

Kineto, Ltd.

KINEMACOLOR BUILDING,
80-82, WARDOUR STREET,
LONDON, W.

(This cancels all previous Lists.)

PRICE LIST, 1911=12.

+ + + + +

Kineto Projectors
- - and - -
Catalogue of
Kinematograph
Accessories. . .



KINETO, LIMITED.

EXPORTERS AND DEALERS IN MOTION PICTURE REQUISITES,

80-82, Wardour Street, London, W.

TELEGRAMS AND CABLES: "KINETONIA, LONDON."

TELEPHONE: CENTRAL 6730.

CODES: A.B.C., 5TH EDITION; LIEBER'S; WESTERN UNION.

W.D.
8°
208
BR

Conditions.

As the cost of raw material used in the manufacture of goods herein catalogued depends upon market fluctuations, the prices of machines, cameras and all Kinematographic accessories are subject to change without notification being made.

LOSS OR DAMAGE DURING TRANSIT.—We do not hold ourselves responsible for damage or loss during transit; claim must be made against the carriers. Every precaution is taken in packing, and all goods are sent at Consignee's risk.

NO APPROVAL.—We do not send machines or appliances on approval.

PACKING CASES.—Cost prices only are charged for all cases and material used in packing, and these are not returnable.

DELIVERY is made at our Warehouse — 80-82, Wardour Street, London, W.

TERMS.—CASH WITH ORDER. Foreign and Colonial remittances (payable in London) must be accompanied by full shipping instructions.

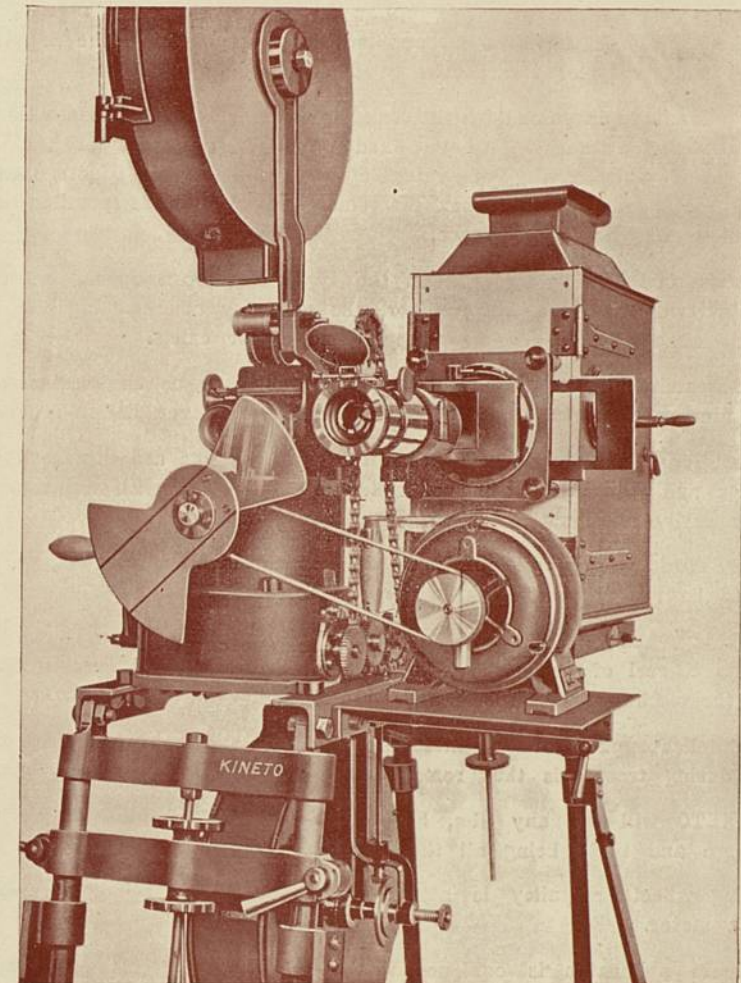
BANKERS. — "LONDON, CITY AND MIDLAND BANK, LIMITED," Shaftesbury Avenue Branch. Cheques and other forms of remittance should always be crossed.

CODES USED.—"A.B.C., 5th Edition," "Lieber's" and "Western Union."

Success Achieved ~

Kineto Model "B."

THE MATCHLESS PROJECTOR.



Absolute Steadiness. Smooth Working.
Silent and Flickerless. The Latest Improved Pattern.
British Manufacture Throughout.

Advantages of the Kineto Projector.

Passage of the film through the machine is provided by an Ideal Pin Movement, strong, hard and durable, which prevents the wear and tear of film, and is not easily injured, as are similar appliances in other machines of the class.

By engaging four holes on each side of the film, the strain—reduced to a minimum—is more evenly divided than is possible with any existing movement, whether of the pin, Maltese Cross or Dog Movement.

While the KINETO is the strongest and most compact Machine, the complete outfit is lighter and more easy of transport than any other Projector.

A great advantage is gained by the Take-up being placed underneath the mechanism, which allows the machine to be fixed close to the front of the operating chamber, or box. This saving of valuable space enables the Kineto Outfit to be worked with greater facility in a box 3ft. 6ins. square than is possible with any other machine working in a 5ft. space.

The lantern body, being larger than the types hitherto adopted, and the whole side of the lantern forming a hinged door, the necessity of removing the lamp for the adjustment of carbons or for re-carboning no longer exists.

Machine-scratched pictures are impossible with a Kineto as the medium of projection, as the film runs entirely on the outside edges and over hollow-ground rollers.

The Film Trap is so constructed that all small springs are dispensed with, the guiding springs and mechanism being of solid tempered steel, with adjustment screws which can be easily manipulated at the operator's discretion.

The KINETO is constructed on a principle which enables all films, of whatever registration, to be run, the machine racking $1\frac{1}{2}$ pictures.

The Take-up, being a direct drive is absolutely certain; an adjustable friction tension permits a reel of any size to be used, with an entire absence of film strain, pulling upon the mechanism, back lash and unsteadiness.

All the delicate parts of the Kineto are enclosed, and any possibility of bending or breakage during transit is thus removed.

The KINETO will run any film, however shrunken, broken-edged, or buckled, a perforation here and there being all that is required.

A driving wheel or pulley is attached to the shutter spindle, which permits the use of a motor.

The Kineto apparatus is equipped with a perfectly correct optical system for Kinematographic and Lantern projection purposes.

The foregoing advantages, combined with ease and quickness of working and perfect adjustment of mechanical parts, will not only secure for the Kineto the unqualified approval of every exhibitor and the satisfaction of his audience, but will also prolong the life of his films and effect a great saving in his expenses.

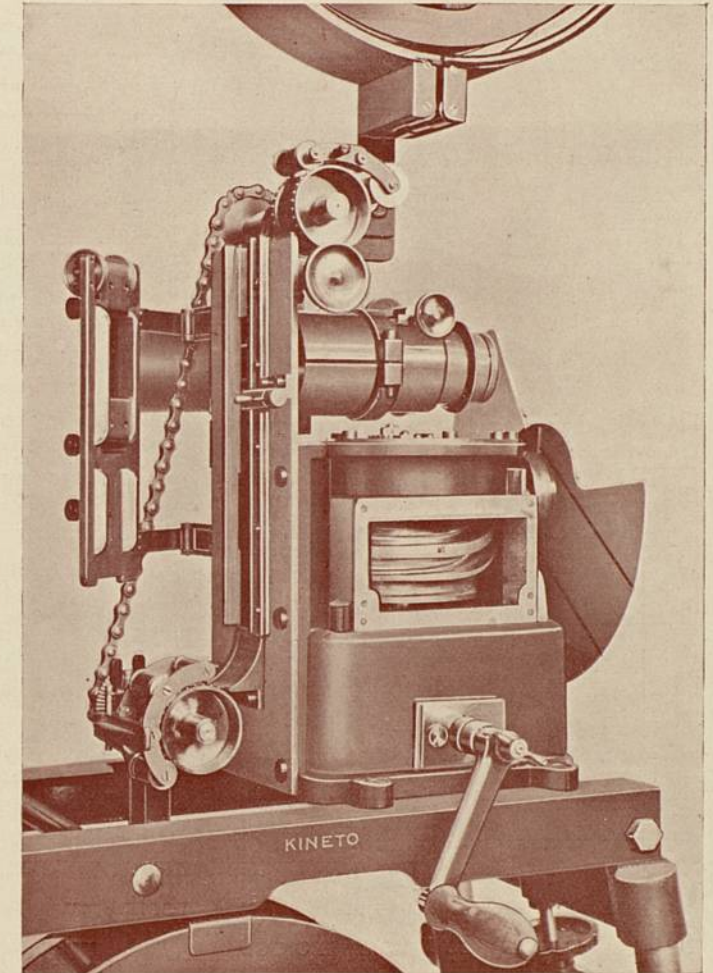
The KINETO PATENT PROJECTOR.

DETAILS OF MECHANISM.

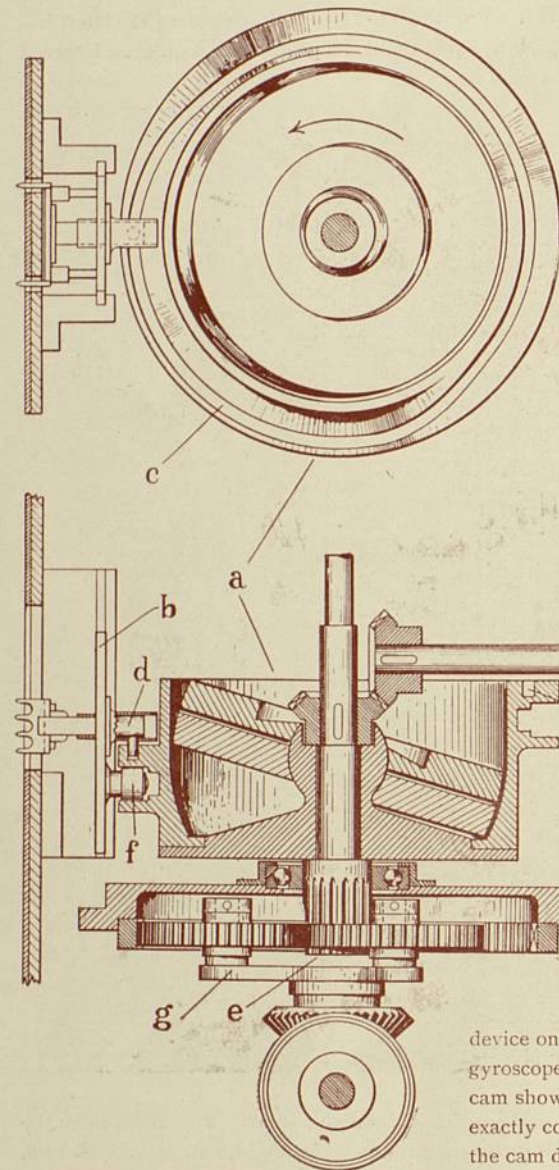
In giving details of the construction of this Projector, we desire to preface our description by pointing out that it is the result of many years' careful study and experiment in the design and manufacture of this class of apparatus, and that it embraces all the best features and all the latest improvements which have been introduced to date, in addition to the unique features which are reserved to it under our Patents.

In order to obtain the most perfect results in a Projector, it is necessary that the period of movement as compared with the period of rest should be as short as possible. This allows for the maximum amount of illumination on the sheet, as the more rapid the movement, the smaller the width of the shutter necessary to mask the said movement. It is also necessary that the mechanism which moves the film intermittently should do its work with such accuracy that there is absolutely no difference between the amount of "pull down" on each successive picture.

In the feeding mechanism of this Projector, the period of movement is only one-fifth the total period of each picture; that is to say, it is moving for one-fifth and is stationary for the remaining four-fifths of a period. The piece of mechanism which operates the entire cycle of movement for each successive picture does so in one complete revolution; it is not dependent upon the accuracy of a dividing arrangement between the driving gear and the part which moves the picture, as in the case of the ordinary Bioscope mechanism, where any inaccuracy in the cutting of the sprocket drum or the main gear wheel will cause an unsteady picture. The steadiness of the projection thrown by this machine is absolutely independent of the cutting of the gearing.



Of course the most interesting part of the machine is the actual feeding mechanism, and in order to explain its action, we show a section of this in the following diagram. The vertical spindle carrying the double cam, "a," makes a complete revolution for each picture as it passes through the Projector. It is driven through the "sun and planet" gearing by means of the horizontal shaft shown in section; this is the shaft which carries the driving handle, and the gearing is five to one, and eight pictures for



each revolution of the handle. The ring, marked "h," is cut with internal teeth and is a fixture to the bearing plate, marked "j." The spider, "g," which is fastened to—and driven round by—the top bevel wheel, is fitted with three pinion studs, each of which carries a toothed wheel or "planet" gearing into the centre pinion, "e," and the ring, "h." The result is that the drive is divided between the three planet wheels, thus securing a finely balanced movement and making a gear which it is almost impossible to wear out.

The Cam "a" is cut with a groove in its outer periphery which engages with a roller marked "f," and this groove imparts a vertical movement to the feed slide "b," exactly corresponding to the height of a picture, that is, three-quarters of an inch.

A second and somewhat smaller groove marked "c" in the diagram is cut on the top face of the cam in such a way that it controls the position of the feeding claw in its relation to the film.

While the feed slide "b" is travelling downwards, the feeding claw is moved forward so as to engage with the perforations in the film, but while the feed slide is travelling up the feeding claw is withdrawn clear of the film.

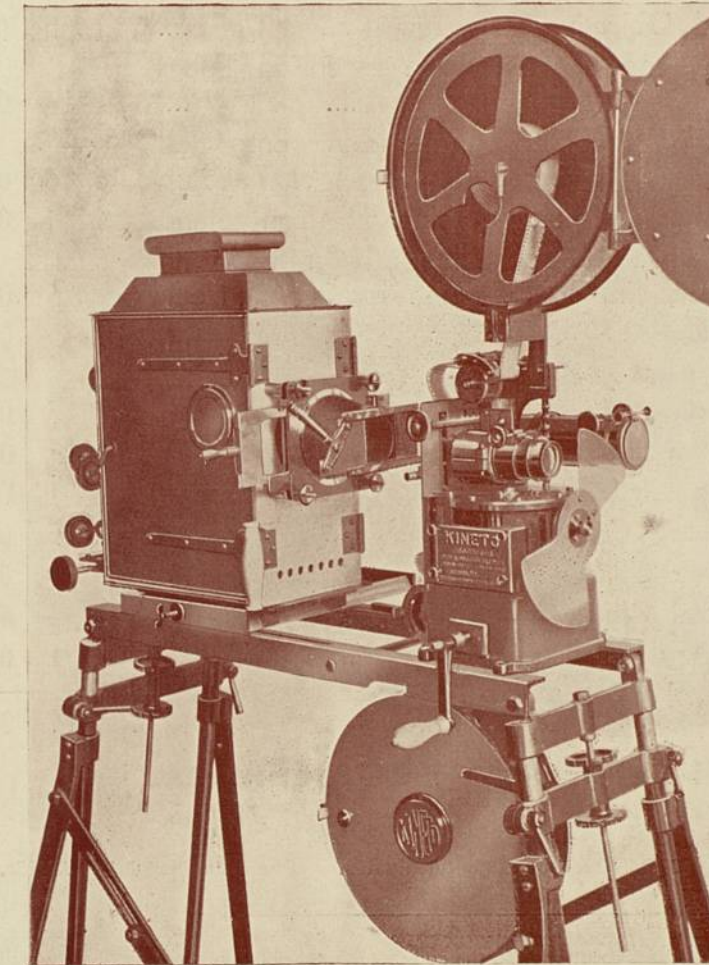
The Cam itself is of novel construction, it acts as a steadying device on the whole mechanism on the principle of the gyroscope. The two balancing discs in the centre of the cam shown in section in the diagram are arranged to exactly counter-balance the difference in the mass of the cam drum so that no deflecting strain is thrown on

the bearings with the result that the picture is thrown steadily on the screen and the driving power is reduced to a minimum. All parts are made to gauge, and are practically interchangeable, and those subject to hard wear are made of steel, hardened and tempered.

The Latest KINETO Projector.

MODEL "B" (Patent).

::: BRITISH MANUFACTURE THROUGHOUT. :::



Selected from many . . .
Unsolicited Testimonials.

CINEMA ODEON,
PARIS.
Oct. 11th, 1910.

This machine is my pet. It has been on the constant run, four shows daily, passing at each 2,200 meters, commencing March 22nd, 1910. That makes me pass through this machine without it once sticking, breaking or tearing a film (and I am using all makes), about 1,848,000 metres or about 5,554,000ft. It has never caused one minute's delay to myself or audience. It has gained for me the reputation of a show that "does not make the eyes ache."

C. B. BROCKWAY.

CURZON HALL,
BIRMINGHAM.
Oct. 8th, 1910.

The KINETO has been in constant use and has been going beautifully and with perfect steadiness.

Faultless Construction. Silent Action.
Perfect Projection. Everlasting Wear.

Kineto Projector Outfit, MODEL "B."

ILLUSTRATED ON PAGES 3 & 5.

	PRICE:		
	£	s.	d.
One Kineto Mechanism fitted with Lantern Lens Bracket and Adaptor	30	0	0
One Rackmount or Lens Holder	10	6	
One Kineto Special Objective (any focus)	1	5	0
One Kineto Special Lantern Lens with Extension Tubes (any focus up to 18in.)	17	0	
One Set of Fireproof Spool Boxes, the lower one fitted with adjustable friction geared Re-winder or Take-up	6	6	0
One Kineto special, extra heavy, adjustable Iron Stand	4	4	0
One Kineto special large and iron Lantern, body fitted with special extra heavy 4in. Condenser, mounted in 4½in. cell	5	5	0
One Kineto Adjustable Lamp Tray	1	5	0
One Kineto extra heavy Arc Lamp (choice of either Model "L," or Model "M"	7	7	0
One Kineto Brass double Slide Carrier	15	0	
One Kineto Curtain Light Cut-off	1	1	0
One Kineto Travelling Case	3	5	0
Twenty-five pairs of Carbons (16 solid, 22 cored)	10	0	
One bottle of Special Clock Oil	2	6	
One can of Ordinary Oil	1	0	
Code "KINO."	£62	14	0

Special Price - - £60 complete.

.. EXTRAS ..

One Kineto Motor Shelf, 10s. 6d. One Special Motor, £3 10s. One Motor Regulator, £1 15s.

NOTE.—In the event of any articles mentioned in the complete Outfit not being required, same will be allowed for at Catalogue Prices.

If Spool Boxes are not required, the ordinary top arm and take-up, as per illustration on page 15, can be supplied, allowance being made according to Catalogue Prices.

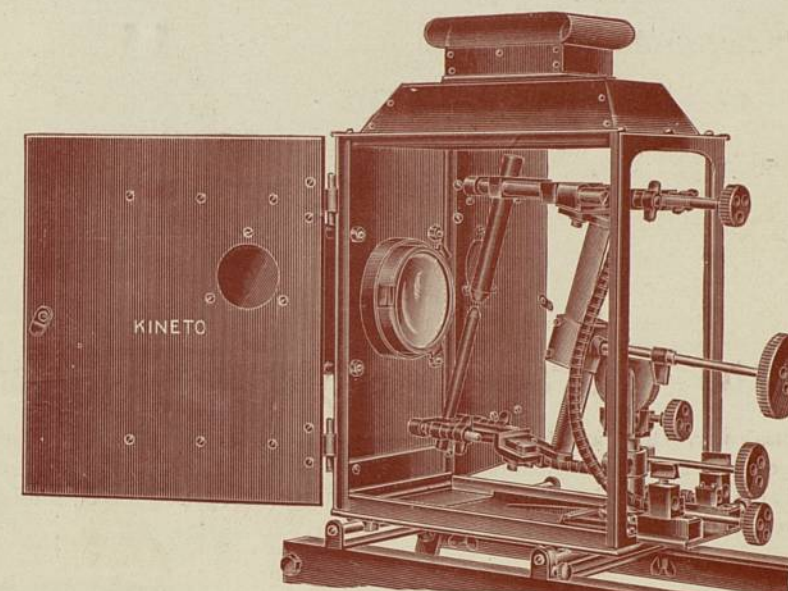
When ordering Motor please state voltage on which it is to work.

We can quote specially for Resistances upon receipt of particulars as to current capacity and supply of voltage.

Kineto Lantern Body.

Constructed on entirely new lines for practical use and not for show—although of very neat design—the Kineto Lantern possesses many advantages not hitherto introduced. :: :: ::

The front and back pillars, and the base, are made of thick cast iron plate. The doors and lantern are of heavy Russian iron, attached to the front by massive brass hinges. Absolute rigidity is secured by the solid brass stage and cone of the lantern being securely fitted to the substantial cast iron front. The construction of the stage allows an alum trough to be fitted, and the cone is of the standard size, which permits the attachment of the curtain light cut-off.



The doors form the full sides of the lantern, and the peep-hole, being made a trifle larger than is usual and placed in the front a little above centre, gives the correct line of vision while the operator is regulating the light.

The condenser tube is of sufficient size to allow the use of a 4½in. condenser, but we supply, unless otherwise requested, one of the Kineto Special 4in. Condensers mounted on brass lugs to fit the 4½in. tube, providing good ventilating space and helping to keep the condenser cool. This extra heavy metal condenser will easily accommodate 100 or 101 m/m Lenses, and is held in position in the tube by bayonet catches. The tube is made in one casting and forms part of the lantern front.

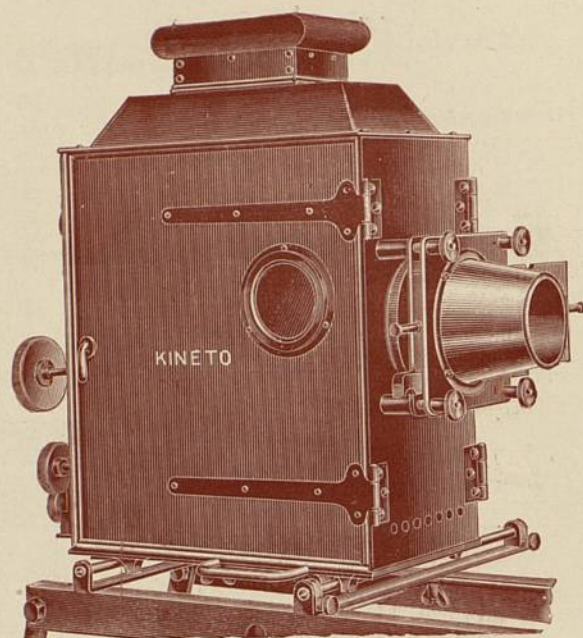
Another important feature of the Kineto Lantern is its extra large size—20ins. high over all, 13ins. long and 7½ins. wide—which permits the use of extra long carbons. The lamp carbon holders can easily accommodate 7in. carbons, or longer if required—a great advantage, as there is no necessity to change carbons even during an exhibition of three hours' duration.

The base of the lantern is fitted with runners for jet and lamp trays. The underside of the lantern is grooved to slide on rods attached to the stand for the purpose of moving the lantern into position for the display of ordinary slides or general stereopticon work.

THE WHOLE IS HIGHLY
FINISHED AND OF . . .
SUPERIOR APPEARANCE.

Code - "KINOT."

Price . . £5 5s.



Kineto Extra Heavy Condenser.

This Condenser, extra heavy, is made in three parts, the rims being attached to the cell by a system of bayonet catches which prevent binding when removal of the lenses is necessary for cleaning purposes. As the metal used in the construction of the cell is slow to heat and cool, a lens broken by sudden expansion or contraction is practically impossible.



Code - "KIN."

The cell will accommodate either 100 or 101 m/m lenses, and is held in position in the lantern tube by a bayonet catch.

The lugs are attached to the cell by means of long screws which allow for packing should the lantern tube be too large, thus practically making the Condenser adjustable and easily fitted to lanterns of other types.



Price . . . £1 3s.

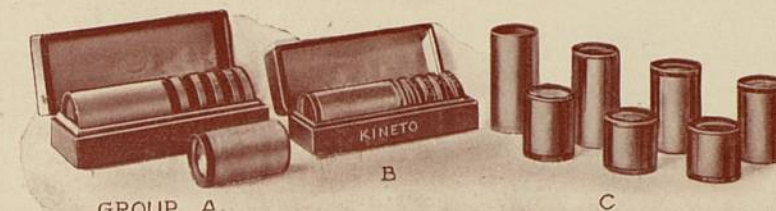
EXTRA CONDENSER LENSES.

Bi-Convex Condenser Lenses, 4in. diameter	...	...	...	2s. 6d. each
Meniscus Lenses, 4in. diameter	...	...	...	2s. 6d. each

Kineto Kinematograph Objectives.

These special objectives of various foci (Group "C") are mounted in highly polished brass tubes $1 \frac{43}{64}$ ths of an inch in diameter, and are used with the KINETO Rackmount, the lenses being interchangeable.

The lenses are quite rectilinear and give a perfectly flat field, colour values being truly rendered and sharp definition obtained.



Code "CABED."

Price (any focus) . . £1 5s.

Multifocal Casket Sets (Group "B") made in Two Sets of Five Lenses each.

Short focus series	..	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4in. focus
Long ..	..	$4\frac{1}{2}$	5	$5\frac{1}{2}$	6	$6\frac{1}{2}$ in. ..

Made in tubes of $1 \frac{43}{64}$ ths inches in diameter to fit in the KINETO Rackmount. The lenses of fixed foci are, however, recommended.

Code "CABEZ."

Price . . £3 3s.

Kineto Rackmount or Lens Holder.



This holder is made of brass, highly polished and lacquered. A milled headed screw, working in a brass saddle, actuates the Rack and Pinion for focussing, and the inner tube is split so that all lenses will fit truly and firm.

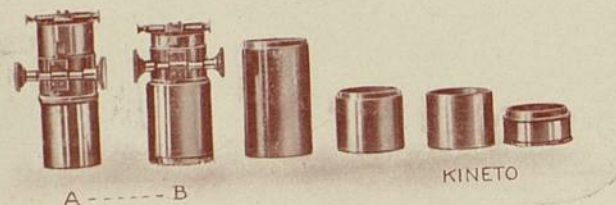
Code "CABEDEL0."

Price . . 10s. 6d.

Kineto Lenses for Announcement Slides.

"A."

These lenses are of first-class quality and are used with the Kinematograph for showing general announcements and lantern slides. The mounts are highly polished and lacquered and the equivalent focus is engraved on the hinged flash shutter.



PRICE—Any focus to 18in. - - - - 17s.
„ Above 18in. focus - - - - 22s.

Code "CABEIRIC."

Multifocal Lenses.

"B."

This lens is a teleobjective for lantern slide projection and replaces the ordinary lenses from 6in. to 16in. focus inclusive. To obtain a certain size picture it is only necessary to draw out or close in (according to distance of lantern from screen) the lens by the aid of extension tubes until the picture is formed to desired size, and, in order to obtain sharpness, to focus the lens by means of its rackmount.

A most useful article for any outfit.

Code "CABERMUL."

PRICE - £3 3s.

Extension Tubes.

These tubes are made of brass, polished and lacquered in the same finish as the lenses. They are made in the following lengths, and the prices are as below:—

PRICE—1in., 2in., 3in., 4in. - - - each 5s.
„ 5in. - - - - - each 6s.

Code "CABELIAN."

KINETO FILM CEMENT.

Specially prepared. Always ready. Makes strong and perfect joints without drawing or wrinkling the film. Supplied in bottles with stopped corks, and camel hair brush.

Price per 4oz. Bottle - - 4s. 6d.

NON-FLAM FILM CEMENT.

Supplied in bottles with stopped corks and camel hair brush.

Price per 4oz. Bottle - - 5s. od.

CALICO AND LINEN SCREENS.

Made of the best material, hemmed all round and fitted with eyelets; made in any size required. The following prices are subject to market fluctuations:—

	CALICO.	LINEN.		CALICO.	LINEN.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
10 feet square ...	0 13 0	1 2 0	16 feet square ...	1 12 6	2 10 0
12 „ „ ...	0 16 6	1 10 0	18 „ „ ...	1 19 0	3 3 0
14 „ „ ...	1 5 6	2 0 0	20 „ „ ...	2 6 0	4 4 0

TO FIND THE DIMENSIONS OF A PICTURE.

Divide the distance (in inches) between the sheet and the lens by the focal length of the lens. The result will furnish the width of the picture in inches on the screen, and its height will be three-quarters of the width.

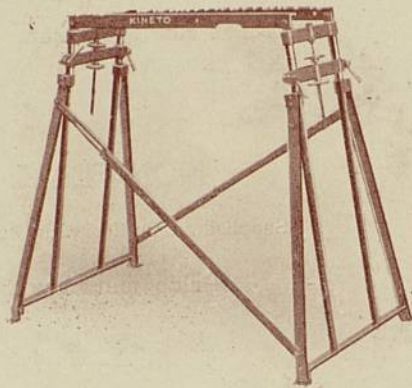
EXAMPLE—Distance between lens and sheet, 85ft. or 1,020ins.; focal length of lens, 5ins. Width of the picture, therefore, 1,020ins. ÷ 5ins. = 204ins., or 17ft. Height of picture, 17ft. ÷ $\frac{4}{3}$ = 12ft 6ins.

The lens of a slide projecting lantern should be three times the focal length of that used in the projection of Animated Pictures.

Kineto Special Extra Heavy Stand.

This stand has been most carefully designed to meet all requirements as regards strength and adjustment. It is considerably stronger than the KINETO Bioscope stand as the framework is made of much heavier material.

For the purpose of adjustment, either end can be raised or lowered by a coarse threaded bolt fitted in the centre of each end, as per illustration. Each corner support is also fitted with a clamping screw, which does away with any possibility of side-play. There are four cross supports supplied instead of two, as illustrated, doubly ensuring the rigidity and strength of the stand. The feet of the stand are drilled and adjustable so that they can without trouble be bolted to the floor. The weight is about 75 lbs.



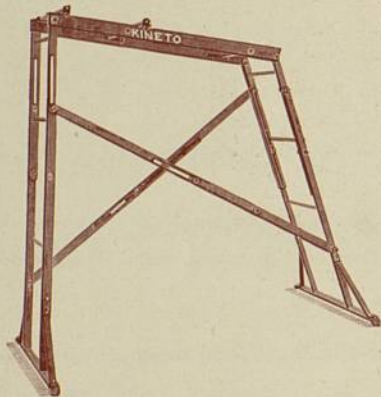
It is made specially for the Kineto Projector, but any other machine can be adapted.

Code - "KONY."

Price . . . £4 4s.

Kineto Adjustable Bioscope Exhibition Stand.

Designed and constructed to supply a long-felt want and to replace the rickety "anything-will-do" Exhibition Stand in present use, this Kineto appliance is a novel and valuable feature in Kinematographic projection, easily adjusted and absolutely rigid.



Made entirely of iron, the new projecting stand is so constructed that the back or front can be raised or lowered six inches. The legs can also be extended in a backward and forward direction, as in the illustration, which enables the operator to obtain any required angle by the simple process of tilting.

Strengthened by adjustable diagonal stays, the stand can be bolted and perfect rigidity secured when the desired position and elevation has been found.

The top rails are drilled with several screw holes, to allow the attachment of any existing base board.

The stand is of the best workmanship, finished in a chocolate coloured hard stove enamel, and made in detachable pieces for facility in transport.

Its dimensions, when on the lowest right angle elevation, are 36ins. wide, 38ins. high

Code - "KONE."

Price . . . £2 10s.

Kineto Take-up.

Made in a solid and rigid casting, this Take-up can be firmly fastened to the mechanism, and is easily detached for transit.

It is made with a direct-gear drive, with an adjustable friction plate which controls the tension of the reel and ensures a steady and uniform pull when the film is re-wound.

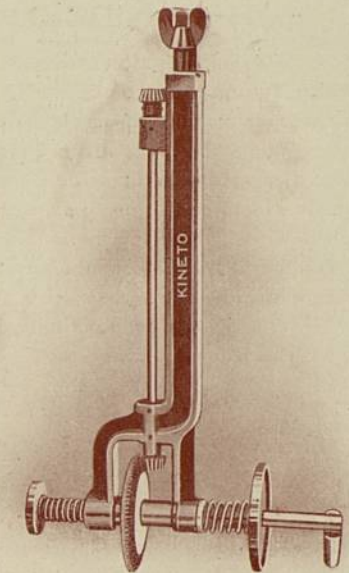
The arm is sufficiently long to carry a 16in. spool.

The Kineto Take-up is made to absolute gauge, and, by providing accuracy and alignment in running, prevents the wear and tear of perforations so often caused by the film straying from side to side of the reel.

The casting is carefully finished in a hard stoving enamel of chocolate colour, and the steel and brass parts are highly burnished.

Code "KETO."

Price £2 10s.

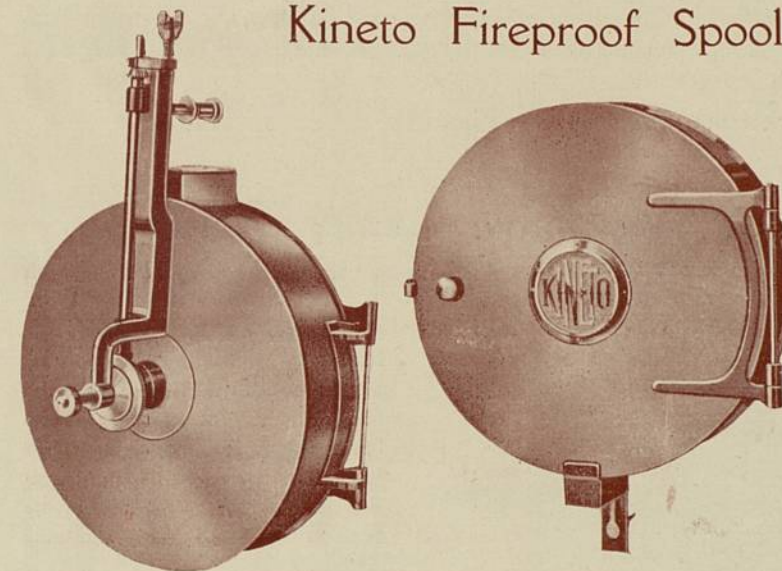


Kineto Fireproof Spool Boxes.

These boxes are of very excellent design, made after a large amount of experimenting, and are constructed of sheet steel.

The hinges are made of extra heavy solid brass, which adds to the strength and durability of the boxes.

The inside measurements are 12½ins. diameter and 2½ins. deep which allows ample room for reels to run without binding on the sides.



L.C.C. rules and regulations have also been very carefully considered.

Code "KOTES."

Price £6 6s.

Note.—Fireproof Spool Boxes for the Maltese Cross Movement and the Two and Three Sprocket Bioscopes are similar in construction, and the same materials and care are used, but they are of slightly different design. **Price as above.**

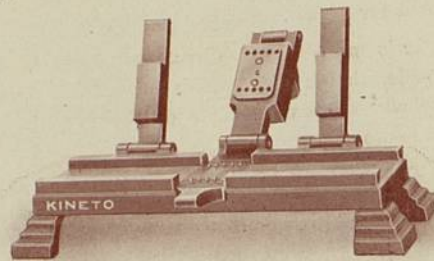
Kineto Special Film-Joiner.

This Joiner is most convenient and a labour and time saver. The film race is of good length, which ensures perfect alignment, and by placing the ends of the film over the teeth absolute accuracy in making joints is obtained.

When the ends of the films have been placed properly on the pins by closing the centre clamp, which is fitted with a spring cushion pad, sufficient tension is caused to press the films together evenly and to make a secure joint.

The mender is beautifully finished in green enamel and polished brass.

Code "CABUN." Price £1 15.



Special Kineto Joining Outfit.

This little handy Outfit includes a bottle of Cement, a part of a standard gauge Sprocket Wheel, a steel Straight Edge, a hardened steel Scraper and a piece of plate glass.

By the use of these various articles perfect joints and absolute registration are obtained. The part of the sprocket wheel ensures the registration and the straight edge and scraper remove the emulsion without ragged edges from the film base. The plate glass supplies a smooth and transparent surface to work upon. This outfit has proved itself a great convenience and a most useful article to an equipment.

Code "CABREADO."

Price 12s.

Kineto Adjustable Lamp Tray.

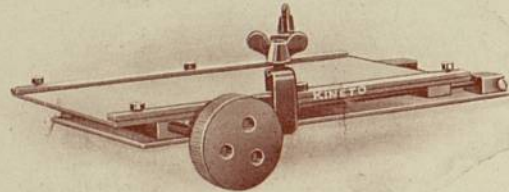
This Tray supplies an acknowledged want as it enables the operator to bring the crater with great nicety into the focus of the condenser.

The Tray consists of two platforms, the lower one being securely fixed to the floor of the lantern house, while the upper one has a limited travel and is moved backwards and forwards by the use of a rack and pinion adjustment. The base of the lamp rests on the travelling portion and is secured in its position by small and adjustable clamps.

This Tray is not only a great convenience, but is most useful in preventing any possibility of burnt fingers and shock while the operator is endeavouring to get the lamp in proper position.

Code "CABESTROS."

Price £1 5s.



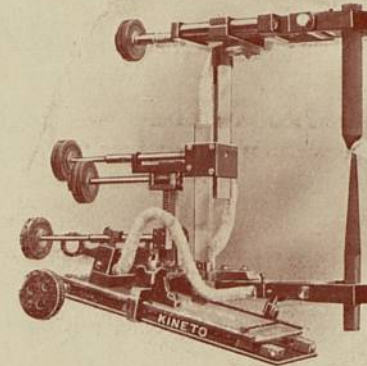
The Kineto Special Arc Lamps.

MODEL "L."

Hand-Feed Arc Lamp.

The chief feature of this lamp is its extra solid construction and convenience. It is very heavily built to counteract the effects of expansion and contraction. Every part carrying current is highly insulated with mica so that the body of the lamp itself is safely insulated.

Every known and required adjustment is provided for and carbons ranging from 12 m/m to 25 m/m diameter can be used.



Model L.

Only one adjustment is used for gripping carbons in the holders which ensures carbons always coming in proper line.

For use on alternating current the carbon holders can be adjusted to any angle. The pillars supporting the carbon holders are triangular in shape which avoids any possibility of side-play, and their extra length enables the use of extra long carbons.

Code "KOLT."

Price £7 7s.

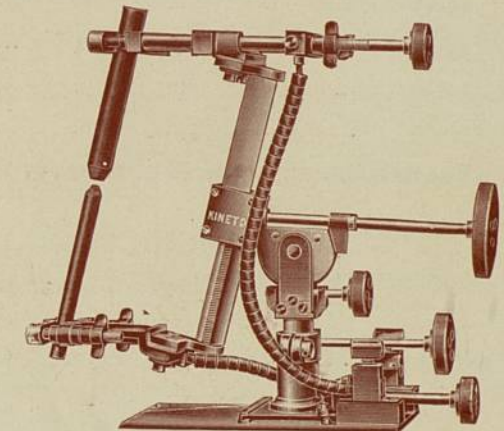
MODEL "M."

This lamp is furnished with a tilting arrangement of nearly half-a-circle, and every provision for side, upward and downward adjustment is made.

The uprights supporting the carbon-holders are triangular in shape, to promote absolute steadiness and prevent sideplay when the light is adjusted.

The teeth of the rack are large and perfectly cut, to permit easy feed of carbon.

The top carbon-holder is adjustable and is worked from the back of the lamp, so that a carbon may be replaced without the operator waiting for the arm to cool.



Model M. Capacity of Lamp, 75 amps.

Code "KOTE."

Price £7 7s.

Finest Grade Electric Light Carbons

For PROJECTION ARC LAMPS.

The better the carbon, the more brilliant the light; consequently, the more satisfactory the picture.

Upon the quality of the carbons used for Kinematographic Arc Lamps the success of the display very largely depends, especially where the intense currents necessary for Kinematographic exhibitions are dealt with.

The finest grade carbons obtainable, giving a brilliant, steady and silent light—without the spluttering, hissing or shifting of the arc which are noticeable features where carbons of inferior grade are employed—are by far the most economical in the long run.

The following quotations are for carbons of the very finest quality only, nicely pointed ready for use.

FOR CONTINUOUS CURRENT.

Packages of 25 carbons, 1in. points.

Amps.	Solid.		Cored.		Price	
	Length	m/m	Length	m/m		
10-15	7in.	10.	7in.	13.	3 3	
15-25	7in.	12.	7in.	16.	4 3	
25-35	7in.	13.	7in.	18.	5 2	
35-45	7in.	14.	9in.	20.	7 3	
40-50	7in.	16.	9in.	22.	9 2	
50-70	7in.	18.	9in.	25.	11 6	
Special 3in. tapered, 18 m/m solid, 7in. long (per 25)					6 0	

FOR ALTERNATING CURRENT.

Packages of 25 carbons, 1in. points.

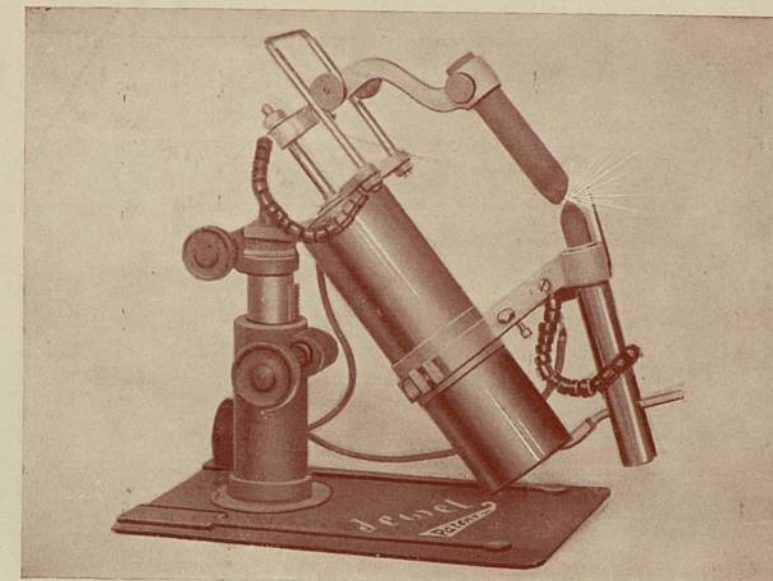
Amps.	Length	m/m	Cored	Per 25 pairs	s. d.
20-30	7in.	13.	"	"	3 10
30-35	7in.	16.	"	"	5 6
35-50	7in.	18.	"	"	6 10
60-80	9in.	20.	"	"	10 10
60-74	9in.	22.	"	"	13 4
80-100	9in.	25.	"	"	18 0

THE JEWEL (Patent)

Self-adjusting & Portable Arc Lamp.

UNEQUALLED FOR BRILLIANCY AND STEADINESS OF LIGHT.

Consumes 15% less Current than the ordinary "hand-feed" Projection Lamp.



SPECIALLY ADAPTED FOR AMATEURS' OPTICAL LANTERNS AND HOME USE.

This lamp is entirely self-adjusting and when once connected up correctly will require no attention until the carbons have burnt out.

It can be instantly connected to any ordinary 6 ampere electric lamp holder or plug by means of the flexible conductor supplied with the lamp. It is made to suit all voltages, both continuous and alternating, will fix in any lantern and is absolutely unaffected by shaking, vibration, etc.

The centring with the condenser of lantern is first adjusted by means of two rack and pinion movements on the lamp.

The resistance supplied with each lamp is adjustable so that the lamp can be used on any circuit from 70 to 250 volts.

A special improvement is the arrangement of the carbons at an obtuse angle, and through the influence of a blow magnet, the crater is open to the condenser only.

Price for Lamp, including resistance and five yards of flexible connection, with plugs, etc.

6 ampere Lamp for Direct Current ... £5 0 0

6 " " " Alternating Current ... £5 5 0

Particulars for lamps of higher amperage on application.

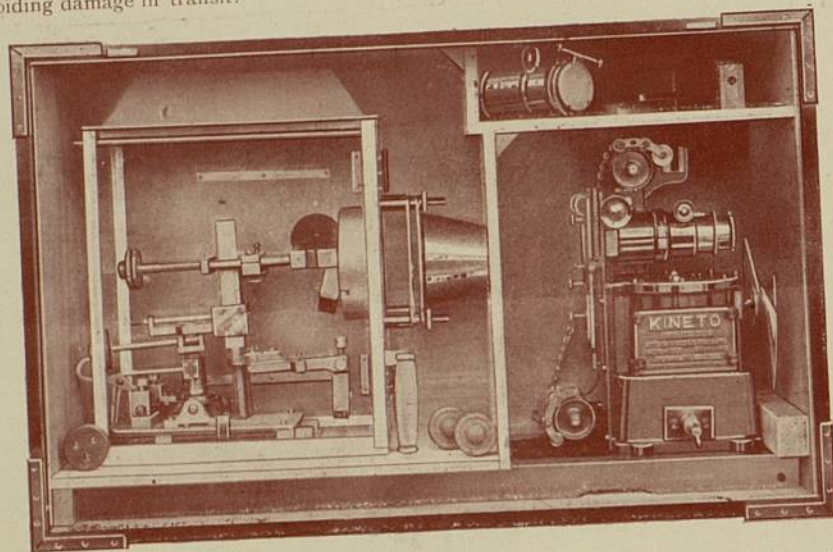
The efficiency of the lamps depends largely on the quality of the carbons used, and we respectfully advise customers to only use our special carbons.

When ordering lamps please state whether required for alternating or continuous current.

The KINETO TRAVELLING CASE

This case is constructed of heavy, best grade, white wood, and is finished mahogany colour. The cabinet work is first-class in every respect, the case being dove-tailed and every precaution taken to make it solid and substantial.

It is so designed that the various parts of the outfit pack securely in separate compartments thus avoiding damage in transit.



All parts of the outfit can be packed in the case excepting legs and struts of iron stand. The case is fitted with lock, two extra safety catches, handles for carrying and heavy iron corners. Outside dimensions, 35ins. long, 22ins. high and 13ins. deep.

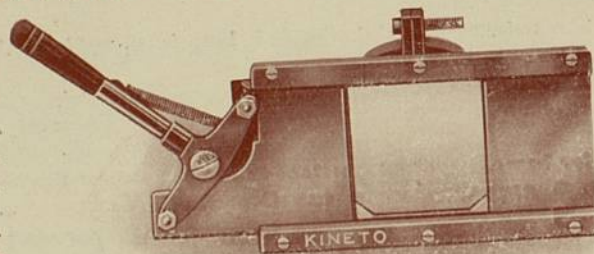
Code "KION."

Price . . . £3 5s.

KINETO CURTAIN LIGHT CUT-OFF.

Another innovation in Light Cut-offs, producing a new effect in the gradual illumination of the projected picture or slide announcement with a gradual Curtain Cut-off (being equal from both sides).

Manufactured of solid brass. Will fit any standard Lantern Cone by means of a clamp ring operated by a screw.



Code "CABREMOS."

Price . . . £1 1s.

20.

Kineto Combined Film and Spool Winder.

TABLE PATTERN.

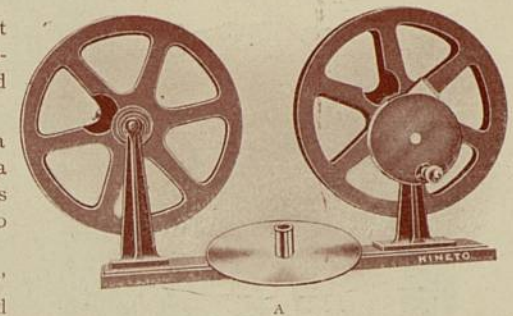
This is perhaps the most convenient winder made, as it is so constructed that it re-winds from reel to reel, or films can be wound separately with safety and speed.

The two arms are mounted securely on a small oak base-board. One is for holding a spool of film to be re-wound and the other is for re-winding the film. The gearing is five to one and totally enclosed to prevent accident.

By removing the large brass disc, "A," which is held in position by a large milled head nut, the machine is adaptable for re-winding from spool to spool. The metal parts are heavily constructed, finished in green hard enamel and the brass parts are highly burnished. A most useful and ever-ready instrument.

Code "KOMB."

Price £2 10s.



Kineto Combined Film and Spool Winder.

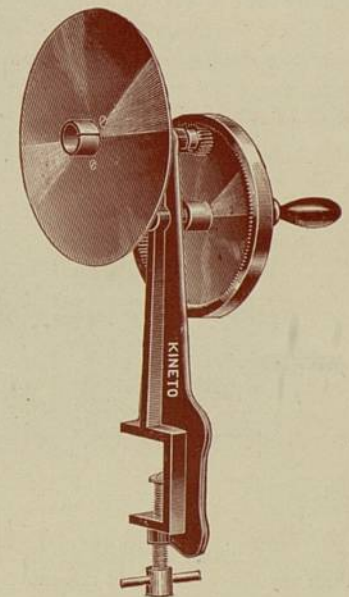
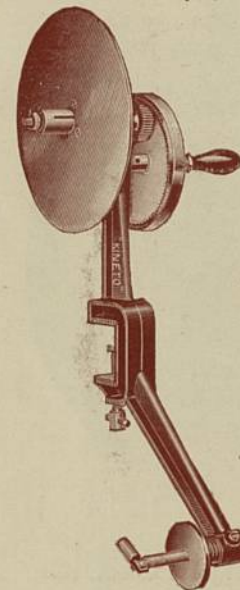
DOUBLE ARM PATTERN.

This winder is made for the purpose of re-winding either single films or from reel to reel, and is easily fitted to any table or shelf, temporarily, or as a fixture.

The gearing is five to one, enclosed in a heavy brass shield which prevents any accident as regards film or fingers being entangled in the gear.

The arms are made of heavy cast iron, finished in green hard enamel. The brass parts are all highly polished and lacquered. As illustrated the winder is for the use of winding single films from a reel, but for the purpose of re-winding from reel to reel the brass disc is removed.

Code "KOIN." Price £2 10s.



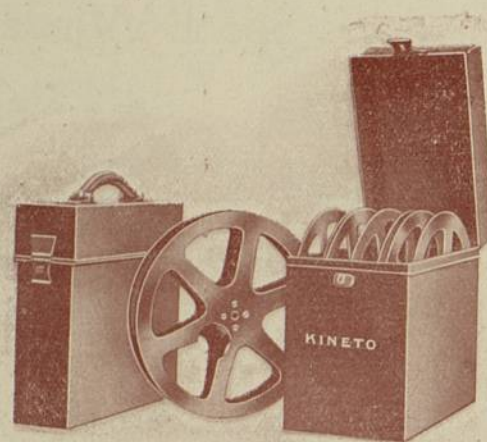
Kineto Film Re-winder.

This re-winder is of similar design and construction to the double arm pattern, but it is for re-winding single films only. The gearing is the same—and film up to 1,000ft. can be re-wound without difficulty. It is finished in hard green enamel. Brass parts are highly finished and lacquered.

Code "KITO."

Price £1 1s.

21



Kineto Reel Carrying Cases.

These cases are made of Russian Iron, are very rigid and are finished in hard enamel outside and in. They are supplied in two sizes for two and four reels. The handle is made of leather and is securely fastened to the top of the case which is reinforced.

PRICES:

Two-Reel Case	...	...	16s.
Four-Reel Case	...	...	23s.
Kineto 12in. Reels	...	...	5s. 6d.

Kineto Iron Reel.

These reels are made of iron of sufficient thickness to ensure their keeping their shape and they will not buckle as is the case with lighter ones. They are all made to gauge, which is most essential in using fireproof spool boxes. For the convenience of the operator the sides of the reels are slightly cut out opposite the steel clip for fastening the film to the reel, which is most convenient when changing reels. The core is of wood fitted with a metal sleeve and each side is fastened to it by four substantial screws.

Made only 12ins. in diameter.

Price - - 5s. 6d.



Metal Double Slide Carrier.

This carrier is made of solid brass and all parts are securely rivetted together, thus avoiding any possibility of breakage or becoming affected by heat.



It is highly polished and lacquered, and the metal used in its construction is of thicker gauge than any other carriers of this description.

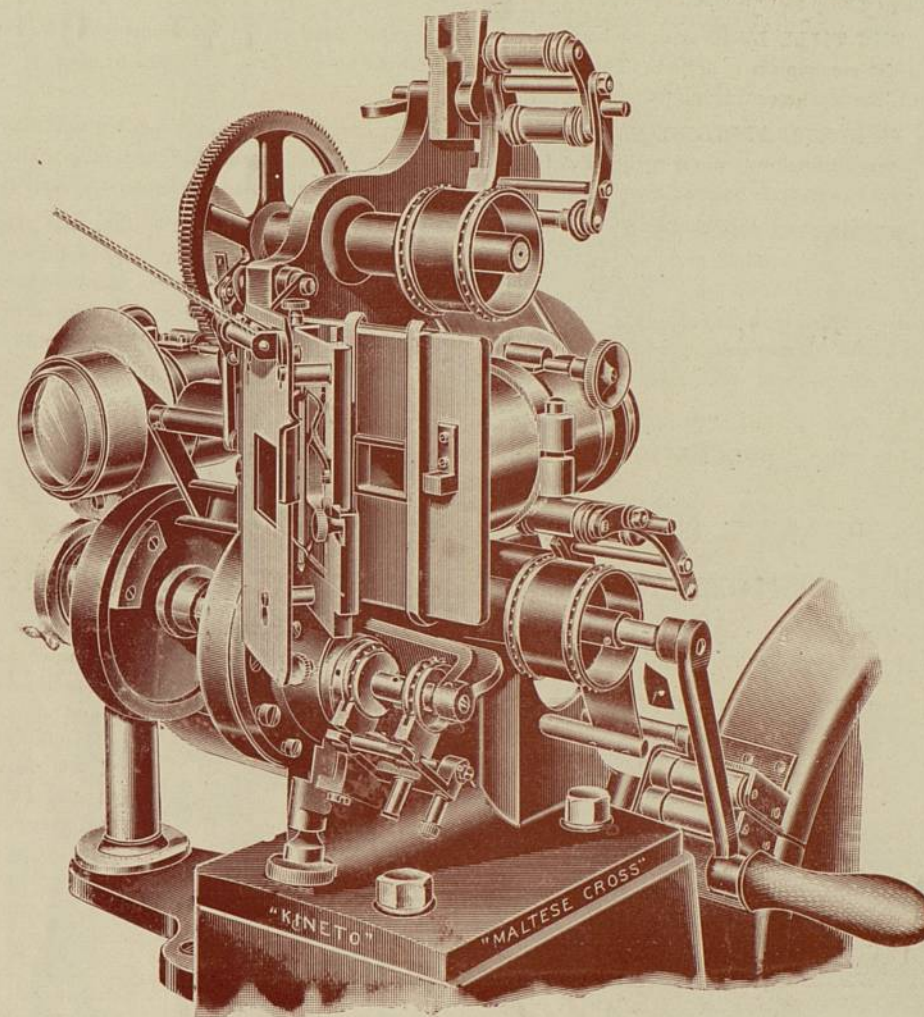
Code "CABELLERA."

PRICE - - 16s.

The Kineto Maltese Cross Projector.

This machine is the result of a large amount of experience in the design of this class of apparatus and embodies all the latest improvements in projectors made on the **Maltese Cross Principle**.

THE MALTESE CROSS MOVEMENT is beautifully made from tool steel hardened and tempered and afterwards ground up to exact size and form so as to remove any possible error due to



change in the steel during the hardening process. The finger wheel, sometimes termed the locking ring, is made solid with the spindle by which it is driven thus preventing a fault so common in many Maltese Cross projectors where the finger wheel is only attached to the said spindle by means of a feather and screw. The Maltese Cross runs in an oil bath thus ensuring ample lubrication and an eccentric adjustment is fitted to the spindle bearings so that any wear can be readily taken up.

THE INTERMITTENT SPROCKET, which has 16 teeth is made in one piece from steel and is fitted on a taper spindle so as to ensure a rigid mounting. The sprocket teeth are most accurately cut by special machinery in order to obtain absolute steadiness of the picture on the screen.

THE MASKING DEVICE consists of the usual arrangement of moving the mask together with the projecting lens by means of a milled head with rack and pinion.

THE TAKE-UP is driven by a steel roller chain, the slip gear consisting of friction discs and spring carried on the take-up spindle itself. The take-up is positive and most reliable in action, working equally as well when the reel is just starting as when it is full.

THE TITLE LENS is carried on an adjustable pillar fitted on the cast iron base block to which the mechanism is bolted. The change from Projector to title lens is effected by moving the lantern, the mechanism being fixed.

FIREPROOF SPOOL BOXES are supplied with this machine when required, they are made from sheet steel throughout, fitted with heavy brass hinges and substantial spring lock fastening. These Boxes are handsomely finished in stove enamel to match the machine and are made to take 12in. spools.

AUTOMATIC SHUTTER, PATENTED. The supply of this is optional, it consists of a piece of self contained gearing, mounted on a bracket carrying a guard plate, fixed just clear of the gate. This guard plate has a hole in it sufficiently large to clear the light from the lantern, the hole being normally covered by a steel drop shutter. This drop shutter is automatically raised by a friction disc driven by the Shutter gearing when the machine is running. The shutter is very reliable in working and does not add any appreciable work on the driving of the machine.

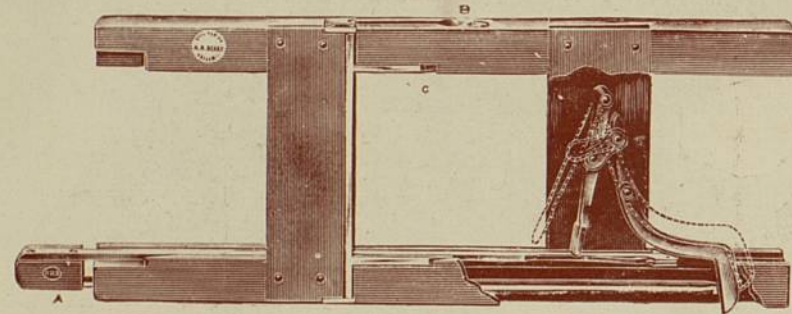
Code "MALT."

PRICE £23.

AUTOMATIC SHUTTER, extra £2 12s. 6d.

BEARD'S UNIVERSAL Self-Centring Eclipse Single Lantern Slide Carrier

The advantages of this Carrier are that the slides are inserted and withdrawn from the same side of the Lantern. There is no finger marking, as the slide needs only to be held by the corner,



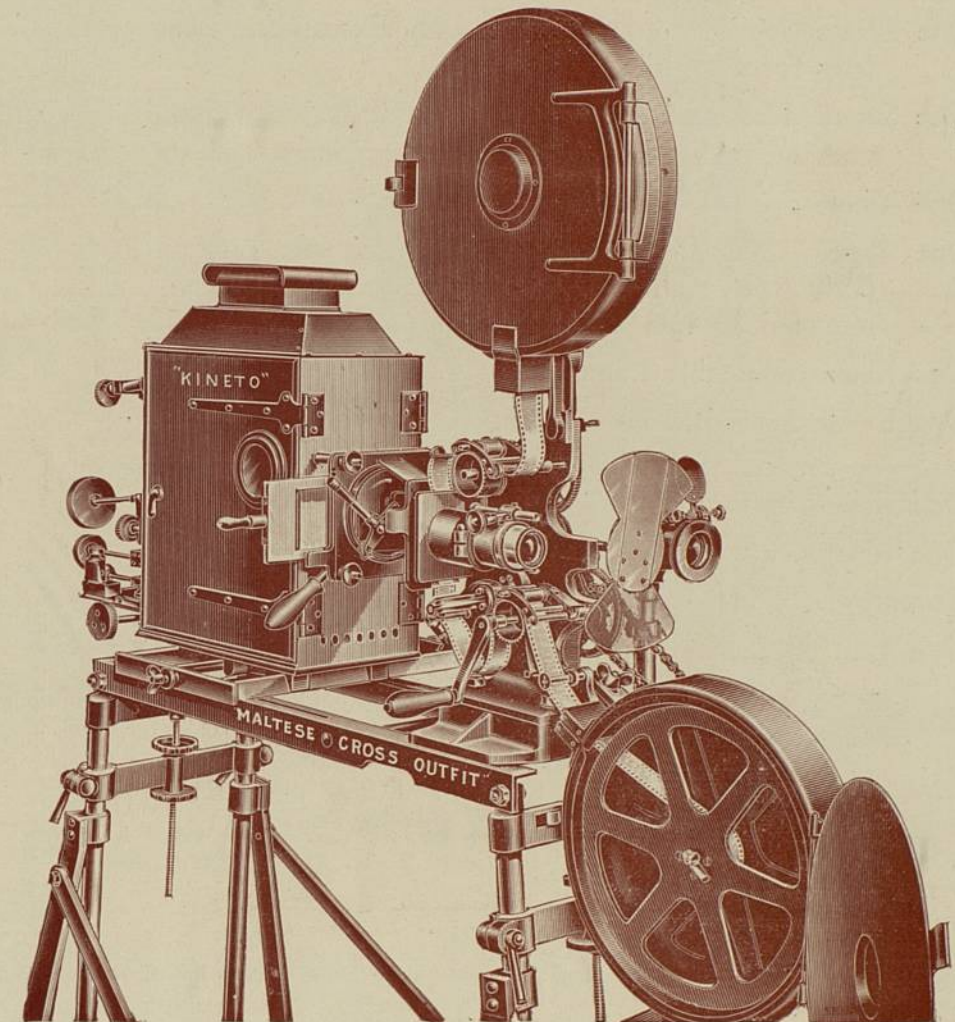
between the finger and thumb. The slide can easily be placed in the frame and pushed into position by the plunger or runner, and the slide already shown is removed by the withdrawing of

the plunger. The carrier is then ready for the next slide. The action of passing one slide before the one being shown is very pleasing in its effect, and is the nearest approach to dissolving yet obtained with a single lantern. The ease and comfort it gives to the operator has earned for it a great reputation. It prevents the usual white disc when the slides are withdrawn from the Lantern.

Metal Faced Price 17s. 6d. each.

All British Make.

The workmanship and construction of this Projector is equal to any Maltese Cross Machine on the Market. The STEADINESS of projection is unexcelled.



This illustration shows the complete Maltese Cross movement mechanism, with lantern and fireproof boxes, on the Kineto extra heavy adjustable iron stand.

Kineto Maltese Cross Projector Outfit.

PRICES:
£ s. d.

One Kineto Maltese Cross Mechanism fitted with Base Plate, Lantern Lens Adapter and adjustable pillar	....	23	0	0
One Rackmount or lens-holder	....	10	6	
One Kineto Special Objective (any focus)	....	1	5	0
One Kineto Special Lantern Lens with Extension Tubes (any focus to 18in.)	....	17	0	
One Set of Fireproof Spool Boxes, the lower one fitted with adjustable friction geared re-winder or take-up	....	6	6	0
One Kineto Special extra heavy adjustable Iron Stand	....	4	4	0
One Kineto Special large aluminium and Iron Lantern Body fitted with special extra heavy 4in. Condenser mounted in 4½in. cell	....	5	5	0
One Kineto adjustable Lamp Tray	....	1	5	0
One Kineto extra heavy Arc Lamp (choice of either Model "L" or Model "M")	....	7	7	0
One Kineto brass double slide Carrier	....	15	0	
One Kineto Curtain Light Cut-off	....	1	1	0
Twenty-five Pairs of Carbons (16 solid, 22 cored)	....	10	0	
One Can of Ordinary Oil	....	1	0	

Price, complete - - £52 6 6

Code - - "MALTK."

:: EXTRAS ::

One Motor Board under Lantern. Price 10s. 6d.	One Special Motor. Price £3 10s.	One Motor Regulator. Price £1 14s.
--	-------------------------------------	---------------------------------------

Note—FOR PARTICULARS OF THE ACCESSORIES of the Kineto Maltese Cross Outfit refer to those mentioned in connection with Kineto Outfit, Model "B," as they are similar in all respects, with the exception of the Maltese Cross mechanism which is fully described.

In the event of any articles mentioned in the complete outfit not being required, same will be allowed for at Catalogue prices.

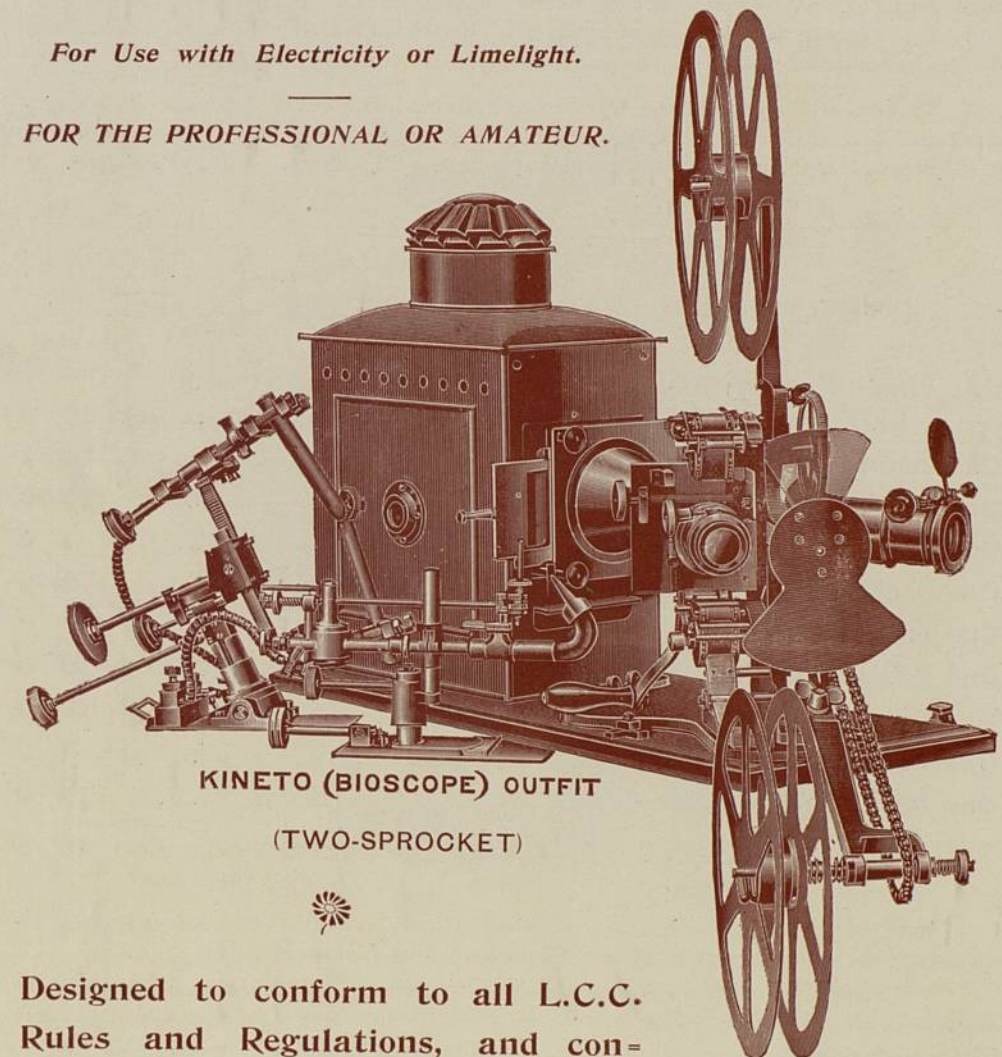
If Spool Boxes are not required the ordinary top arm and take-up can be supplied, allowance being made for the spool boxes, as per page 15.

The KINETO (Two-Sprocket) Bioscope Outfit.

ALL BRITISH MANUFACTURE.

For Use with Electricity or Limelight.

FOR THE PROFESSIONAL OR AMATEUR.



**KINETO (BIOSCOPE) OUTFIT
(TWO-SPROCKET)**

**Designed to conform to all L.C.C.
Rules and Regulations, and con-
structed of the best materials and workmanship.**

The Kineto Two Sprocket Bioscope.

The **KINETO TWO SPROCKET BIOSCOPE** is a very carefully made projector, constructed on the "Dog" or cam movement principle.

The materials used are absolutely first-class and the workmanship is second to none. It is finished in hard green enamel and the brass parts are most highly polished.

The film-trap has been re-designed, abolishing the "hump," and, instead of small, delicate film-trap springs, hardened steel runners with adjustable springs have been supplied in their place, thus doing away with the old trouble of breakage in these small springs. An asbestos light shield has also been attached which keeps the gate cool and also shuts off any stray light.

The take-up is very substantial and every attention has been given to alignment. It is chain-driven and the tension on the spools is governed by an adjustable friction clutch. The machine can be supplied with or without fireproof spool boxes (as mentioned in other parts of the Catalogue).

KINETO TWO SPROCKET BIOSCOPE OUTFIT.

	£	s.	d.
One Kineto Two Sprocket Bioscope Mechanism fitted with O.G. Flange and top arm	14	10	0
One chain-driven friction clutch Take-up and chain	2	10	0
One Rackmount or lens-holder	10	6	
One Objective (any focus)	1	1	0
One Lantern Lens and Extension Tube (any focus)	17	0	
One polished oak Base-board and fittings	1	5	0
One Russian Iron Lantern and Condenser	3	10	0
One small Kineto Arc Lamp (40 amps.)	4	15	0
One Curtain Light Cut-off	1	1	0
One Metal Slide Carrier	15	0	
Code "TWOSSPROC." PRICE -	£30	14	6

Note—If for use for limelight purposes a No. 2 Gwyer Jet and Mechanical Tray (as per illustration on page 36) can be substituted for the arc lamp without extra charge.

If Fireproof Spool Boxes are wanted instead of the ordinary top arm and take-up they can be supplied at an extra charge of **£6 6s.** They are similar in design and construction as those illustrated on page 15.

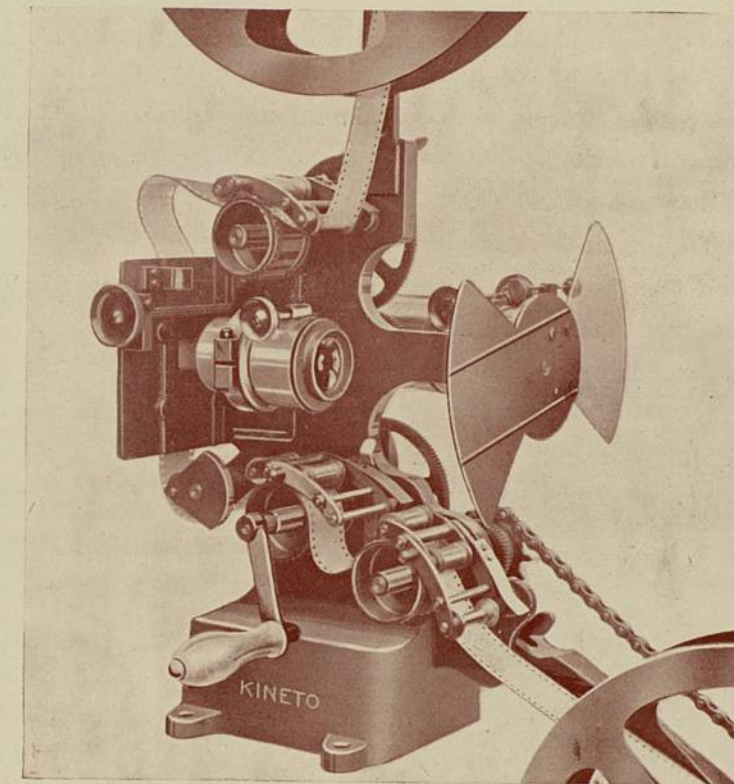
If required an Automatic Light Cut-off can be attached to the film trap at an extra charge of **£2 12s. 6d.**

The Kineto Bioscope.

THREE SPROCKET MODEL.

All British.

This machine is also constructed on the "Dog" or Cam Movement principle and is considerably improved over the ordinary bioscope by the introduction of the third sprocket. The advantage of this is that the strain on the take-up acts upon the additional sprocket instead of on the eccentric spindle and driving sprocket, as in the old types, thus avoiding any strain or "back-lash" on the eccentric spindle. The machine in other respects is similar to the Kineto Two Sprocket Bioscope, and the materials used, workmanship and finish cannot be excelled. The main bearings are brushed with phosphor bronze in which run the spindles which are made of specially selected high-grade steel, ground to gauge between centres.



Special attention has been given to the cutting of the teeth of the gear wheels, thereby obtaining steadiness and smooth running. Great care has also been taken in making all parts extra heavy, thus making the machine rigid and most substantial. All parts are made to gauge and are interchangeable.

An automatic light Cut-off can be attached to the machine if desired but it is not supplied unless specially asked for. Fireproof Spool Boxes can also be supplied if required, same being of a similar pattern to those used with the Kineto Two Sprocket Bioscope. The prices are the same.

The Kineto Two and Three Sprocket Bioscope Mechanisms, if desired, can be used with the Accessories as supplied with the "KINETO" and Kineto Maltese Cross Outfits.

Among all differing types of Standardised Projectors the Original Dog Movement still retains its popularity with a large number of experienced proprietors and operators, and we are entitled to claim, and do claim, that in this, as in all other types, the "Kineto" is King. We invite comparison on all points pertaining to it as a construction, and especially for the results produced on the screen. We also emphasize the fact that the apparatus is entirely British in material and workmanship and that the price is the lowest, consistent with good work.

KINETO THREE SPROCKET BIOSCOPE OUTFIT,

	£	s.	d.
One Kineto Three Sprocket Bioscope Mechanism fitted with O.G. Flange and top-arm	...	...	17 0 0
One chain-driven Friction Clutch Take-up and Chain	...	2 10	0
One Rackmount or Lens-Holder	...	10	6
One Objective (any focus)	...	1 1	0
One Lantern Lens and Extension Tube (any focus)	...	17	0
One Polished Oak Base-board and fittings	...	1 5	0
One Russian Iron Lantern and Condenser	...	3 10	0
One Small Kineto Arc Lamp (40 amps.)	...	4 15	0
One Curtain Light Cut-off	...	1 1	0
One Metal Slide Carrier	...	15	0
	£33	4	6

Note.—If for use for limelight purposes a No. 2 Gwyer Jet and Mechanical Tray (as per illustration on page 36) can be substituted for the arc lamp without an extra charge

Code "THREESPROC."

Accessories for Bioscope Outfits.

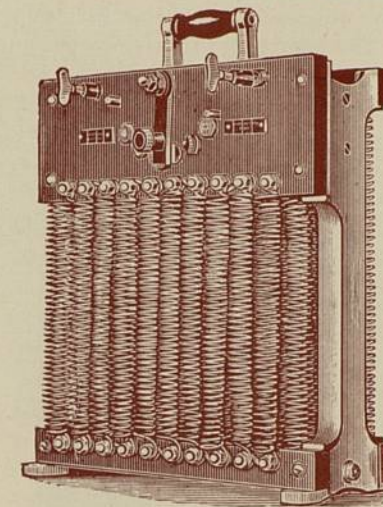
RUSSIAN IRON LANTERN. This lantern is extra large and made of best Russian iron, fitted with a double stage so that an alum trough may be used. It is strengthened throughout with steel rods and fitted with a 4in. Condenser mounted in a 4½in. cell. The lamp tray slides, fitted in the base of the lantern, are so constructed that they will take lamp trays of any standard size. The peep-hole in the door of the lantern is made extra large and all the brass parts are highly finished

Code "IRONLANT."

PRICE £3 10s.

Large Portable Standing Double Frame Resistance

FITTED WITH SIX-POINTED REGULATOR.



—say an amperage of 60—a rheostat of lower resistance can be supplied.

Code "COIL."

For regulating the current for Arc Lamps in Kinetograph and other Lanterns, producing Stage Effects, Dynamo Regulating and Testing.

Fitted with 40 open spirals of high resistance alloy, two in parallel, the front row connected with the six point switch to afford the necessary regulation and the back row being permanently in circuit and not controlled by the switch.

The coils are stretched between strips of plain slate carried on an aluminium frame.

The resistance being fitted with a carrying handle is easily portable.

In order to reduce weight as much as possible, this resistance is designed to work at a high degree of temperature, but to encourage free dissipation of heat the frame is not enclosed.

The weight of this special Portable Resistance is 38lbs.

Amperage, 40 on 110 or 250 volts. direct or alternating current. Where greater carrying capacity is required

Price . . £9 12s.

Kineto Resistances: LARGE WALL PATTERN.

These frames are of ample dimensions and contain a much larger amount of resistance material in proportion to their rating compared with the ordinary wall pattern frames generally sold.

When fixed in a fairly well ventilated position the rise in temperature of the air, taken immediately over the coils, does not exceed from 350 to 400° F. above surrounding atmosphere.

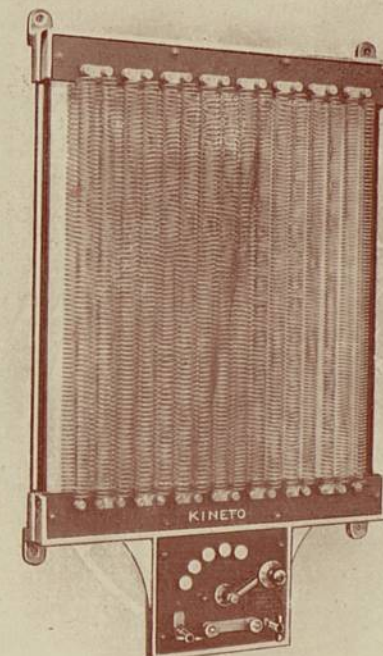
The coils, which consist of a special nickel copper alloy guaranteed not to rust or corrode, stretched between slate bars carried on two aluminium frames rigidly connected together by steel tubes. The lower part of the frame carries a five point regulating switch, terminals and a fuse. The switch, which is fitted with an "off" position only controls the adjustable portion of the resistance so that the permanent resistance remains in circuit when the switch arm is moved right over to the stop.

Outside dimension of frame is as follows:—
No. 4—39in. high x 29in. wide x 6in. deep from face of wall to clear switch knob.

Price—No. 4 for 1 arc 25-50 amps. on 250 volts

£7 17s. 6d.

Code . . . "CANE."



Kineto Resistance, "Wall Pattern" Type.

This Resistance consists of an aluminium frame provided with fixing lugs and carrying two slate slabs between which the resistance spirals are stretched. The lower slate carries a five-point regulating switch with "off" position, also a main fuse together with the necessary terminals. In fixing frame it is always advisable to mount it with the terminals at the bottom, as shown in the illustration, so that the heat rising from the coils does not damage the insulation on the cables.

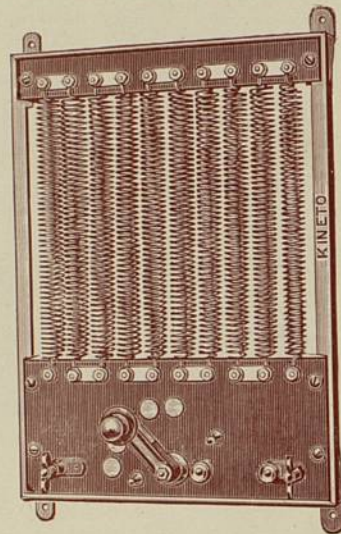
The frame is fitted with 20 resistance coils in 2 layers of 10 each, joined two in parallel, and the five points on the switch are connected, so that when switch arm is on the last contact a small portion of the resistance is left in circuit.

One frame is suitable for an Arc Lamp taking up 50 amperes, on a supply circuit of 100-110 volts. For a lamp taking 50 amperes on 200-240 volts a larger frame is supplied; but if preferred, two of the 110 volt frames joined in series may be employed instead, although in order to provide a wider range of regulation it is generally better to use three frames.

The Frame as Illustrated, for one lamp taking up to 50 amperes on 100-110 volts supply.

Code "KONO."

Price £3 16s.



Ampmeters.

For showing at a glance the current in amperes passing through the lamp at any moment. This instrument shows in an instant whether or no the lamp requires "feeding," and is in various ways a great boon to the operator.



These instruments are mounted in cases of fine cast iron stove enamelled black fitted with a brass front with raised parts nickel plated and sunk parts black.

The cases are dust-proof and the iron shell provides ample shielding against external magnetic influences.

Terminals are usually fitted at the bottom of the case, as illustrated, but back stems can be supplied if preferred at an extra cost of 2s. 6d. per instrument.

Code "PAMPA."

Price . . . £4 3s.

Kinematograph Resistances.

TYPE No. 27.

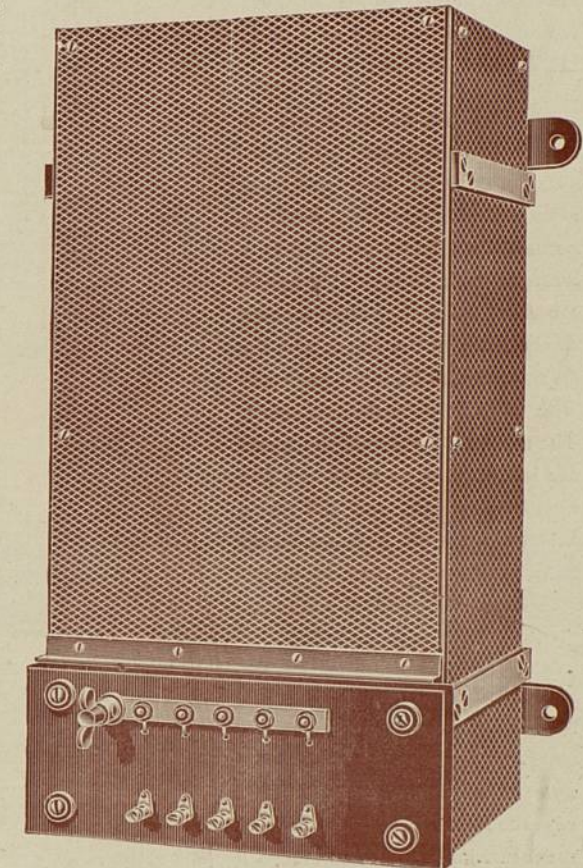
This paralleling resistance frame and control board is specially suitable for Kinematograph or Lantern work as it allows the resistance frame itself to be fixed at any distance from the projecting chamber while still giving the same amount of adjustment as is obtained if an ordinary regulating resistance is fixed close to the arc lamp. The advantages of this arrangement will be readily appreciated, as the heat generated by the resistance when fixed in the projecting chamber always causes great inconvenience to the operator, even when it consists merely of a small regulating frame as allowed by the recently issued Regulations of the Home Secretary.

In using a regulating resistance in the operating box, even on a supply pressure of 150 volts, it is only possible to comply with the Home Secretary's requirements as regards a maximum pressure of 100 volts across any two terminals to the extent of cutting down the starting current to one-half the full load current. If the supply pressure is above 150 volts only a very small range of regulation can be obtained, and this range diminishes as the pressure increases. If the supply pressure is 150 volts the current cannot be reduced to less than one-half the full load current without raising the pressure across any two terminals in the operating chamber to above 100 volts.

The use of our paralleling system of resistance frame entirely obviates any difficulty in complying with the Home Secretary's requirements, as all the resistance in the circuit is placed in a position right away from the box and the highest P.D. when the arc is working is 50 volts across the actual arc lamp terminals.

The standard resistance frame is wound in five sections and the control board is fitted with five switches; a larger number of sections and switches can, however, be supplied if specially desired.

The resistance frame can be fitted in any convenient position right away from the audience, in a cellar or even out on a roof so long as it is protected from the weather. The diagram on next page shows the arrangement of the connections, one of the mains is taken direct to the resistance frame

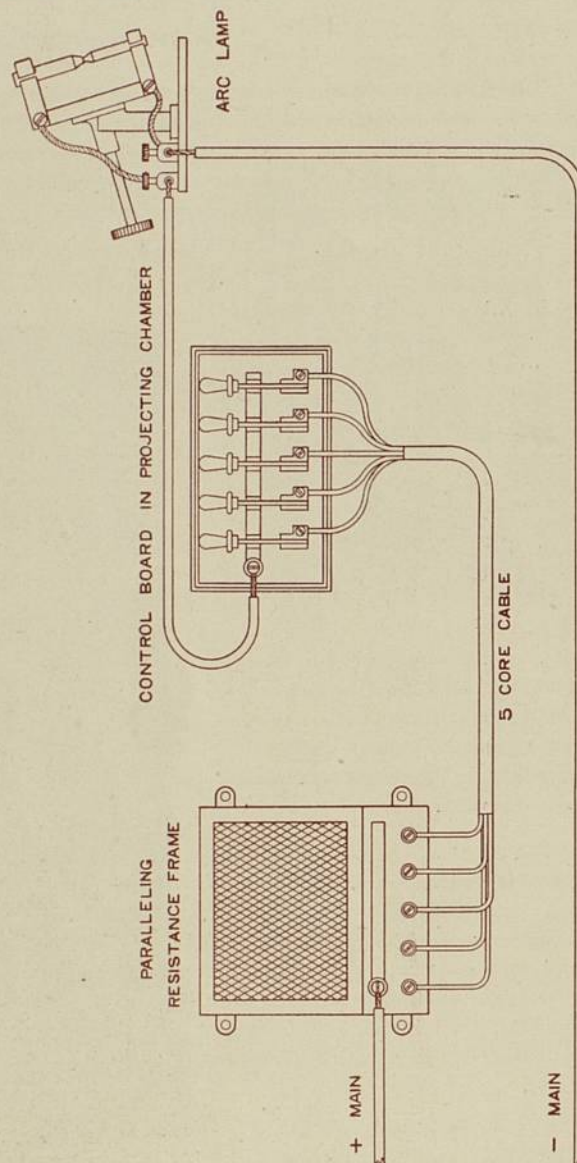


and the other is run up to the operating box and connected to one of the arc lamp terminals. The control board is fixed within easy reach of the operator and the main terminal is connected to the other terminal on the arc lamp. A five core cable or five wires are run between the control board and the regulating resistance, any wire being connected to any terminal at either end. We supply suitable cable for this work, consisting of five separately insulated conductors braided together so as to form one cable, or five separate wires can be used instead.

The resistance frame is fireproof throughout. It consists of special high resistance alloy spirals stretched between porcelain insulators mounted in a wrought iron frame. Terminals are fitted on a slate strip secured to the front of the frame and the sides, back and front are protected with sheets of perforated steel. The top and bottom of the frame are left open so as to allow a free circulation of air, and the frame is provided with lugs for fixing to a wall, or it may be stood on a floor (not wood) if preferred.

It is advisable to fix the frame with the terminals at the bottom, as shown in the illustration, and to keep the conductors clear of the top in order to prevent the rising heat from injuring the insulation of the conductors.

In designing these frames the maximum temperature allowed is about 150° F. above surrounding air, consequently the frames are very much larger than those commonly employed for Kinematograph work. The temperature is ascertained by placing a thermometer immediately above the frame when it is carrying the full load current for which it is intended.



PRICES & PARTICULARS OF FIVE SECTION FRAMES.

FOR ONE ARC TAKING UP TO 50 AMPERES.

CONTROL BOARDS ARE EXTRA.

SUPPLY VOLTS.	DROP ACROSS FRAME.	WATTS DISSIPATED IN FRAME.	DIMENSIONS.			PRICE. EACH
	VOLTS.		WIDTH	DEPTH	HEIGHT	
100	50	2,500	12in. X	7in. X	24in.	5 0 0
200	150	7,500	18in. X	13in. X	24in.	11 0 0
220	170	8,500	20in. X	13in. X	24in.	12 5 0
300	250	12,500	22in. X	16in. X	24in.	17 0 0
400	350	17,500	26in. X	20in. X	24in.	21 0 0
440	390	19,500	30in. X	20in. X	24in.	25 8 0
550	500	25,000	36in. X	20in. X	24in.	30 0 0

NOTE.—The actual P.D. across the arc is from 45 to 50 volts, but a small allowance should be made for the resistance of the leads and the variation due to the arc being fed by hand.

FIVE WAY CONTROL BOARDS.

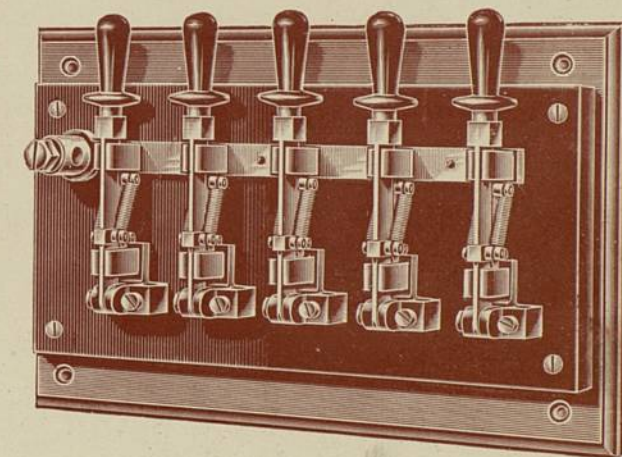
Control boards are fitted with five single pole 10-ampere quick break knife switches mounted on enamelled slate and fitted on a polished teak base board. All connections are on the front of the board. A sheet steel cover with slots to clear the switch handles can be added if required at a slight extra cost.

Prices for resistances and switches of this type for a larger current than 10 amperes per section or for a larger number of sections than five will be furnished on application.

Code "CONTROL."

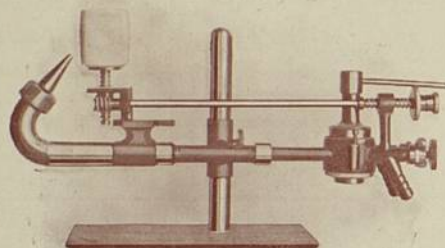
Price . . £2 10s.

EXTRA FOR SHEET STEEL COVER WITH SLOTS TO CLEAR HANDLES, 25s.



"Gwyer" Limelight Jet.

This jet, which has been recently remodelled after exhaustive experiments, is the most powerful and efficient jet that has hitherto been produced. It has the following advantages over the older type; an increase of light of approximately 500 candle-power, capability of being worked at a higher pressure, greater compactness, enabling it to work closer to the condenser and bring the lime nearer the bottom, for shallow lanterns.



*Improved "Gwyer" No. 2.
Best Jet for Bioscope Projections.*

We claim for the "Gwyer" Jet the following advantages

- 1—A light of great brilliancy and whiteness, of more than 2,500 candle-power; a light not hitherto produced by any other jet.
- 2—Greater steadiness and ease of manipulation.
- 3—Perfect silence of combustion at the highest power.
- 4—Extreme economy. The "GWYER" JET will work satisfactorily with an oxygen consumption, varying from two cubic feet per hour to ten cubic feet.

Approximately giving a light of 2,500 candle-power, this jet is designed for Kinematograph Lanterns, and for use with condensers of short focus. The standard pattern is provided with cut-off tap and screw adjustment valves. The body of the jet is made in two pieces only, so that the risk of leakage is reduced to a minimum.

The screw valves are now cast in one piece with the back portion of the jet, so that there is no risk of the valves becoming unscrewed. No solder is required, so that should the jet become hot, it will not part.

A cut-off tap is provided, which reduces the gases in succession, leaving on a small hydrogen bye-pass flame.

This is a great convenience if the light is not required during an interval in a lecture.

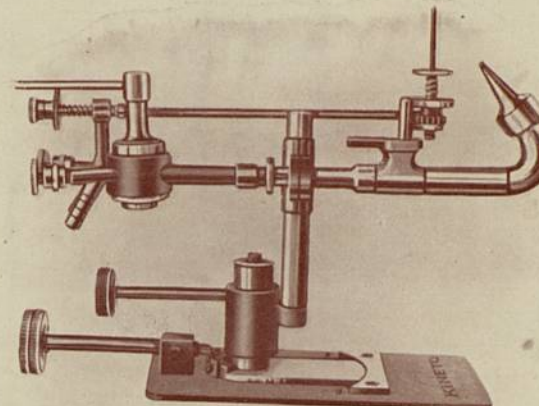
As the position of the valve screws is not altered, the light can be at once obtained without adjusting the mixture.

The jet is sent out with a 1/16th bore nipple.

A lime 1 3/4 in. diameter is the best size to use to obtain a powerful light.

Price . . . £4 10s. 6d.

Kineto Mechanical Jet Tray.



"Gwyer" Jet with Mechanical Tray.

This tray has many advantages over the ordinary tray, as the pillar to which the jet is fastened can be moved up and down or sideways by the use of a rack and pinion movement, and with its aid the necessary mechanical adjustments of the light are effected quietly, accurately and with a minimum amount of trouble.

In the illustration, "Improved 'Gwyer' No. 2," the jet is seen mounted on the ordinary tray, in the second on the mechanical tray.

.. PRICES ..

No. 2 Gwyer Jet with-			
out tray	...	...	£3 3 0
Ordinary Tray	...	...	3 6
Mechanical Tray	...	...	1 7 0

Best Hard Limes.

Owing to the difficulty experienced by many of our customers in getting Limes that will stand the intense heat of the GWYER JETS, we have been for some time selecting and making Limes. These are made from a special and carefully selected stone, and will, we believe, be found superior to any now on the market.

They are made in the following sizes . . .

1 in. diameter, packed 12 in a tin	...	Price per tin	...	2s. 8d.
1 1/4 in. " " 6 " "	...	" "	...	2s. 8d.

Limes can be sent by Parcel Post to Operators abroad.

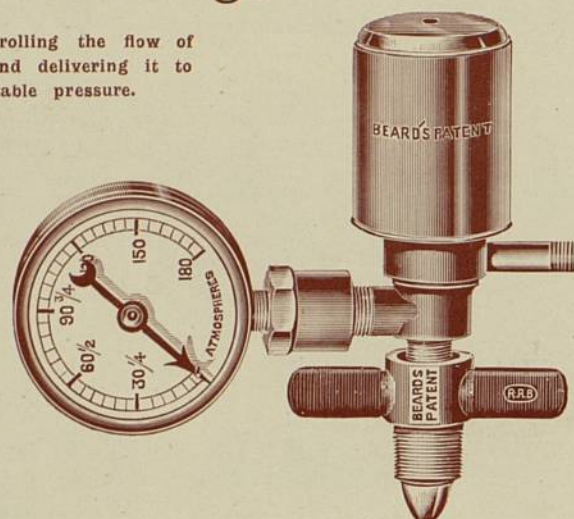
Best Red Indiarubber Tubing.

For connecting Limelight Jets to Gas Apparatus. Price, per yard, 1s.

Brass Junctions, for joining Indiarubber Tubing, 4d. each.

Beard's Patent Regulators & Gauges.

For automatically controlling the flow of gas from a cylinder, and delivering it to the jet at a suitable pressure.



						PRICES
Regulator only ...	...	...	...	...	each	£1 5 0
This regulates automatically the flow of gas from the cylinder, ensuring the same pressure when the cylinder is nearly empty as when it was full. Separate Regulators must be used for Oxygen and Hydrogen.						
Regulator with branch for gauge	...	...	...	...	"	1 7 6
Pressure Gauge only	...	...	...	...	"	1 12 6
The same adjustment valve as shown above, but arranged to take a pressure gauge, so that the operator can watch how the gas is being used. Specify if for Oxygen or Hydrogen.						
Regulator and Gauge in one, as shown	...	...	...	...	"	3 0 0
This is the most convenient and the safest form of Regulator and Gauge combined. The operator can watch the consumption of gas during the progress of the exhibition, and work the light accordingly. Specify if for Oxygen or Hydrogen.						
Branch for coupling Regulator and gauge to cylinder.	...	...	...	...	"	5 0
Fine Adjustment Valve	...	...	...	...	"	7 6
" " " for gauge	...	...	...	...	"	8 6

Gas Sundries and Accessories

Folding Lever Gas Key	...	...	...	...	"	2 0
Tee Key for Gas Cylinders	...	...	...	...	"	1 6
Combination Gas Cylinder Key	...	...	...	...	"	2 6
Nipples for Lime Jets	...	...	...	...	"	2 6
Complete Lime Pins and Screw	...	...	...	...	"	2 6
Table and Lime Pin only	...	...	...	...	"	1 6
Steel Lime Tongs	...	...	...	...	"	2 0
Brass Lime Tongs and Borer	...	...	...	...	"	1 6

Practical Instruction in the Management of Lime-Light Jets.

Oxy-hydrogen light, or lime-light, is produced by heating the surface of a piece of lime to a white heat, by means of a flame produced by the combustion of hydrogen and oxygen. The hydrogen is supplied in several ways, pure hydrogen being rarely used. The most general form is that of coal gas compressed in cylinders.

Another popular substitute for pure hydrogen is obtained by passing oxygen through ether or gasoline.

Coal gas taken direct from the ordinary gas supply pipes can also be used without compressing.

When compressed gas is used, an automatic regulator is attached to the cylinder, in order to reduce the pressure; a valve with a fine adjustment screw answers the same purpose, but in a much less perfect manner. Oxygen is now generally obtained from cylinders in the same way as coal gas. If coal gas and oxygen are mixed in certain proportions, an explosion takes place if ignited. Neither coal gas nor hydrogen will explode if unmixed, or if there is an excess either of oxygen or coal gas beyond the explosive proportion. Should this mixture occur with our apparatus, the result can only be a startling detonation, and no danger can be experienced.

To prevent any risk of startling an audience, the operator has only to see that the proportion of coal gas is too large to allow an explosive mixture to be formed.

If the operator keeps this explanation in mind, he will be able to manage his light with the greatest certainty.

When oxygen and coal gas are supplied from two cylinders, the burner used is called a mixed jet. This has a chamber into which two gases are placed for mixing, before being passed out at the nipple where they are burnt.

The temperature of the flame varies considerably with the kind of jet used. Any disturbance of the gases in their passage causes a reduction in the temperature of the flame.

It is very essential, therefore that the greatest care be taken in the construction of the jet and in its design.

To set up the apparatus, the hydrogen cylinder is connected to the left-hand valve or cap of the jet, and the oxygen to the right. Both the valves of the jet should be kept shut till the cylinder valves are opened. To light up, open the hydrogen valve of the jet and allow the gas to blow through for a second before applying a light.

Then turn on a little oxygen till the hydrogen flame disappears, and the lime is in a state of white incandescence. Then more hydrogen can be turned on, and a further supply of oxygen. This operation may be continued until the flame lightly roars. When this effect is produced, slightly reduce first the oxygen, and then the hydrogen, until the flame is silent.

A little experimenting with the proportion of the gases will soon enable the operator to get the mixture that will produce the hottest flame.

As all parts of the flame are not equally hot, you must adjust your lime to bring it into the hottest part.

Attend carefully to the distance of the lime from the nipple of the jet, and do not forget that the more gas you turn on the greater the distance must be between the lime and the nipple, or you will get a black spot on centre of the lime instead of a bright one. This is done after you have adjusted your taps by working the lime backwards and forwards until you have the light at its best. Roughly speaking, for a low pressure, about $\frac{1}{4}$ in. will be sufficient, gradually increasing the distance to $\frac{3}{4}$ in. or $\frac{1}{2}$ in., as you open the jet taps more and more to increase the light.

For the most powerful light, rack the lime up until the jet plays almost upon the bottom of the lime cylinder, which should be rendered incandescent right up to the top; and where it is imperative to maintain light for a long time at the utmost power, it will be preferable to move the lime with the tongs and invert it, rather than lower the level very much, so that no portion of its incandescent spot may be sacrificed.

For the greatest light, use large limes of medium hardness, but when only a moderate light with extreme economy of gas is required, it will be far better to use a medium size lime: very large hard limes do not yield such a rich light with a very low pressure of gas as a moderately hard medium sized lime. The limes must be turned frequently when used with full pressure of gas, and when working the jet at its utmost power. The smaller the bore of the nipple, the quicker the pitting of the lime.

Do not forget to rime out the hole in the lime until it will drop easily upon the pin; if the limes are forced down slightly upon the jet pin, the expansion of the pin when heated must crack or burst into the lime.

If the jet becomes unduly hot, combustion is probably taking place inside the mixing chamber, or in the tubes of the jet. This is generally caused through a leak in the jet, or in the tubes leading to the jet.

Keep the nipple of the jet clean. If you find the flame roars when only a little gas is being used, it is probably due to some foreign substance getting into the bore of the nipple.

There is danger of melting the end of the nipple if it is allowed to touch the lime. Platinum tips are sometimes inserted in the end of the nipples, but this arrangement reduces the efficiency. Unless the nipple is allowed to get too near the lime, it may be used for any length of time without deterioration.

As oxygen has no smell, it may be easily wasted. Great care, therefore, must be taken in attaching the regulator and tubes. Test after attaching, by means of a piece of brown paper made red hot, but not in flame. The incandescent portion will glow brightly if it comes in contact with escaping oxygen.

If, after turning on more gas, the light is unsatisfactory, or even diminishes, the compressed coal gas is at fault, and is coating the lime. If you have a Pendant Saturator it may be charged and the coal gas passed through it. This will enable you to get the full amount of light. If you have not a saturator handy, you can only reduce the pressure of gas and put on a new lime.

An excess of hydrogen is indicated by flame round the lime. Such a flame means excessive heating of the lantern, and should be avoided.

The Pendant Saturator.



Patent.

The new design introduced in the Autumn of 1903, has the following important improvements

By rushing gas through at high pressure, it is impossible to lift ether into the jet.

No explosion in the tubes can enter the saturator through the safety chambers.

No rebound of ether into the cylinder tube can take place when the pressure is suddenly removed from the saturator.

The Pendant Saturator is designed to work with any lantern and with any jet for mixed gases; there is no necessity for cutting the lantern, as the saturator hangs outside. Every one of these saturators is tested before it is sent out and its perfection is guaranteed.

Full Instructions are sent with each Pendant Saturator.

Code - - "SATIATE."

No. 2 Pendant Saturator Price £2 15s.

Size, packed, 13in. by 7in. by 4in. Weight, packed, 7lbs.

This Saturator is suitable for use with jets of any power.

Measuring . Machine.

This consists of two heads, as used in our Table Pattern Winder, mounted on a polished oak base board with the addition of the measuring gear. The heads are arranged to take either single films or spools, and the measuring gear consists of a sprocket and guide rollers over which the film travels. The sprocket actuates a train of wheels in a gear box fitted with an indicating dial reading 0—1000ft. The pointer is instantly adjusted to zero from any position. It is made to read in metres if required.

Code "CABRILLET."

Price £7.

Kamm's Oxygen Generator & Carburetter-Jet.

Invented with the object of providing **Kinematographers** and **lanternists** generally with the means of producing their **oxygen** and **hydrogen** as they require it. It is well known that the light required for this kind of work must be **more powerful** than for ordinary lantern projecting purposes, and should be from 1,000 to 2,000 candle power.

This power of light is more generally produced by weights placed upon the reservoir containing the generated oxygen gas. In many cases, some gallons of water are used to procure the necessary pressure, which is a messy and inconvenient proceeding.

It will clearly be seen that this method has many disadvantages, especially when entertainments are given in friends' houses, or at a place of public entertainment, where it is difficult to procure the necessary weights.

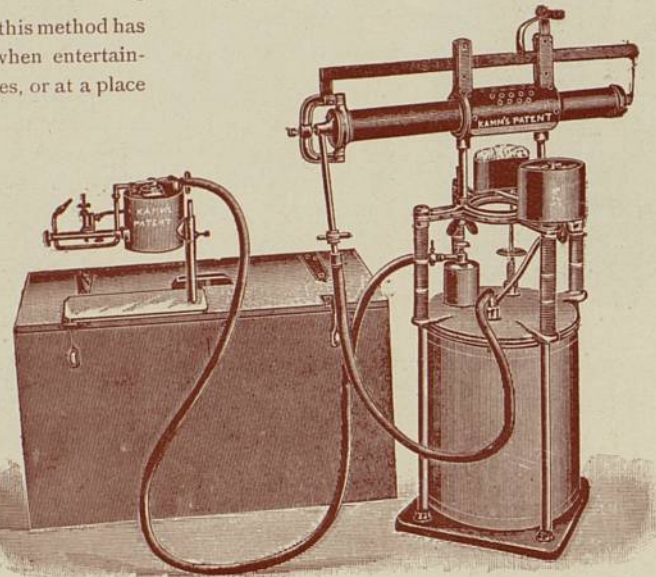
KAMM'S GENERATOR has none of these disadvantages, as no weight is depended upon. By means of specially constructed springs, continual pressure, which can be varied from 100 to 200 lbs., is kept upon the gas. The weight is thus reduced to a minimum, and the apparatus—which does not weigh more than **25 lbs.**—may be stored in a comparatively small box. The usual water tank, also, which is generally loaded with weights upon the container, is entirely discarded.

KAMM'S GENERATOR is a perfect machine, entirely reliable and automatic. The oxygen is made by heating cakes made of Chlorate of Potash and Oxide of Manganese, which is the most convenient method, as any number of the cakes may be made and stored away for future use. For kinematograph work, two pounds of these cakes are sufficient to produce a most powerful light lasting for one hour.

The following are some **advantages** of a **generator**:—

It is much cheaper than gas bought in cylinders. There is no carriage to pay on full and empty cylinders, and the gas can be used to the very last inch. Then again, if an operator living any distance from the oxygen works should run out of gas, he has to order it and wait for its arrival, whereas with his own generator he has the means of preparing the gas in five minutes. The advantages to colonists are self-evident, as this is very often the only means they have of procuring oxygen gas. No water whatever is required for this apparatus, either for producing pressure or for purifying the gas. The gas is purified by means of a special purifier attached to the top of the container, filled with soda lime powder, which delivers the gas absolutely pure, and it may be used for medical purposes if required.

The whole apparatus for producing oxygen and hydrogen is very simple, as a glance at the illustration will show.



It consists of: (1) **A retort** containing some cakes, which is heated by being suspended over a methylated spirit lamp; (2) **A container** to hold the gas as it is made, in which the pressure is produced by springs, and which is provided with a safety valve.

The action of the generator may be explained as follows:—

The retort is filled with cakes and the methylated spirit lamp lit. The heat causes the cakes to give off oxygen, which passes into the container, making it rise, and tilting the steel lever back. As this gas is used and the container begins to descend, the steel lever before mention is pulled forward by a spring, bringing the retort forward with it and thus exposing more cakes to the heat of the spirit flame. In this way more gas is generated before the whole of the first is consumed. This consumption of gas by the jet and the production of new gas are beautifully balanced and continue until the whole of the cakes in the retort have been exhausted. Another retort may then be placed in position, and the lecture or performance need not be interrupted.

CARBURETTER-JET.

(PATENT)

This Carburetter-Jet is for use with the lantern, and produces the hydrocarbon gas required for limelight from gasoline, petrol or ether. It gives a high-power light, and can be used with either an oxygen generator or cylinder of compressed oxygen, as shewn in illustration, or with oxygen under pressure from any source. When used with the Oxygen Generator it is connected up as shewn in Fig. 1. It is very economical in use, one gallon of gasoline being sufficient for about 40 hours light. It is exceedingly simple to manipulate, and cannot get out of order. Its great advantage lays in the fact that it is *absolutely safe*, as it is impossible to get a back fire with it owing to a patent device which renders it impossible for the flame to travel back down the nozzle of the jet. It is *safer* than using compressed coal gas, or gas from a house installation, as where these are used, if the rubber tube is pulled off the gas escapes into the air and there is risk of a gas explosion. With this Carburetter-Jet, however, only one tube is required, namely, that which conveys the oxygen gas to the Carburetter-Jet, and if this pulled off by accident, although the oxygen will escape there is absolutely no danger, as oxygen will not burn by itself. Another advantage is that if the tube is pulled off by accident there is sufficient oxygen gas stored up in the Carburetter-Jet to last for a short time, enabling the tube to be replaced without stopping the light at all.



... PRICES ...			
The Kamm Generator	....	....	£11 0 0 nett.
The Kamm Carburetter-Jet	....	....	3 10 0 "
Extra Spirit Lamp	....	....	0 9 0 "
Oxygen Cakes	.... per lb. 1s. ; 12 lbs.		0 11 0 "
Soda Lime Powder	.... per lb.		0 2 0 "

Full Instructions and Appliance for making Oxygen Cakes given with each apparatus.

Kinematograph Difficulties and - - How to Deal with Them.

No matter how perfect a well-made machine may prove, it is a delicate instrument at best, and requires delicate treatment. Many operators do not realize these truisms, especially when the apparatus happens to be the property of others, and they handle their machines with small show of tenderness.

Not only must a good machine be well balanced and well made, but it must be so constructed that a minimum number of accidents to its parts shall result from a maximum use and constant jars in transit from place to place. A poor machine is too expensive a luxury to receive our consideration.

A good kinematograph is the cheapest, for it is constructed in all its complex parts to resist the wear and tear caused by running at a high rate of speed day after day, week in and week out. But, by virtue of superior construction, gently handled, it will with care and attention repay its original cost time and again.

Many of its troubles are simple, and may be avoided by the exercise of a little forethought and an occasional examination of the machine, to detect and renew worn parts, and adjust those requiring perhaps no more than a touch to set them right.

While it is impossible for any machine entirely to resist the ravages of time and constant use, many of the annoyances are so simple and so easily remedied, that a few hints as to their treatment may not be out of place.

New machine damaged in transit. Do not tinker. Return it at once for inspection and re-adjustment.

Stiff mechanism. Well oil the running parts with special lubricating oil, and so prevent overheating.

A discoloured disc. Clean your condenser lenses with soft tissue paper or chamois leather.

Ragged edged disc. See if the mask be truly cut. Remove dust accumulations from the mask.

"Ghost." Adjust the shutter by setting it correctly. See that it is large enough to cover the movement of the film.

Scratched films; Unsteady pictures. Clean the gate runners before each display, and rub over them a very little vaseline. The trouble is caused by dust on bow springs or runners.

Imperfect definition of objective. See that the lenses, after cleaning, are accurately replaced.

Unsteady pictures. Clear all runners and springs of dust. See that the gate springs press evenly on the film. Inspect the spindles, bottom sprocket, pinion and teeth of the driving wheel to detect wear or looseness. If the parts are worn, send them to be overhauled.

Film out of centre. Equalise the tension of the springs if the film is out of centre in the gate, to ensure an equal pressure. Set the gate true with the sprocket wheels if it is not in alignment.

Broken Film. Caused by too much tension on the gate springs, or else by a bad join. Carefully scrape off the emulsion at one end and use the cement sparingly.

Broken perforations. The "Dog" or the "Dog" roller is not true, but unevenly strikes the film. Adjust, so that they strike accurately.

Pictures run up the screen. This is caused by the slipping of the film on the bottom sprocket wheel. Tighten the roller spring on the bottom sprocket.

Faulty action of top sprocket. Film runs off the top sprocket. See that the guide roller and spool are in complete alignment. If the roller spring acting against the top sprocket is too weak, replace it. In the case of a much-used film, make a loop between the two rollers of the top sprocket. The trouble is sometimes caused by a badly perforated or shrunken film.

Unsatisfactory action of the take-up spool. If the spring band has stretched, cut a piece out and rejoin. If the spool bow spring has weakened, replace it by a new one.

Top spool jerky. Lubricate the disc on the tension spring.

Patent Iron Operating House.

ADOPTED BY THE L.C.C. AND PROVINCIAL COUNCILS.

The Illustration is of a skeleton model of the iron house.

The door is closed and the ventilator and shutters open in readiness for projecting. The shutters and ventilator are connected to the door by steel cables working over pulleys and, whilst the door remains closed, the shutters and ventilator remain open. As soon, however, as the door is opened shutters and ventilator close automatically and simultaneously, the catches holding them in the open position being released by the action of opening the door.

Immediately the operator is outside he releases the door, which closes automatically and, in case of fire, flames and smoke are thus confined entirely within the house and all danger of panic avoided.

The automatic shutters and ventilator can also be closed simultaneously, without the operator opening the door, if so desired, by pulling the steel cable which traverses under the roof of house and which immediately actuates the automatic shutters and ventilator.

Where there are facilities for connecting the ventilator to a flue, or any other suitable channel of communication with the outside of building, provision is made for same, instead of the flap ventilator shewn in illustration.

The patented device for automatically and simultaneously closing the shutters is adaptable to permanent operating houses and can be also adapted to any operating chambers already built.

The house is made smoke-proof and is constructed either throughout in iron, or in iron with wood framework.

Size: - 6ft. 6in. high x 4ft. 9in. long x 4ft. 6in. wide, internal measurements.

PRICE, in all iron £21.

Code "PROTECTOR."

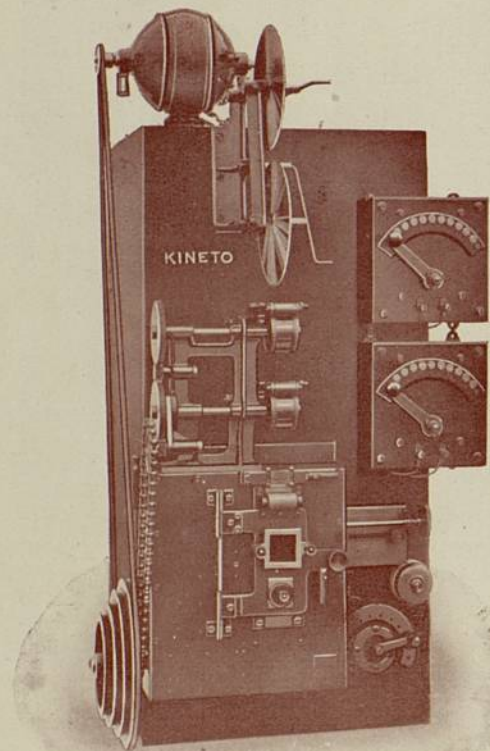


Kineto Printer.

Of solid construction and first class design this machine will obtain the best results from a negative both as regards contact and steadiness.

The machine can be supplied as a complete unit ready for immediate use consisting of Printing Light Box, Mechanism with driving pulley, Motor fitted on top of box and two Regulating Resistances one for the Motor and the other for the Lamp. It is shown in the illustration complete with the Motor and Regulating Resistances.

The Printing Light Box is of large dimensions in order to allow plenty of ventilation for the lamp and also to provide a fixing for the various accessories.



The Mechanism is attached to the front of the box by means of hinges and a screw fastening in such a way that it can be swung round in order to give access to the working parts for oiling. By drawing out the hinge pin the mechanism can be entirely removed from the lamp box in a few seconds so that it can be taken out of the Dark Room for inspection or cleaning.

The lamp is mounted on an adjustable slide controlled by a lever with dial plate fitted on the front of the box, by means of this adjustment the distance of the light from the printing aperture can be adjusted to a nicety. If the lamp is not too powerful this regulation will be found sufficient without the addition of the lamp resistance box.

The printing aperture is fitted with an adjustment operated by a milled head so that the masking of the picture can be readily effected. The gate is fitted with a window of ruby glass so that the passage of the negative can be viewed during the whole process of printing. A ruby glass cut-off screen is provided so that the white light can be cut-off while the machine is being threaded.

A double spool arm is fitted above the mechanism with separate spindles for the positive and negative films and separate sprocket feed rollers are provided for each film so as to prevent any "tugging" strain being thrown on the actual feeding mechanism.

The feeding device is operated by a combined crank and cam movement, patented, which imparts a perfect rectilinear movement to the feeding pins with an absolutely uniform "pull down"

for each successive picture, thus ensuring perfect steadiness of the print, that is, of course if the negative is steady enough to produce one.

The variations in exposure are obtained:—

- 1—By altering the speed of the Printer mechanism by means of the different diameters of grooves on the driven pulley fitted on the main shaft.
- 2—By regulating the speed of the Motor by means of the series Resistance box.
- 3—By altering the position of the lamp by the Controlling lever with index plate.
- 4—By regulating the intensity of the light by the use of the Lamp resistance box, if fitted.

When printing negatives of average density, using a 50 candle power focus lamp the speed of the machine is about 500 exposures per minute, with a proportionately stronger lamp the machine can be used at speeds up to 1000 exposures per minute without detriment to the results.



Prices:

	£	s.	d.
Mechanism only with driving pulley and two top feeding sprockets (no spool arms)	40	0	0
Printing Light Box with lamp adjustment and spool arms (lamp extra)	7	10	0
Motor or Lamp Resistance Boxes each	1	14	0
Continuous Current Motor, 1/16th h.-p., for 100-220 volts	4	0	0

Code - - - - "KAMPRINT."

Kineto Perforator.

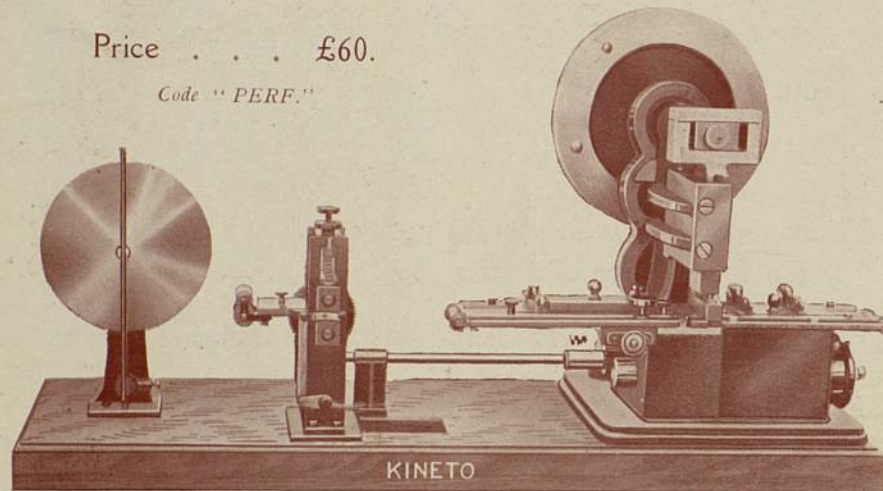
Solidly constructed and built on sound Engineering principles, this machine is capable of running for months without attention with the exception of occasional oiling. The only wearing part is the die with its punches which require sharpening and renewal from time to time.

The main shaft, which is of steel, runs in a long bearing in the cast iron body and the intermediate gears which are also of cast iron run on steel studs. The main feed mechanism is positive in action, that is to say it does not depend upon springs, it is a Patented device, operated by a cam movement which ensures absolute accuracy in the step by step movement.

The die perforates one pair of holes for each revolution of the driving wheel, so that the machine is what is generally known as a single step Perforator. As the die is made with dowel pins no adjustment for pitch is possible as the accuracy of the pitch depends upon the cutting of the die itself. Once the die is cut no alteration in the pitch can be made, hence it follows that the machine must continue to turn out work of a uniform pitch, and no dies are issued from our works which do not agree with the required standard.

Price . . . £60.

Code "PERF."



The die is of hardened and tempered steel and the punches are left soft, and we have found this arrangement to be the best in practice, although involving a greater cost in production than the usual style of hard punches and soft dies. The punches and dowel pins work through a steel guide block provided with lubricating arrangements immediately above the die plate, only the smallest amount of clearance between the guide block and the die being allowed, this guide block prevents any shearing of the punches and increases the life of both the die and the punches.

Feeding rollers for drawing the blank unperforated film off the film holder are provided as shown in the illustration, these allow the machine to run without attention once it is started. The speed recommended is 350 to 400 revolutions per minute and the machine is fitted with a grooved flywheel for driving by motor.

THE . . . "Prestwich" Patent Kinematograph Camera.

MODEL 5.

This camera was designed to meet the wishes of those who desire a self-contained instrument. It is more convenient in some respects than the Model 4 for photographing "stage" scenes or taking "trick" films.

The "claw" movement is the same as in our well-known Model 4.

By an improved method of making the spindles and bearings, the long life of this movement is enhanced.

The Chief Features are:—

The film boxes have a capacity of 350ft., and are attached inside the camera case.

A focussing tube is provided, allowing the film to be viewed from the rear.

The gate and back of film race are detachable.

The mask is removable to enable others of special shape to be inserted.

Two eight picture sprockets feed and take up the film, forming a loop in the film at top and bottom of the "gate." The handle is attached direct to the sprocket shafts, and thus gives eight pictures to each turn of the handle.

The camera may be turned upside down if desired.

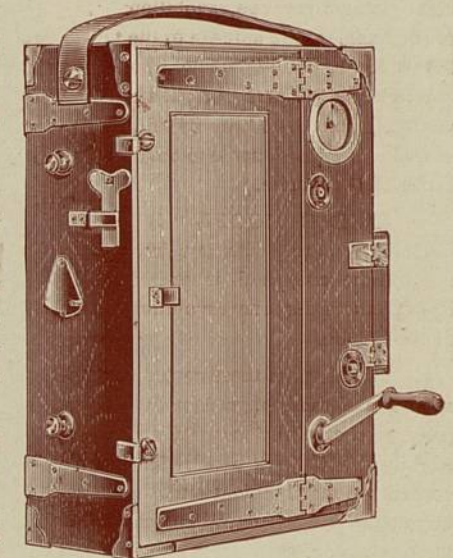
On the "driving side" there are three spindles on which the handle screws. The bottom one gives forward movement to film, the top one being used when it is required to run the film in the reverse direction for trick subjects. The intermediate spindle gives one picture to one turn of handle.

A film indicator up to 300ft. is fitted.

The case is of best **Spanish mahogany**, highly polished. **All corners are brass bound.**

It is **smaller and lighter** than other instruments of this type.

Finest workmanship and finish throughout.



.. PRICES..

	£	s.	d.	Code.
"Prestwich" Patent No. 5 Camera with two film boxes self-contained	48	0	0	Beldame.
Extra Film Boxes	1	6	8	Beleben.
Leather Bound Canvas Case	2	6	8	Belelac.
Large View Finder with Lens and Ground Glass	1	6	8	Belfo.
Tripod, best polished ash, very rigid	2	0	0	Belging.
Dallmeyer Special Stigmatic Lens, 3in. focus, full aperture f/5 and special hood	5	6	8	Belail.
Dallmeyer Special 2in. focus, full aperture f/4 and special hood	4	0	0	Belicos.

KINETO CAMERAS.

MODELS "A" & "B."

These two cameras are made after very careful designing and consideration in respect to steadiness, strength, durability, convenience of working and silence.

The **only** difference between the two models is that Model "A" is fitted with **three** driving spindles, which are useful where trick photography is required, and Model "B" with one only.

The three spindles are as follows:—**Ordinary**, for general use (as per illustration "A"), eight pictures per one revolution of the handle; **the spindle** to the left is for reversing, being also geared eight pictures per one revolution; and the **lower spindle** geared one picture per one revolution of the handle.

KINETO MODEL "B" CAMERA is fitted with one driving spindle only and is geared eight pictures per one revolution of the handle.

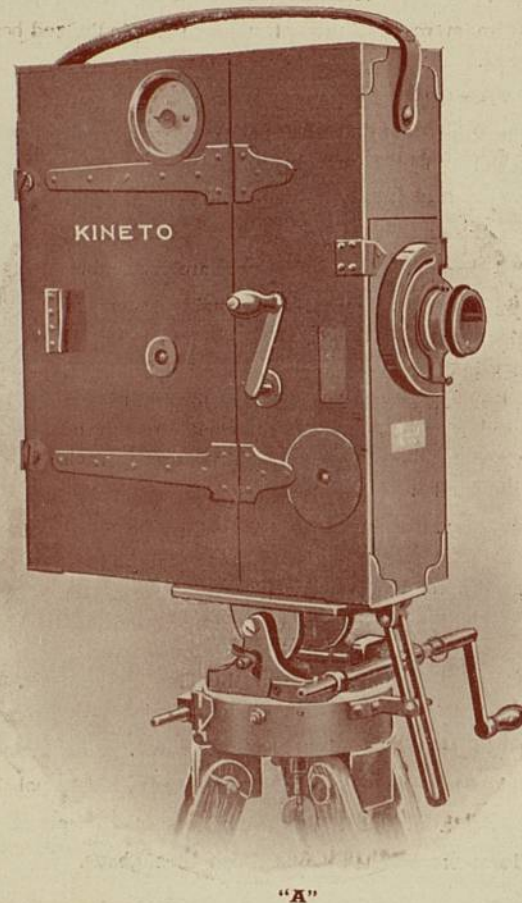
The **cases** of these cameras are made of the best grade mahogany, most carefully seasoned and slightly thicker than usual. The corners are metal bound and the large strap hinges prevent cracking or warping.

The **film capacity** of both models is 350ft., thus allowing an operator to take a continuous event lasting approximately seven minutes.

The **mechanism** is a combined Cam and Pin Movement. It is made heavy and substantial, runs without vibration and gives absolute steadiness. The film trap or race is of extra length and the film is held in contact by an adjustable spring bar. For cleaning purposes the back of the gate is removable. The sprockets, guide rollers, etc., are hollowed out, thus avoiding any possibility of scratching.

The **film mask** is adjustable and any fancy shapes can be supplied on special order.

The **shutter** (as per illustration "B") is adjustable and can be worked from about half to a nearly closed aperture. It is placed very close to the film mask, thus enabling the use of short focus lenses.



"A"

These cameras are fitted with a special large focussing tube fitted with a magnifying lens fixed perfectly in position (as per illustration "C") The focussing tube slides directly on to the film trap so that the view covered by the lens can be ascertained at any moment with the loss of one picture only. A spring trap shutter controlled by a lever at the back of the camera covers the opening in the gate so that the focussing tube cannot be left open by accident.



"B"

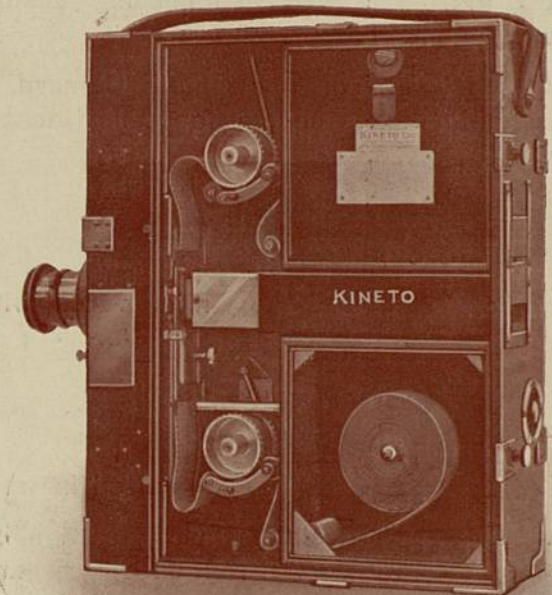
A **Film Punch** is fitted for the purpose of registering the termination of each exposure, in order to facilitate the development operations, when varying exposures have to be dealt with. It is placed below the gate and any perforation made by the punch cannot possibly stop in the mask.

The film boxes are very carefully constructed and can be supplied with hinges fitted to the covers—or without. The hinged box is recommended, however, as it avoids any chance of the covers becoming mixed or being put in wrong boxes. The core of the box is so constructed that it can be placed on the spindle at any position and in the event of any slipping taking place a spring

The greatest possible care has been taken in the designing of the take-up gear which is a most important detail. The drive is direct and the tension is governed by adjustable friction discs which do away with all slipping belt troubles, and the camera runs as lightly with a full roll of 350ft. as with only a part.

These cameras are fitted with a recording dial reading up to 300ft., and the pointer can be instantly adjusted to zero.

The Focussing Jacket. A very novel method of focussing is employed; in preference to the usual rack and pinion, with its coarse adjustment and liability to throw the lens out of focus upon the slightest jar or shock to the camera, a spiral or quick screw movement is used, which, in addition to the extremely fine adjustment it affords, secures absolute freedom from the possibility of the lens being moved by vibration or even a severe blow. It has the peculiar feature of permanently locking the lens in all possible foci, while at the same time, it allows the focus to be altered at will, but only by operating the milled focussing head. The lens does not revolve on its axis.



"C"

enters a slot in the spindle which prevents any further slipping, the tension afterwards being governed by the slipping discs of the take-up. The core, at any time, can only slip a part of one revolution of the spindle.

A viewfinder, supplied without extra charge, is of the ordinary pattern rapid viewfinder, which can be attached on the side or top of the camera. A special **focussing box viewfinder** can be supplied at an extra charge, which can also be fitted to the top or side of the camera.

The weight of the three-spindle or Model "A" Camera, including two dark boxes, but without any film, is 18lbs.

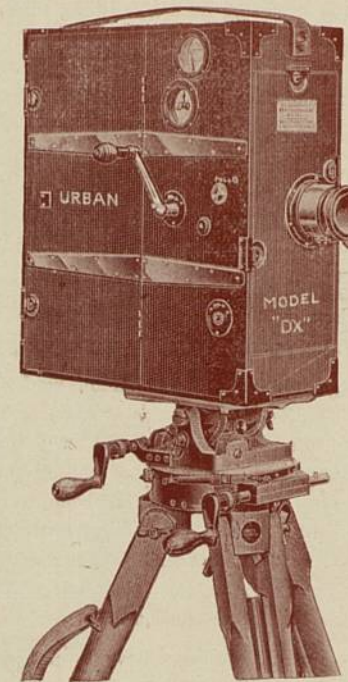
The weight of the one-spindle, or Model "B" Camera, is about 14½lbs.

The outside measurements of both cameras are the same, namely, 13in. long, 5in. wide, 16in. high; carrying straps are attached.

Prices for Cameras and Accessories.

Kineto Model "A," or three-spindle Camera, fitted with two film boxes, special focussing jacket and rapid viewfinder ...	£45 0 0
Kineto Model "B," or one-spindle Camera, fitted with two film boxes, special focussing jacket and rapid viewfinder ...	39 0 0
Extra Film Boxes (ordinary) ...	1 1 0
Extra Film Boxes (hinged) ...	1 3 0
Special Focussing Box Viewfinder fitted with lens and ground glass ...	2 2 0
Film Punch, or Perforator ...	2 0 0
Zeiss-Tessar 3in. Lens mounted in tube ...	6 10 0
Zeiss-Tessar 2in. Focus Lens mounted in tube ...	6 0 0
Canvas Camera Travelling Cases, leather bound, lined with green baize, fitted with lock and shoulder strap ...	3 10 0
Accessory Case Ditto, to carry four extra film boxes ...	2 10 0

Urban Cameras. Models "Bx" & "Dx."



CAMERA OUTFIT "Dx."

One Camera fitted with Two Film Boxes, Film Register, Speed Indicator, View Finder and Film Punch.

One Zeiss Tessar 3in. Lens.

One Rack Mount.

Two Extra Film Boxes.

One Set of Canvas Leather Bound Carrying Cases.

Code - "BIOMAV."

Price, complete ... £52

CAMERA OUTFIT "Bx."

One Camera fitted with Two Film Boxes, Film Register, Film Punch and View Finder.

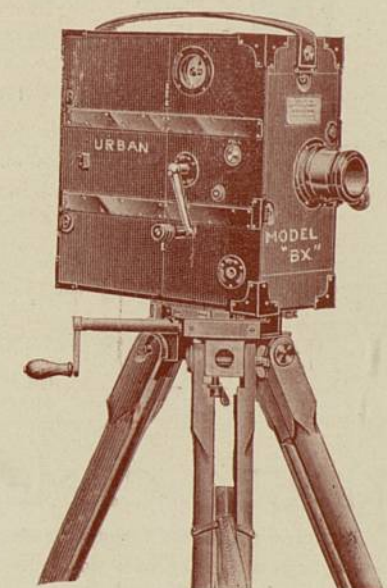
One Zeiss Tessar Lens, 3in. Focus.

Four Extra Film Boxes.

One Special Canvas Leather Bound Travelling Case.

Code - "BIOMAN"

Price, complete ... £42



HANDY EXTENSION TRIPOD.

A Combined Rotary and Rigid Extension Stand, with Revolving Head or Revolving Head and Tilting Table.
The Lightest Folding 6ft. Tripod Stand with Revolving Head ever made.



Fig. 1.

When closed ready for carrying, the length is 42ins. over all.

The weight with Revolving Head is 12½lbs.

The weight with Revolving Head and Tilting Top is 15lbs. 11ozs.

The Stand is adjustable from a height of 43ins. up to 6ft. 6ins.

Its special construction secures absolute rigidity (at any height) together with a lightness which will be a revelation to the operator.

The legs are adjustable, enabling the Stand to be erected on uneven ground, such as the steps of a Town Hall, etc., and yet be perfectly rigid.

The handle for turning the revolving part can be secured and worked from either left or right of the Camera. The Tilting Table is worked from the back or front. A notable improvement has been effected in the revolving part of the head. Operators often experience great difficulty in getting the Camera trained on the object quickly enough. This difficulty has been overcome by means of an arrangement which enables the worm on the Revolving Head to be instantly thrown out of gear. The head, with the Camera still securely fastened to it, may be moved in any direction, the worm being put into gear as quickly as it was thrown out, and ready for work again.

With the combined head, that is, revolving and tilting, a new power is put into the hands of the operator. For instance it will enable him not only to follow a descending or ascending object, but will allow him to have his Camera at a height of 6ft. or more, and take a complete circular panoramic view, whilst the Camera is tilted at an angle. All the upright objects will be found to be still upright in the circle swept by his Camera.

The entire tilting is detachable. Purchasers of the Stand with the Revolving Head only, can add the Tilting Table at any time, and it can be fixed in position in a few seconds.

- - PRICE - -

"Handy" Tripod with Revolving Head only £7 0 0

"Maxim" Rotary Tripod with Revolving Head and Tilting Table (Fig. 1) 12 12 0

Protecting End Bags (set of 2) solid leather ends, with Canvas Body and Straps, including Wide Web Shoulder Strap extra 2 0 0

KINETO CAMERA SLIDING WEDGE.

Secures rapid attachment of the Camera to the Tripod Head. Perfect locking, without jamming or possibility of loose working. No Camera holding-screw required.

Code "CACOLORO."

Price £1 1s.

Taking, Developing and Printing FROM CUSTOMERS' NEGATIVES.

All Films used are perforated to accurate Standard Gauge.

:: PRICES ::

SKILLED OPERATOR AND SPECIAL APPARATUS, sent out per day or part of a day (plus Operator's Expenses)...	21s. nett.
SPECIAL SCENERY arranged by us (according to Scenery and Actors required), from	21s. „
NEGATIVE FILM STOCK (perforated) per foot	2½d. „
DEVELOPING NEGATIVES (per 50ft. lengths, minimum) „	2½d. „
PRINTING AND DEVELOPING POSITIVES from Customers' Negatives, Positive Stock supplied by us, perforated to accurate gauge standard, per 50ft. lengths minimum charge	12s. 6d. „

Photographic Film Stock.

NEGATIVE AND POSITIVE.

EASTMAN, LUMIERE AND OTHER COMPANIES' NEGATIVE FILM, in rolls of 165 and 200ft., 1½in. wide, perforated	Price, per foot 2½d. „
EASTMAN, LUMIERE AND OTHER COMPANIES' POSITIVE FILM, in rolls of 165 and 200ft., Standard width, perforated	Price, per foot 2½d. „
NON-FLAM	Price, per foot 3d. „



FILM STOCK PERFORATED at 2s. nett. per roll.

ALL FILM STOCK SOLD WITHOUT GUARANTEE.

Special Quotations for Large Quantities.

CONTENTS . . .

Adjustable Lamp Tray	16	Light Cut-Offs	20
Ampmeters	32	Limelight Jets	36
Arc Lamps	17	" " Mechanical Tray	37
" Portable, for Domestic Use	19	Limes	37
Camera, "Kineto" Model A	50-52	Objectives	11
" " " B	50-52	Operating Houses	45
" "Prestwich"	49	Oxygen Cakes	43
" "Urban"	53	" Generator and Carburetter-Jet	42, 43
" Extension Tripods	54	Pendant Saturators	41
" Sliding Wedges	54	Perforator	48
Carbons	18	Portable Arc Lamp	19
Carburetter Jet	42, 43	Printer	46, 47
Condensers	10	Projectors, "Kineto" Patent Model B	3-8
Control Boards	35	" " Maltese Cross	23-26
Curtain Light Cut-Offs	20	" " 2-Sprocket Bioscope	27, 28
Double Slide Carriers	22	" " 3-Sprocket	29, 30
Extension Tubes	12	" " Stands	14
" Tripods	54	Rackmount (or Lens Holder)	11
Film Stock, Negative and Positive	55	Reels, Iron	22
" " Non-Flam	55	Reel Carrying Cases	22
" Cement	13	Resistances	31-35
" " Non-Flam	13	Re-winders	21
" Joiners	16	Saturators, Pendant	41
" Measurers	41	Screens, Calico and Linen	13
" Perforators	48	Slide Carriers, Double	22
" Printers	46, 47	" Single Lantern	24
" and Spool Winders and Re-winders	21	Soda Lime Powder	43
Fireproof Spool Boxes	15	Spool Boxes	15
Gas Regulators	38	Spool Winders	21
" Gauges	38	Stands for Projectors	14
Generators, Oxygen	42	Take-Up	15
Indiarubber Tubing	37	Terms and Conditions	2
Iron Reels	22	Travelling Cases	20
Lamp Tray, Adjustable	16	Tripods, Camera	54
Lantern Body	9, 30	Tubing	37
Lenses	12	Winders	21
Lens Holder (or Rackmount)	11		

- SPECIAL -

How to Find the Dimensions of a Picture	13
Instruction in Management of Limelight	39, 40
Kinematograph Difficulties and how to Deal with them	44
Terms for Technical Work	55

