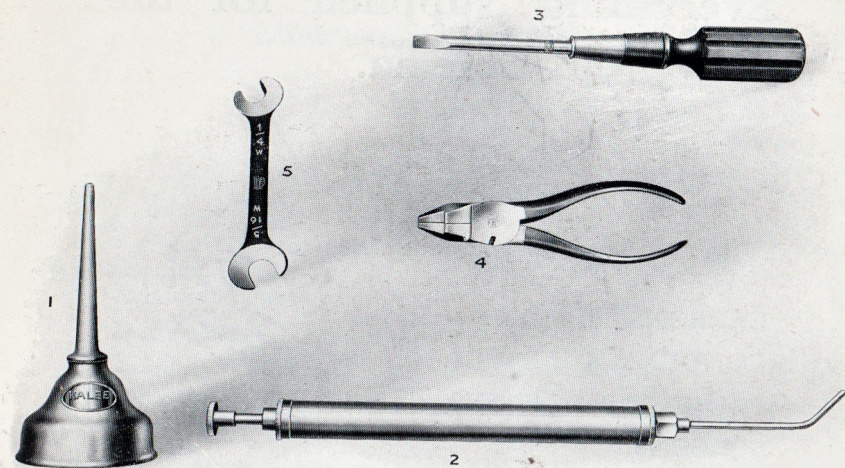
The base is heavy cast-iron, with telescopic tube and spindle for raising or lowering the height.

Kalee Music Stand (as illustration) with two lampholders.

Price, £1 15s. 0d. each.

Code Word: "MUSIC."

KALEE Projectionist's Tools



OIL CAN (1).

Made from drawn steel plate, tinned. 6½ in. high. 4 oz. capacity.
1s. 6d. each. Code Word: "OLABE."

OIL SYRINGE (2).

Brass, nickel finish, with 8 ins. × ¾ ins. barrel, suitable for oil or paraffin.
6s. 0d. each. Code Word: "OLECA."

SCREW DRIVERS (3).

Best quality tool steel blades, finely tempered, solid steel ferrule pinned to blade, cannot come loose, polished wood handle.

No. 3a.—⅜ in. wide blade.

1s. 6d. each.

No. 3b.—¼ in. wide blade.

1s. 6d. each.

No. 3c.—⅝ in. wide blade.

2s. 0d. each.

No. 3d.—⅝ in. wide blade.

2s. 0d. each.

Code Word: "SCABE."

Code Word: "SCEDA."

Code Word: "SCIFO."

Code Word: "SCOGO."

ELECTRICIAN'S PLIERS (4).

Best quality forged steel, finely tempered, vulcanite insulated handles.
4s. 0d. each. Code Word: "PLACO."

SPANNERS (5).

Drop forged steel, hardened and tempered.

No. 5a.—¼ in. × ⅝ in.

9d. each.

No. 5b.—⅜ in. × ½ in.

1s. 3d. each.

No. 5c.—⅝ in. × ¾ in.

2s. 0d. each.

Code Word: "STUBA."

Code Word: "STIBO."

Code Word: "STACU."

Everything supplied for the Cinema.

□ □ □

Send us your enquiries for—

CARBONS, all makes.
CONDENSER LENSES.
PROJECTION LENSES, all makes.
SCREENS.
STAGE LIME OUTFITS.
PROGRAMME BOARDS.
EXIT BOXES.
BARRIER ROPES.
KING SLIDES, unbreakable.
KING SLIDES, glass.
OPAQUE SLIDES and PAINT.
FILM CEMENT.
FILM STORAGE CABINETS.
FIRE EXTINGUISHERS.
TICKET MACHINES.
MOTOR GENERATORS.
AUTOMATIC ELECTRIC SCREEN CURTAINS.
DIMMERS.
SLIDE PROJECTOR for use with Mirror Arc Lamps.
SEATING, Etc., Etc.

KALEE Model Eleven Cinematograph Projector.

□ □ □

INDEX

	A	Page
Arc Lamps :		
“ Scissors ” Type S.L.	146
“ Right Angle ” Type X.L.	147
“ Straight ” Type C.L.	148—149
Mirror Type R.L.	108—110
„ „ 8M.L.	113—115
„ High Intensity Type H.M.L.	120—133
High Intensity Type H.L.	134—145
Arc Lamp Spare Parts :		
For Type R.L.	110
„ „ 8M.L.	118—119
„ „ H.M.L.	128—133
„ „ H.L.	140—144
Arc Voltmeter	145
Attachment, Lantern Slide	22
Automatic Feed Control (H.M.L. Lamp)	125
„ „ „ (H.L. Lamp)	139
	B	
Bracket, Lens	18
B.T.H. Sound System Outfit	58—63
„ „ „ Instructions for fitting Mechanism		
Drive	60—61
„ „ „ Drive Spare Parts	62—63
B.T.P. „ „ Outfit	76—81
„ „ „ Instructions for fitting Mechanism		
Drive	78—79
„ „ „ Drive Spare Parts	80—81
Burner Lubricant	133, 145

INDEX—continued.

C					Page
Cabinets, Spool	...	...	...	...	183
Care of Mechanism	...	...	...	...	24—25
Check Boxes	...	...	...	...	182
Circulation Indicator, Oil	...	...	...	...	25
Control Switch Box	...	...	...	...	163
Curtain Control, Electric	...	...	...	...	178—180

D					Page
Deflector, Magnetic Flame	...	...	...	...	124
Driving Motors	...	...	...	...	176—177

E					Page
Electric Curtain Control	...	...	...	...	178—180
Electrician's Pliers	...	...	...	...	185
"Elevenoil"	...	...	...	...	91

F					Page
Film Measurer	...	...	...	...	94—95
Film Rewinder	...	...	...	...	92—93
Fire Shutters	...	...	...	...	181
Flame Deflector, Magnetic Arc	...	...	...	...	124
Focal Length, Selection of Correct	...	...	...	...	98—100

G					Page
Gate	...	...	...	...	14
Gate, Spare Parts for	...	...	...	...	34—35
Gear Box Oil (for H.M.L. Lamp)	...	...	...	...	133

I					Page
Indicator, Oil Circulation	...	...	...	...	25
Instructions :					
For Fitting Mechanism to—					
W.E. Universal Base	...	...	...	...	48—49
W.E. 3A Sound Head	...	...	...	...	54—55
B.T.H. Type "M" Sound Head	...	...	...	...	60—61
R.C.A. „ "H" „	...	...	...	...	66—67
R.C.A. „ "J" „	...	...	...	...	72—73
B.T.P. Sound Head	...	...	...	...	78—79

INDEX—continued.

I					Page
Instructions—continued.					
For Setting up "Silent" Mechanism Drive	...	...	...	...	86—87
For Setting up Type R.L. Lamp	...	...	...	...	109
„ „ „ 8M.L. „	...	...	...	...	117—118
„ „ „ H.M.L. „	...	...	...	...	122—124
„ „ „ H.L. „	...	...	...	...	136—138
Intermittent Unit	...	...	...	...	12

K					Page
Kerascope for Type R.L. Lamp	...	...	...	...	111—112
„ „ M.L. „	...	...	...	...	116—117
„ Sectional Plan Line Drawing	...	...	...	...	116

L					Page
Lamps, Arc (see Arc Lamps)	...	...	...	...
Lamp, Incandescent, Type W.L.	...	...	...	...	150—151
Lantern Slide Attachment	...	...	...	...	22
Lantern, Projection Lenses	...	...	...	...	106—107
„ Slide	...	...	...	...	166—167
„ Stereopticon	...	...	...	...	168—169
Lens, Bracket	...	...	...	...	18
Lenses, Projection	...	...	...	...	98—107
Lubricant, Burner	...	...	...	...	133
Lubricating Oil	...	...	...	...	91

M					Page
Magnetic Flame Deflector (H.M.L. Lamp)	...	...	...	...	124
Mechanism, Prices	...	...	...	...	27
Motors, Driving	...	...	...	...	176—177
Motor Speed Regulators	...	...	...	...	177
Music Stand	...	...	...	...	184

O					Page
Oil :					
"Kalee Elevenoil"	...	...	...	...	91
Burner Lubricant	...	...	...	...	133
H.M.L. Gear Box Oil	...	...	...	...	133

INDEX—continued.

O

	Page
Oilcan	185
Oil Circulation Indicator	25
Oil Syringe	185

P

Philips' Sound System Outfit... ..	82—83
Pliers, Electricians	185
Projection Lenses	98—107
Projection Tables for Lenses	100 & 106

R

R.C.A. Sound Systems Outfits	64—75
Rear Projection Supplementary Condensers	27
„ „ Special Projection Lenses	27
Regulators, Motor Speed	177
Resistances, Parallel	158—162
„ Series	155—157

S

Safety Shutter	19—20
Screwdrivers	185
Series Resistances	155—157
Shutters, Fire	181
“ Silent ” Projector Outfit	84—89
Slide Lantern	166—167
Spanners	185
Spare Parts for Lamps :	
Type R.L.	110
„ 8M.L.	118—119
„ H.M.L.	128—133
„ H.L.	140—144
Spare Parts for Mechanism	28—45
Spare Parts for W.E. Universal Drive	50—51
„ „ W.E. 3A. Drive	56—57
„ „ B.T.H. Type “ M ” Drive	62—63

INDEX—continued.

S

	Page
Spare Parts for R.C.A. Type “ H ”	68—69
„ „ R.C.A. Type “ J ” Drive	74—75
„ „ B.T.P. Drive	80—81
Speed Regulators, Motor	177
Spools	96—97
Spool Cabinets	183
Spotlight Projectors	170—175
Stand, Music	184
Stereopticon Lantern	168—169
Switchboards	164—165
Switch Boxes, Control	162—163

T

“ Talkie ” Outfits	46—83
Title Projection Lenses	106—107
Tools	185
Transformer	152—153

W

Western Electric Universal Sound System	46—47
„ „ Type 3A „ „	52—53

