

LATEST
ILLUSTRATED
CATALOGUE
OF



BY
ROYAL LETTERS
PATENT.

BIOSCOPES

. . . AND . . .

ACCESSORIES



R. R. BEARD,
MANUFACTURER.

10 TRAFALGAR ROAD,
OLD KENT ROAD,
LONDON, S.E.

Telephone : 1964 HOP.

Telegrams : "BIOJECTOR," LONDON.

Special Inventions,
Patents and Specifications
a Speciality.

R. R. BEARD is prepared to undertake and make specially any Patent, and manufacture to specifications; also to assist inventors with strict confidence to work out their ideas, regardless of their intricacies, and can at any time be consulted.

♦ ♦ ♦

Repetition Work.
Wheel Cutting, &c., &c.

Designs and Patterns strictly reserved to Customers.

♦ ♦ ♦

Repairs and Renovations.

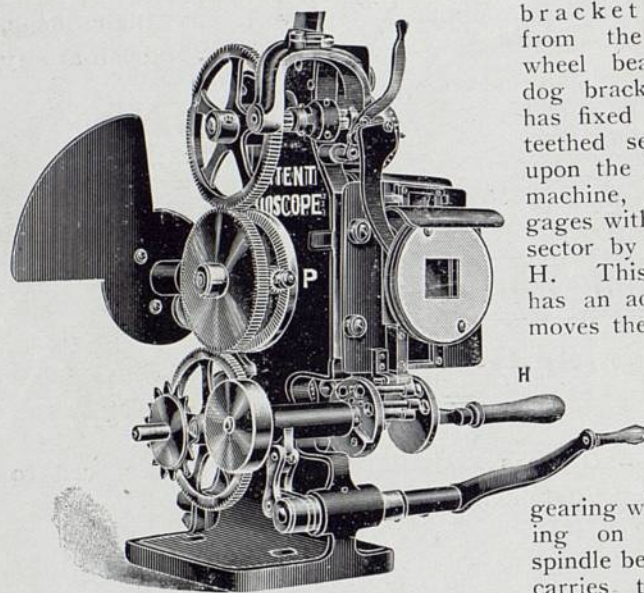
Bioscopes, Lanterns and Instruments of all kinds repaired and made up-to-date. All latest improvements added. Regulators and Gauges of all kinds adjusted and repaired.

W.D.
8°
105
BR

R. R. Beard's Patent Perfect Projector.

THE PATENT PERFECT PROJECTOR is so constructed that there is no need whatever to shift the film on the sprockets, or to move the lense (except when focussing). Lense always remains stationary in the correct optic centre, this being of the greatest importance, and the picture is always in the same position on the screen.

The illustration is sufficient for those using the Bioscope Mechanism to show the additional improvements. The dog bearing, which is usually made in the frame of machine, is in this



instance made in a bracket swinging from the sprocket wheel bearing; the dog bracket bearing has fixed to it two toothed sectors, one upon the face of the machine, which engages with the fellow sector by the handle H. This sector has an action which moves the dog up or down as may be required; the other sector has a fellow gearing with it swinging on the centre spindle bearing which carries the shutter

bevel wheel, this sector carries pinion P geared between a pair of bevel wheels; in this case the outer wheel does not work the shutter as usually, but transfers through pinion P to the inner bevel wheel, into which the pinion of the shutter is geared. It will be seen that any movement given to the dog is also given to the shutter, as both shutter and dog must work in unison.

By using this adjustment no movement of the lense or gate is required, as the film can be brought into position with the gate aperture by raising or lowering handle H. No extra rollers are needed for films to run over. Top and bottom sprocket wheel spindles are both threaded so that the machine can be driven with either sprocket. This improvement can be fitted to existing Bioscopes.

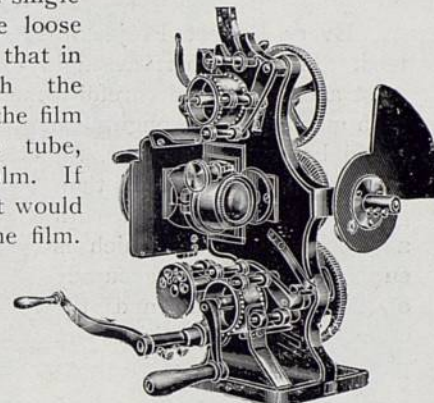
Description of Mechanism.

The entire frames and bearings are made of the finest grain iron castings, finished in green enamel and gold pencil lines all round. The spindles are turned out of the best refined steel, accurately ground in to ensure the most perfect fitting. The gear wheels and sprockets, film holders and re-winding gear are of highly-finished hard brass and gun metal, and all accurately cut and adjusted. The shutter is fitted with the translucent violet shutter blade, which reduces all flicker, and is adjustable to the use of any focus objective. The top arm or film spool support is fitted with disc and tube for use with single films. The advantage of the loose tube fitted on pin of top arm is that in running single films through the machine the centre portion of the film in unwinding grips the loose tube, which then revolves with the film. If this were a fixed pin, the result would be the constant breaking of the film.

The automatic re-winding take-up gear is of an improved design, readily fixed and adjusted to the Bioscope frame by a thumb screw, and made to take spools up to 16 inches diameter, and winds regularly the films at the end of the strip, as it does at the beginning. The films do not bind or cause undue tension as the diameter on the spool increases, which is usual with the general attachments used.

The Gate is so constructed that, by reason of the film travelling between steel runners, the face of the film on either side does not come in contact with any other part of the gate.

In order to reduce wear and tear of perforations, the necessary gate pressure is spread over a large area by means of three adjustable pressure bars on each side of the film. Greater retardation is obtained by employing as many pressure bars as possible, in preference to the usual method of one pressure bar only on each side, which, to produce equal arresting power, would require more pressure than does the multiple base method, operating over a similar length of film.



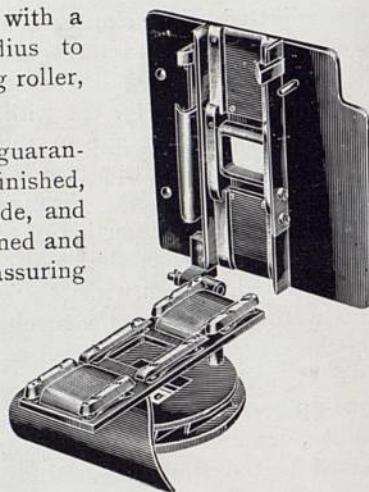
The steel pressure bars are hardened and burnished. Running vertically between the pressure bars are two brass plates, termed "baffle plates," whose function is as much as possible to reduce the air space around the films.

This renders the firing of the film in the gate an absolute impossibility. If the film in the exposure hole should fire from any cause whatever, one picture only can be burned, the perforations themselves remaining intact, so that even re-threading the machine is unnecessary.

To each machine is also fitted the Patent Automatic Light Cut-Off.

The dog or beater is fitted with a secondary dog roller, set at a radius to minimise the blow of the main dog roller, which also lessens the noise.

Every Perfect Projector is guaranteed. The metal parts are highly-finished, most accurately and carefully made, and each machine is thoroughly examined and tested before despatching, thus assuring them giving better results than it is possible to obtain with any other machine, which is entirely due to the accuracy of the mechanism and the crucial tests the machines are placed under.

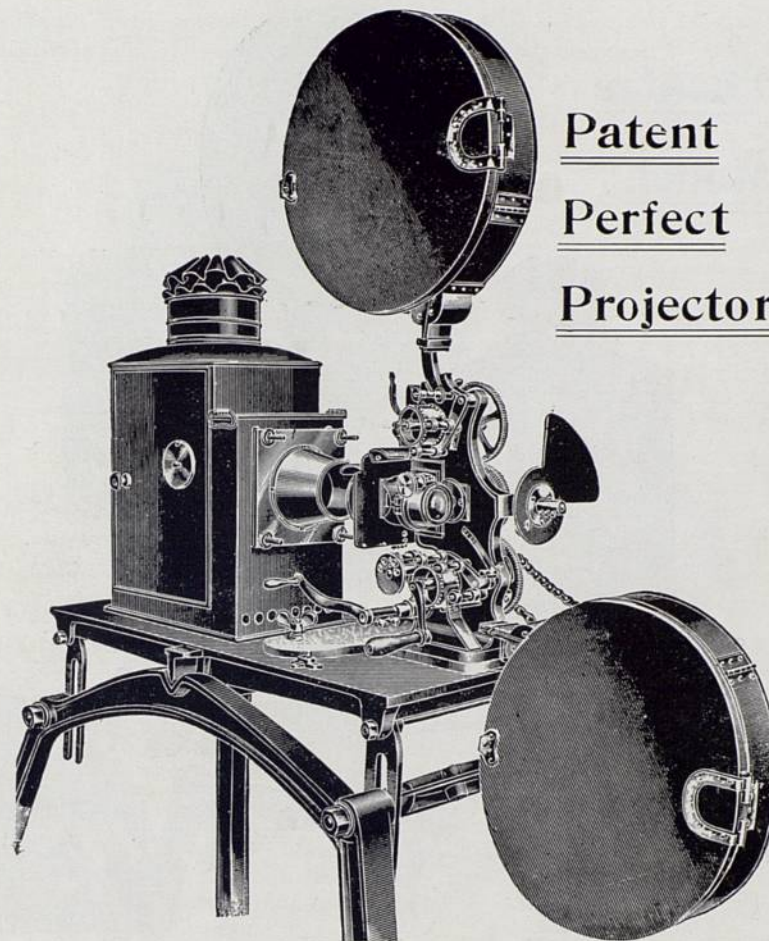


Price of Mechanism, with top arm, re-winding gear, and coiled wire belt, and Patent Automatic Light Cut-Off **£18 18 0**

Without Patent Automatic Light Cut-Off ... **16 16 0**

If Chain Drive in lieu of wire belt and pulleys extra **0 15 0**

Patent Perfect Projector.



Fitted complete as illustration, and consisting of Patent Perfect Mechanism, Automatic Light Cut-off; lantern lense, with double rack and pinion and flap shutter; jacket for Cinematograph Lense; 1 Cinematograph Lense mounted in tube to slide into jacket; top arm for spools; re-winding gear with wire band and mounted on brass swivel plate and oak baseboard.

Improved Russian iron lantern body with crinkle top and brass cone front stage; 4-inch double convex and meniscus condenser; 3 12-inch diameter spools for films; all metal double slide carrier.

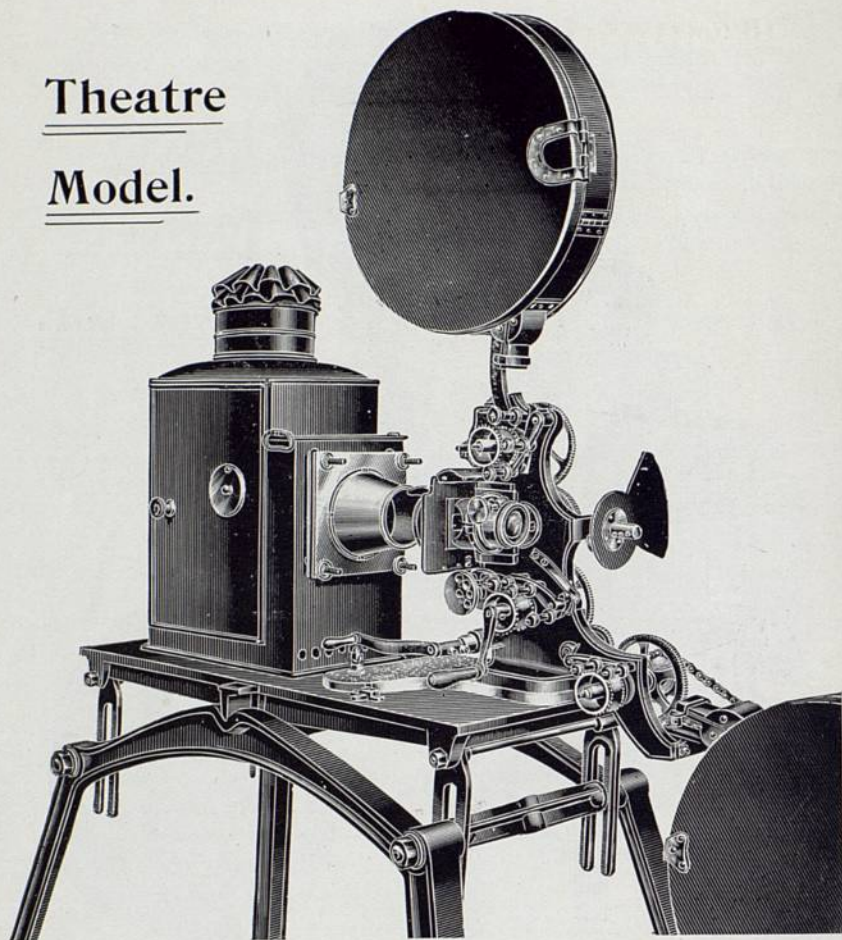
The whole as described above, price **£26 17s.**

If fitted with 2 14-inch diameter spool boxes, Extra **£3 5 0**

If fitted with Chain Drive take-up in lieu of wire band and pulleys ... **0 15 0**

If fitted to Iron Stand ... **3 15 0**

Theatre Model.



This machine is similar to previous descriptions, but has an extra sprocket or pin wheel, which greatly relieves the strain on the film.

Price of Mechanism with top arm, re-winding gear with coiled wire belt, and automatic light cut-off £22 1 0

Fitted complete as illustration, and consisting of Patent Perfect Mechanism, Automatic Light Cut-off, lantern lense with double rack and pinion, and flap shutter; jacket for Cinematograph Lense; one Cinematograph Lense mounted in tube to slide into jacket; top arm for spools; re-winding gear, with wire band, and mounted on brass swivel plate and oak base-board.

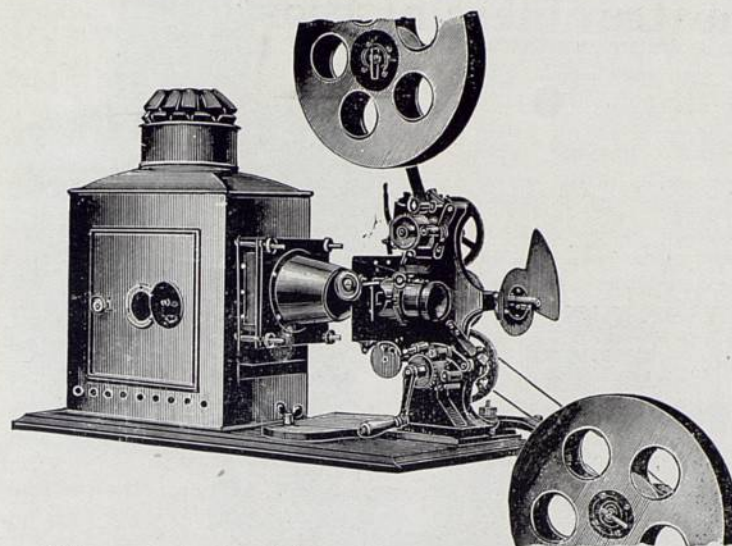
Improved Russian Iron Lantern Body, with crinkle top and brass cone front stage; 4-inch double convex and meniscus condenser; 3 12-inch diameter spools for films; all-metal double-slide carrier.

The whole, as described above, price £30 0 0

EXTRA.

If fitted with 2 14-inch Diameter Spool Boxes	3 5 0
If fitted with Chain-drive take-up in place of wire band and pulleys	0 15 0
If fitted to Iron Stand	3 15 0

The Imperial Bioscope.



This projector is of the ordinary Bioscope type. The entire frame and bearings are made of the finest grain iron castings, finished in green enamel and gold pencil lines all round; spindles are turned out of the best refined steel, and accurately ground in. Gear wheels and sprockets, film holders and re-winding gears are of highly finished hard brass and gun metal. The shutter is fitted with violet blade to reduce flicker, and is adjustable for any focus lense desired. The top arm or film support is fitted with disc and tube for use with single films. The automatic re-winding gear is made to take spools up to 16 inches diameter.

The Patent Automatic Light Cut-off is same as fitted to the Patent Perfect Bioscope.

Every Bioscope is guaranteed, and each one is thoroughly examined and tested before being despatched.

Price of complete machine as above illustrated, consisting of mechanism, lantern lense, jacket for cinematograph lense, one cinematograph lense in tube, top arm for spools, re-winding gear and spring band, 3 12-inch spools, Russian iron body with crinkle top, brass cone front; the whole, mounted on brass swivel plate and oak baseboard, price £21 12s.

With Patent Automatic Light Cut-off, £23 14s.

Price of Imperial Bioscope mechanism, with top arm, re-winding gear, and coiled wire belt, without Light Cut-off, £14 14s.

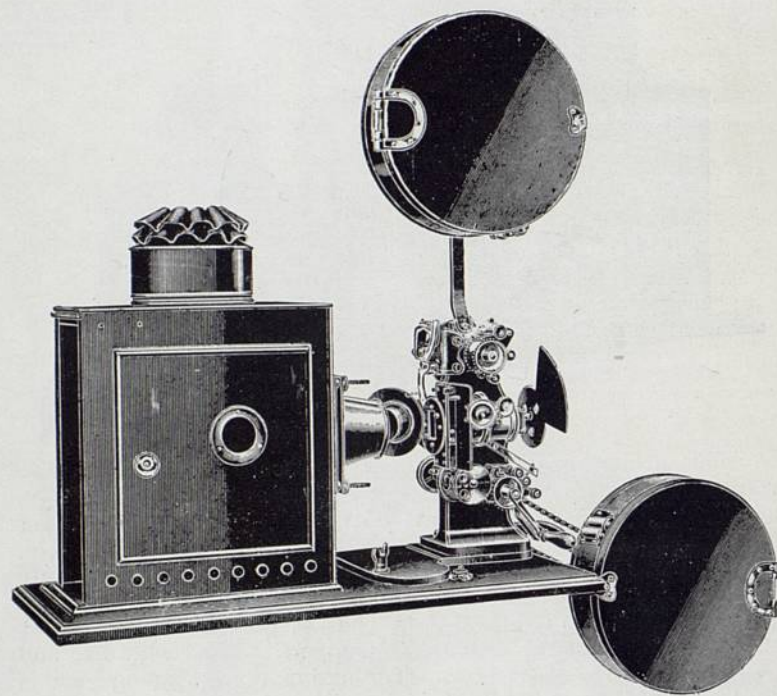
Price with Patent Automatic Light Cut-off, £16 16s.

If fitted with 2 14-inch diameter spool boxes £3 5 0 extra

If fitted with Chain Drive take-up in lieu of wire band and pulleys £0 15 0 „

If fitted to Iron Stand £3 15 0 „

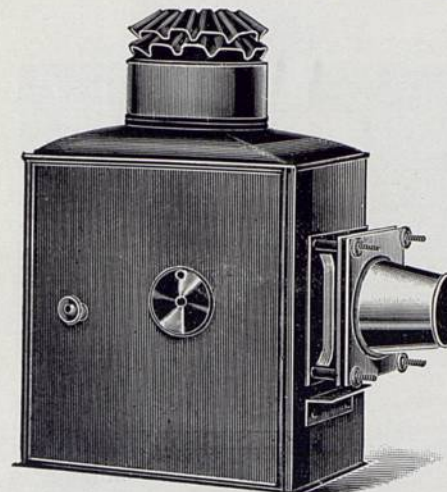
The Commercial Bioscope.



Mechanism is of the ordinary Bioscope design. The accuracy of workmanship is maintained and it is fitted with an automatic shutter, chain driven take-up, roller-mouth fire-proof spool boxes (12 in. diam.), large lantern body, brass cone front, swivel plate and baseboard, Meniscus condenser, Title lense, cinematograph Lense and jacket and three 11-in. spools.

£18 18 0

RUSSIAN IRON BIOSCOPE LANTERN.



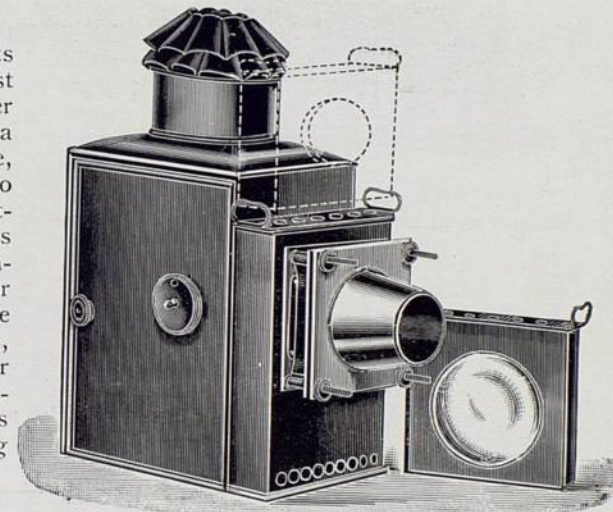
The Body is made of Best quality Russian iron and of extra large size to take any Arc lamp or other illuminant, having ample space to adjust lamp, jet, &c., without removing them from the body, fitted with side door, having special fibre handle and fastening. Brass flashing shutter sight holes both sides of body, ornamental rose top, sliding rod fitted in top of body for curtain.

Entire brass fronts with conical tube, carrier sliding stage, and alum trough stage. Condenser 4 inches diameter, Double Convex and Meniscus combination. Grooved runner with clamping screws for arc lamps, or jet trays and well ventilated.

Price with Condenser, **£2 10 0**

IMPROVED RUSSIAN IRON BIOSCOPE LANTERN BODY.

The Improvements in this body consist of the Condenser being held in a loose metal Frame, which drops into position from outside of body, as shown in illustration; and the door is made the entire height of body, giving greater facility for adjusting Arc Lamps without removing from the body.

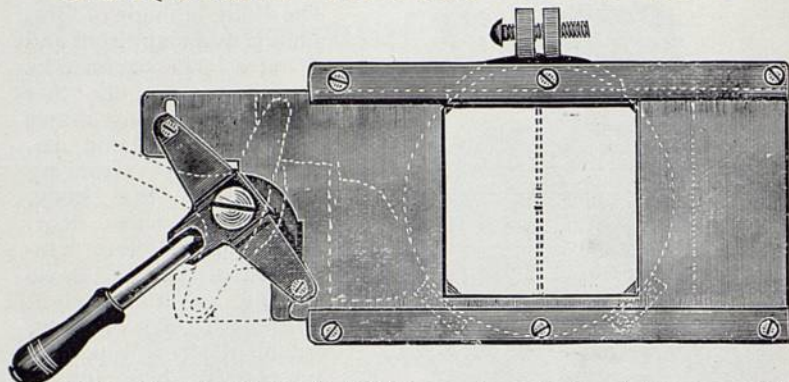


Entire Brass Fronts with conical tube, carrier sliding stage, grooved runners with clamping screws. Four inch Meniscus and Double Convex Condenser.

Price with Condenser and Brass Front, **£2 15 0**

Extra Condenser stages **0 5 0**

CURTAIN LIGHT CUT-OFF.



This Curtain Light Cut-Off is made entirely of brass, and is easily fitted to any standard lantern cone by the clamping ring and adjusting screws, being equal from both sides. In use the effect produced is the gradual illumination of the picture or announcement slide with a gradual curtain cut-off.

Price (with clamping ring for cone) £1 1 0

BRASS SWIVEL PLATE AND OAK BASEBOARD.

Baseboard made of well seasoned oak, grooved and cross-grained to prevent warping, finished in oil and hand polished, fitted with swivelled, polished, and lacquered brass plate, bushing to keep same in adjustment, with clamp and stop, and upon which the machine is bolted by steel bolts (a Russian iron adjusting tray is supplied with lantern for fixing to oak baseboard). Size of Baseboard 29 by 12 inches.

Price, £2 0 0

COMBINATION TRAVELLING CASE & EXHIBITION STAND

For Patent Perfect Projector or other Machines.

The case is made of best pine, dovetailed and tongued, with tilting top and wedges, drawer fitted to take appliances when not in use, a pair of trestles or legs which are quickly and easily fixed by means of thumb screws supplied and forms Exhibition Stand.

All projectors made have two screw holes in the oak baseboard, so that the machines can be fixed inside the case without any further packing necessary for safe transportation, and also two screw plates are fixed in the tilting top for fixing machine for exhibition, large iron handle each end for carrying, iron bound, and two locks and keys. The most compact combined travelling case and exhibition stand manufactured. Price, £2 10 0

BOTH WAY CARRIER.

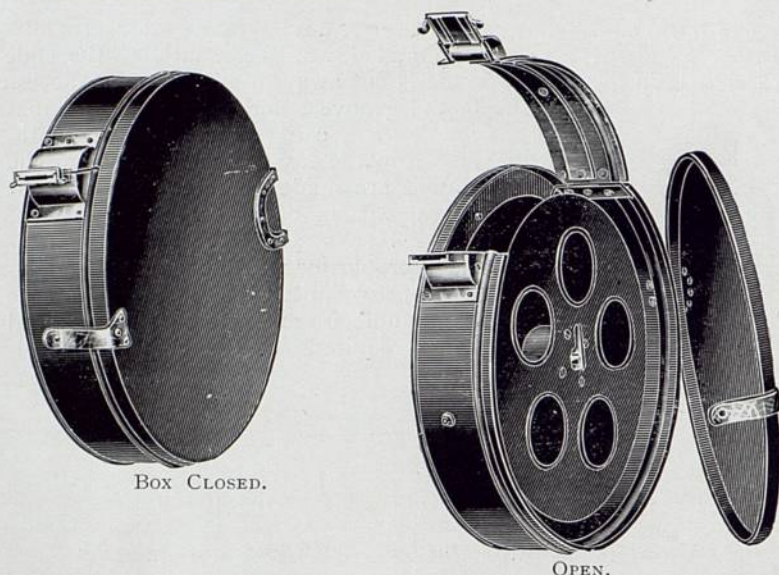
Improved Instantaneous Carrier for showing slides rapidly. Either to slide across or up and down, the mouth of the slide receptacle in the sliding frame is cut away to allow of easy access of the grooves, and is so arranged that the slides can be placed or withdrawn in the least possible time. The frames are made of aluminium and the bearing parts of brass, the knobs or finger blocks are of red fibre and of such proportions to be readily handled. Owing to limited heights of Lanterns the handle is removable and replaced when required for the crossway position.



Price, £1 1 0

CHAIN DRIVE RE-WINDING or TAKE-UP GEAR.

Fireproof Film Boxes.



The improvement in this Fireproof Film Box consists of a film trap allowing plenty of space without rubbing the surface of the film or undue friction, and making an absolute fire extinguisher. Easy method of placing spools in position. The film is placed into the bottom half of extinguisher, the top half (which is attached to a section of the rim) is closed upon it, the door is then closed, making it perfectly fireproof. The convenience of this will be seen in the case of the film breaking in use, the door is opened and the section raised. The film can be readily got at without taking off the spool.

glass fittings :

Cinematograph Stands.



Fig. 1.

Made entirely of Iron, with tilting top, enabling the operator to obtain any angle required.

Absolutely rigid, and of the best finish and workmanship.

Fig. 1, price **£3 15 0.**

The Ideal Stand for Picture Theatres.

CINEMATOGRAPH STAND.

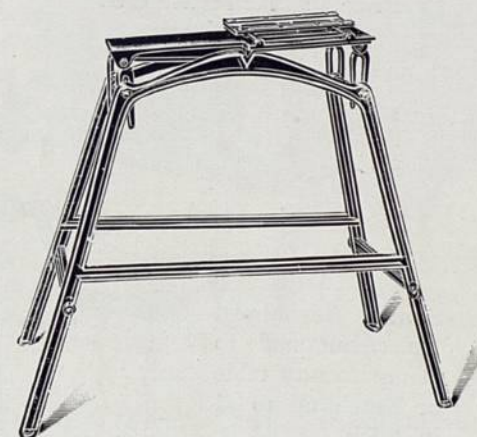
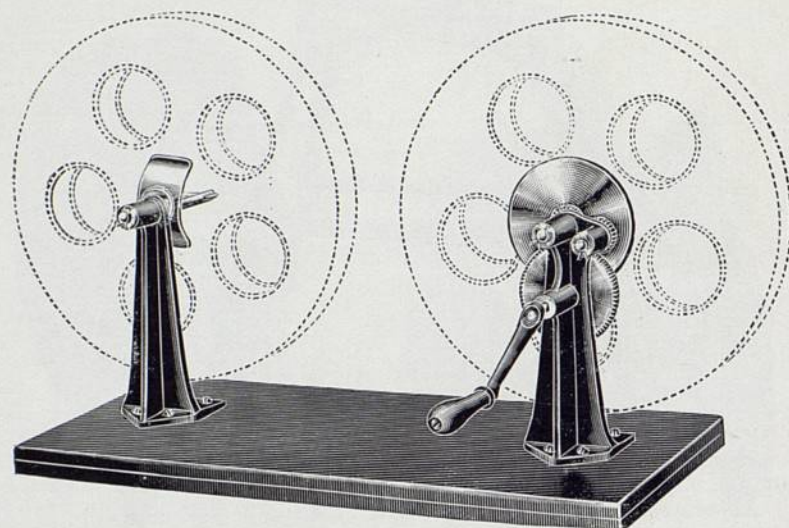


Fig. 2.

Similar in construction to Fig. 1, but fitted with Iron slide over base for Lantern Body.

Fig. 2, price **£4 10 0.**

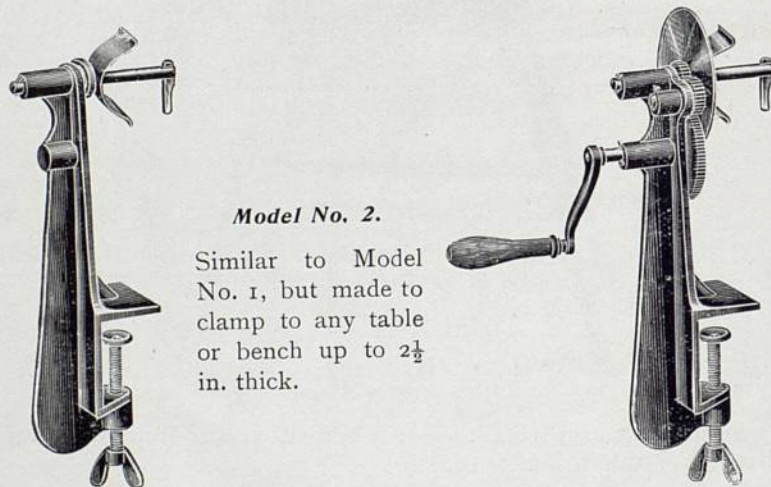
Spool Rewinders.



Model No. 1.

Mounted on polished Mahogany base board, with two substantial iron uprights, steel spindles, solid cut gear wheels, with intermediate gear to wind in same direction as film is travelling.

Price, **£1 15s. 0d.**

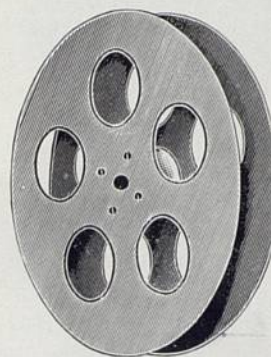


Model No. 2.

Similar to Model No. 1, but made to clamp to any table or bench up to 2½ in. thick.

Price, **£1 15s. 0d.**

Improved Spools for Films.



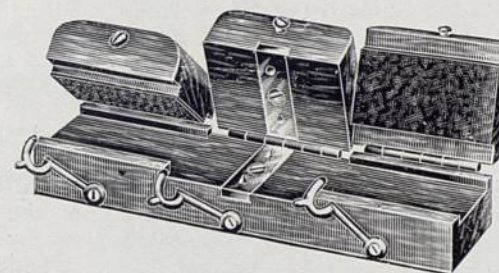
Perforated Metal Discs to reduce weight, fitted with wood centres, brass bushed, and spring clips for holding films.

PRICES.

10 inch	...	...	...	3/0 each.
11 inch	...	...	...	3/0 „
12 inch	...	...	...	3/0 „
13 inch	...	...	...	3/6 „
14 inch	...	...	...	3/6 „

FILM MENDERS.

In every operator's outfit an important item is a really Good Film Mender. It is very important that when a film is mended it is done properly, otherwise the picture jumps when the join is passing through the machine.



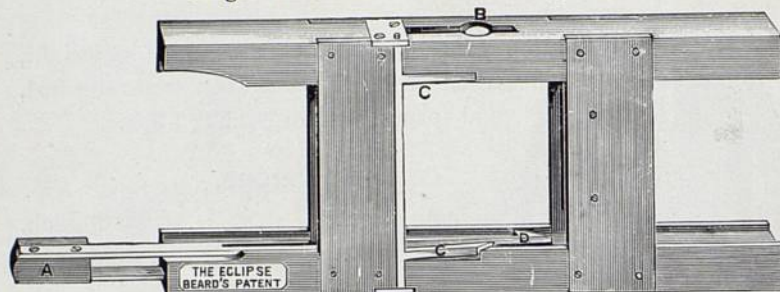
For Standard Gauge perforated films, which can be rapidly and accurately joined should they become torn or broken. It is in hinged sections, with screw clamp and solid base, and is invaluable to the operator. Price, **5/0** each.

Film Cement for joining Films. Complete with Brush, **1/0** per bottle.

Film Cement for Non-Flam Films. Complete with Brush **1/0** per bottle.

BEARD'S ECLIPSE SINGLE LANTERN SLIDE CARRIER.

The best method of producing Dissolving View effects with a Single Lantern. For Slides $3\frac{1}{4} \times 3\frac{1}{4}$.



Price 10/6 each.

The advantages of this Carrier are that the slides are inserted and withdrawn from the same side of the Lantern. There is no finger mark on the slide, and the slide is pushed in and pushed out already shown. It is then the slide before it is the nearest lantern, and earned for

Only "Eclipse" Carriers having
an Ivory Tablet inserted are
genuine and made by
R. R. BEARD.



Also for preventing the usual white disc when the slide is withdrawn from the Lantern (unless desired).

Also a better and more efficient way of passing slides ($3\frac{1}{4} \times 3\frac{1}{4}$) in and out of the lantern.

This Carrier will suit all existing Lanterns, and without alteration to any part.

Centring in any Lantern as effect or mechanical slides in the usual way.

No reaching across or lifting out of groove the usual slide, for by one movement of the runner (simply drawing out) the used slide is brought to the same side ready to be taken away by the hand.

It is suitable for any Lantern or Lanterns with condensers up to $4\frac{1}{2}$ inch diameter, and is also suitable for single, double, or triple Lanterns.

By this Carrier one operator can exhibit any number of slides required.

It was highly commended by the judges of the Royal Cornwall Exhibition.

Price 10/6 each.

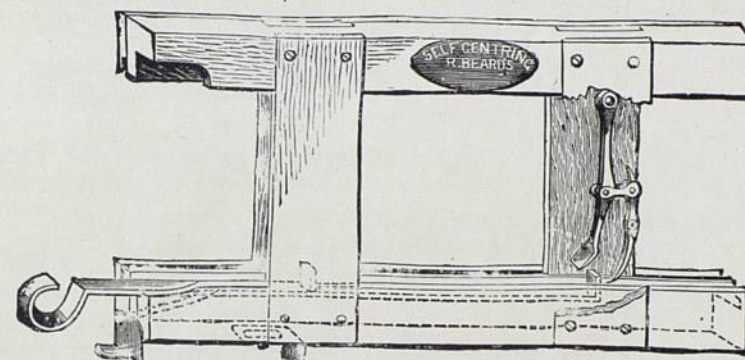
Metal Faced Eclipse Single Lantern Slide Carrier.

The wood frame being faced with brass, is suitable for electric light lanterns or those having narrow stages. Price 12s. 6d.

Entire metal frame in aluminium and riveted together, working parts in brass. Price £1 2 6

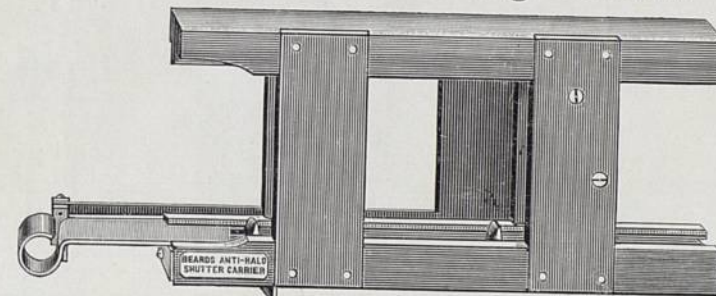
Beard's Patent Self-Centring Slide Carrier.

The advantages of this form of Carrier is that, no matter what the length of the lantern photograph or slide is, it becomes automatically centred on being placed on the brass runner and pushed home. By this means any of the commercial photographs (English, French, and American) can be used alternately or successively in the dark with perfect safety, and with infallible results. Other forms of carriers in the market, when employed for different size slides, require the operator's careful thought as to which length of slide preceded the one to be shown, or else were liable to allow the slide to fall and get broken. Price 5/-



Self-centring Carrier, with two metal masks, sliding in a groove immediately behind the photograph, so as to show the exact amount on the screen with each slide, and thus compensate for any little difference in the position of the mats on the slides. One cushion shape for French and American slides, and one circular for English, etc. Price 7/6.

The Anti-Halo Self-Centring Carrier.

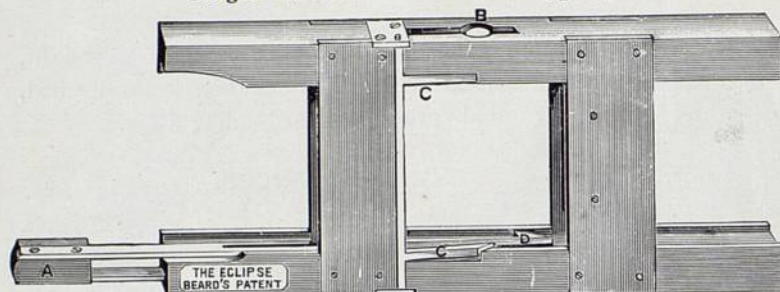


This Carrier is exactly the same as the one above described, with the addition of a metal blind or screen that automatically closes and opens the aperture in the carrier, on removing and inserting the slides. It works at the same time as the runner that carries the slide.

Price 7/6. Fitted with two Masks, 2/6 extra.

BEARD'S ECLIPSE SINGLE LANTERN SLIDE CARRIER.

The best method of producing Dissolving View effects with a Single Lantern. For Slides $3\frac{1}{4} \times 3\frac{1}{4}$.



Price 10/6 each.

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 need only be held with the finger and thumb by the corner. The slide can be easily 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, and it 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, and the ease and comfort it gives to the operator has earned for it a great reputation.

Also for preventing the usual white disc when the slides are withdrawn from the Lantern (unless desired).

Also a better and more efficient way of passing slides ($3\frac{1}{4} \times 3\frac{1}{4}$) in and out of the lantern.

This Carrier will suit all existing Lanterns, and without alteration to any part.

Centreing in any Lantern as effect or mechanical slides in the usual way.

No reaching across or lifting out of groove the usual slide, for by one movement of the runner (simply drawing out) the used slide is brought to the same side ready to be taken away by the hand.

It is suitable for any Lantern or Lanterns with condensers up to $4\frac{1}{2}$ inch diameter, and is also suitable for single, double, or triple Lanterns.

By this Carrier one operator can exhibit any number of slides required.

It was highly commended by the judges of the Royal Cornwall Exhibition.

Price 10/6 each.

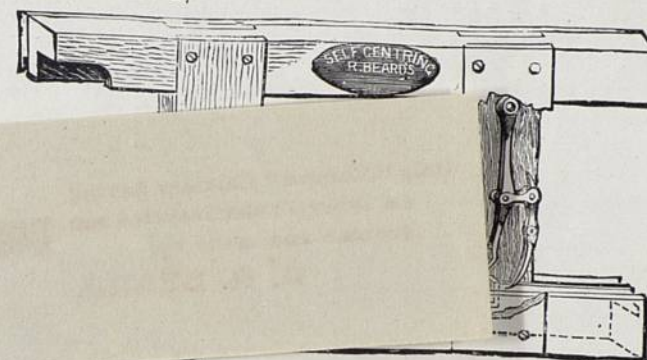
Metal Faced Eclipse Single Lantern Slide Carrier.

The wood frame being faced with brass, is suitable for electric light lanterns or those having narrow stages. Price 12s. 6d.

Entire metal frame in aluminium and riveted together, working parts in brass. Price £1 2 6

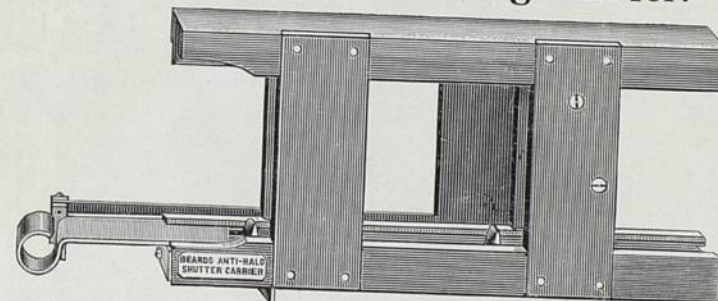
Beard's Patent Self-Centring Slide Carrier.

The advantages of this form of Carrier is that, no matter what the length of the lantern photograph or slide is, it becomes automatically centred on being placed on the brass runner and pushed home. By this means any of the commercial photographs (English, French, and American) can be used alternately or successively in the dark with perfect safety, and with infallible results. Other forms of carriers in the market, when employed for different size slides, require the operator's careful thought as to which length of slide preceded the one to be shown, or else were liable to allow the slide to fall and get broken. Price 5/-



Self-centring Carrier, with two metal masks, sliding in a groove immediately behind the photograph, so as to show the exact amount on the screen with each slide, and thus compensate for any little difference in the position of the mats on the slides. One cushion shape for French and American slides, and one circular for English, etc. Price 7/6.

The Anti-Halo Self-Centring Carrier.



This Carrier is exactly the same as the one above described, with the addition of a metal blind or screen that automatically closes and opens the aperture in the carrier, on removing and inserting the slides. It works at the same time as the runner that carries the slide.

Price 7/6. Fitted with two Masks, 2/6 extra.

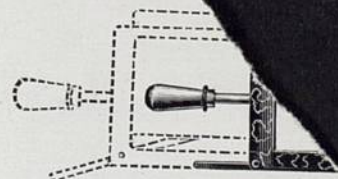
Only Sell-Centring "Eclipse"
Carriers having an Ivory
Tablet inserted are genuine
and made by

R. R. BEARD.



lantern or
for single,
any number
For slides 4 1/2
Metal faced 4 1/2
Entire metal frame

All Metal

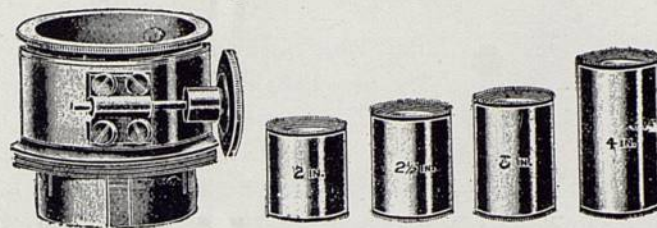


Made in solid brass, and will stand any
Light or High Pressure Jets; and is so con-
the slides is made to act as a light cut-off w
Fitted with Levers for raising slides and insulated
burning of the hands when in use. **Price 16/-**

W.D
8°
105
62

Cinematograph Lenses.

1st in. Diameter.



This is an excellent outfit for the cinematograph, as the operator with them in his possession is able to cope with the requirements of any room or hall. The lenses are of the finest quality double astigmat and will give excellent results.

Brass Mount or Jacket with Single Rack and Pinion (lenses mounted in brass tubes) Price, each **8/6**

2	2 $\frac{1}{2}$	3	3 $\frac{1}{2}$	4 inch focus.
16/6	16/6	16/6	16/6	15/-
5	5 $\frac{1}{2}$	6	6 $\frac{1}{2}$	7 inch focus.
15/-	15/-	15/-	15/-	15/-

Complete Set of Cinematograph Lenses.



Consisting of interchangeable mounts with rack and pinion adjustment, and lenses of 2, 2 $\frac{1}{2}$, 3, 4 and 5 inch focus, mounted in brass tubes and fitted in a leather covered, silk and velvet lined case.

Price **£4 15 0**

ken.

cus.

4 in. 4 $\frac{1}{2}$ in.

4/3 5/6

NSES.

Ground.

ight Boxes.

	METER.	FOCUS.	EACH.
	7 inch	9 inch	24/-
	7 "	10 "	22/-
	8 "	8 "	43/-
28/-	8 "	9 "	43/-
28/-	8 "	10 "	37/6

Quality Moulded, 6 inch diameter, **4/-**

Cinematograph Lense Battery

(New System).

A new system has lately been discovered which does away with the old style lens. The new Lens Battery is quite a simple affair. It consists of an ordinary lens, the usual length and diameter, 3in. focus, having at one end an inside thread. The remaining apparatus consists of 5 separate lenses, fitted in brass mounts, each mount having an outside thread and marked $2\frac{1}{2}$ in., $3\frac{1}{2}$ in., 4in., 5in. and 6in.

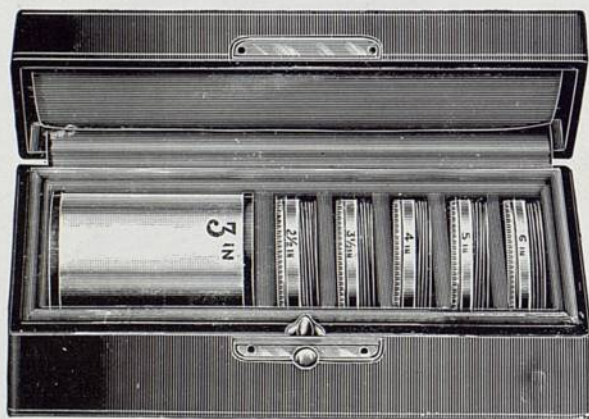
How to use.—If the 3in. lens at a given distance shows too small a picture, then all the operator has to do is to screw on to it the lens marked $2\frac{1}{2}$ in., when he will get a picture equivalent to that shown with an ordinary $2\frac{1}{2}$ in. lens. On the other hand, if the disc is too large, then he will fit either the lens marked $3\frac{1}{2}$ in. or 4in., according to the size of picture he wants. The definition with either lens is perfect and no loss of light ensues.

The advantages are as follows:—

You have always with you a combination of lenses which will give any desired size picture.

The amount of space taken up is very small, only $2\frac{1}{2} \times 7 \times 2\frac{1}{2}$.

The lenses are packed in a case, and are always clean, cannot get scratched, etc.



Price, for ordinary Bioscopes, $1\frac{1}{8}$ inch diameter, £2 2 0.

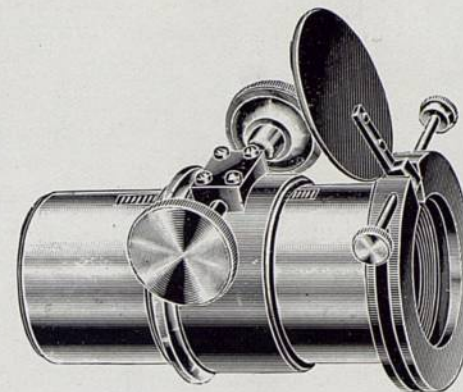
Lantern or Title Lenses.

DOUBLE COMBINATION ACHROMATIC
2-inch diameter. Solid brass mount, double rack and pinion, hinged flashing shutter with tinting slot (any focus desired).

From 6 to 18 inch.

Price 15/- each.

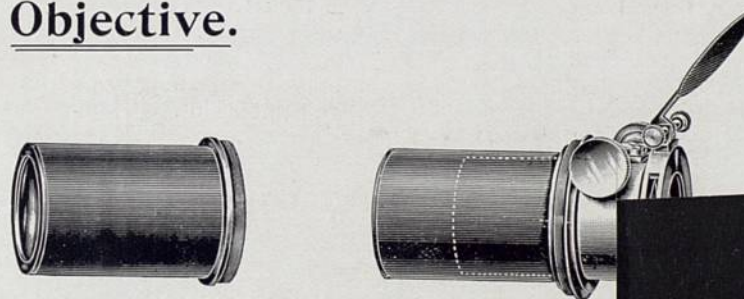
For over 18in. Focus 17/6



Lengthening Tubes for Lantern Lens.

1	$1\frac{1}{8}$	2	3	4 inch.
3/-	3/-	3/-	3/6	4/- each.

The "Multifocal" Lantern Objective.

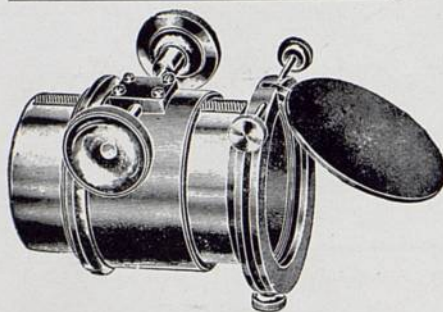


The Multifocal Objective is 6 inch focus, but with a lens of 8 inches can be used for any focus up to 24 inches. The lantern is fitted with extending front draw, giving definition is perfectly crisp over the whole field of view.

By this means the operator is provided with all that is required for exhibition in small rooms or large halls, and, as the illustrations, the Multifocal, with its attachments, occupies very small space in the lanternist's outfit.

Price complete £3 15

Lantern Lense Jacket.



(For interchangeable tube lenses).

2 in. diam.

Double rack and pinion, solid brass mount, hinged flashing shutter and tinter slots.

Price **12/-** each.

Cylinder Lenses,

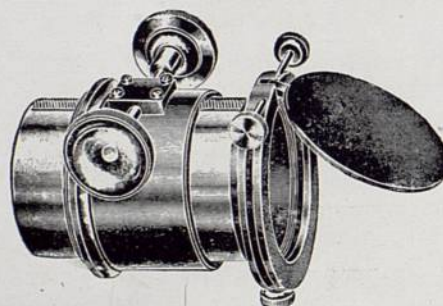
To fit above jacket. Double combination achromatic 2-inch diameter, 6, 8, 10, 12, 14, 16 inch equivalent focus.

Price **7/-** each.

18 to 30 inch focus, **10/6** „



Lantern Lense Jacket.



(For interchangeable tube lenses).

2 3/8 inch diam.

Jacket. Very massive, solid brass, with double pinion rack adjustment, hinged flashing shutter and tinter slot.

Price **20/-** each.

Cylinders

Fitted with double achromatic combinations 2 3/8 inch diameter.

Equivalent focus of lenses, 6, 8, 10, 12, 14 or 16 inches, **16/-**

18 in. to 30 in., **20/-**

Lengthening Tubes for Lantern Lense Jackets

1	1 1/2	2	3	4 inch.
3/-	3/6	4/-	4/6	5/6 each.

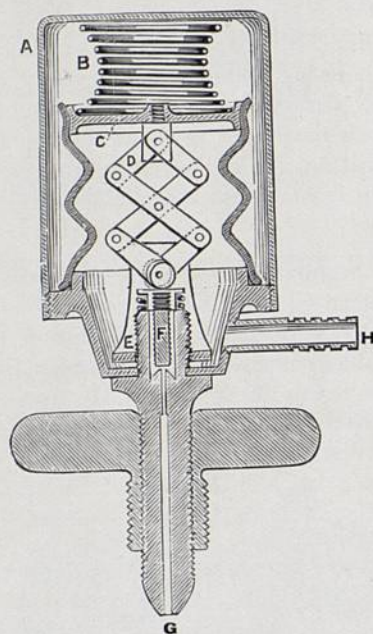
How a Beard's Gas Regulator Works.

A Regulator for attaching to cylinders of compressed gases is a requisite piece of apparatus which ensures smoothness in illumination when employing limelight. Especially is this the case when a biennial lantern is used, for a particular pressure of gas which will serve one burner or jet will not answer when two have to be employed simultaneously and it is here that the great value of a regulator becomes evident.

It is not sufficient to attach a regulator to a cylinder and expect it to do its duty unless the lantern operator has a knowledge of its mode of use. Some time ago I was present at an exhibition of lantern slides, and being seated somewhat near the lanternist, was highly amused at his method of fixing things up. He was using a single lantern blow-through jet, and had a gas regulator attached to his oxygen cylinder. When lighting up time came he, in a most careful manner, turned on a little oxygen, after lighting up the hydrogen side, and as soon as the air was dispelled from the nozzle he carefully adjusted the supply of house gas by means of the jet tap, and the supply of oxygen by means of the cylinder key, and in a few moments obtained a good light from the incandescent lime. So far so good, but after exhibiting a few slides he noticed that his light had somewhat deteriorated, so, in order to increase it, he again had recourse to the cylinder key, and, as soon as the supply of gas was to his liking, he gave his gas regulator one or two gentle taps, evidently thinking that it was not doing its duty properly. In this manner he proceeded throughout the entire exhibition. In this case, and under these circumstances, his gas regulator was simply acting the part of a piece of tubing, and, for all the use it was to him, might have been left at home, its only use being as a connection whereby the tubing from the jet was connected to the cylinder.

Doubtless many budding lanternists know as little about the functions of a gas regulator as the operator alluded to, so it may be interesting to, as it were, have a look inside and see what goes on there, and ascertain how it is that a gas regulator regulates the supply of gas, and what are the conditions to enable it to do so.

It will be seen that at the lower end there is a screw with a cone-shaped piece G. This screw, when tightened in the neck of the gas cylinder, enables the cone-shaped piece to become firmly seated in its counterpart, which forms part of the neck of the gas cylinder, and these by reason of their close connection form a gas-tight joint. The upper part contains a species of bellows C, and



when the gas is admitted into this it distends upwards and rises against the pressure of a spiral spring B. To the inside part of this bellows arrangement are attached rods D, forming a lazy-tongs, so that the greater the pressure on the bellows the more tension is put on a cam at the foot of the lazy-tongs, which presses a small valve F, tightly upon the face of the nipple or valve seat, thus stopping all further supply of gas from the cylinder into the bellows until some has been allowed to escape by means of the outlet tube H, seen at the side, and to which connection is made to the jet. The improvements in this valve F are that both ends are made similar; it is capable of being reversed so that should one end

get worn, and allow the gas to pass, it can be readily unscrewed from the cap and reversed, the new end taking the place of the old one.

Such is the arrangement of the internal parts of the regulator; let us now look to its application, for when once its mode of action is understood, and it is used in a proper manner, it will be seen that it is a most important part of a lanternist's outfit.

Old-time lanternists will remember when their gas was contained in a gas bag, which was inserted between two hinged boards, and on the top of which were placed several weights, so as to press or squeeze the gas out towards the jet. Now, this gas regulator acts the same part as the old gas bag, but with this exception; the old gas bag held the entire supply of the gas to be used during the exhibition, and the requisite pressure was obtained by means of weights. In the automatic regulator the small gas

High Pressure Gas Gauges.

(BEST QUALITY.)

With Loose Back & Screw Block Check, & Removable Glass.

These Gauges are specially made for use on cylinders containing Oxygen, Hydrogen or other Gas under a high pressure; the utmost care being exercised in manufacture to make them absolutely reliable and safe under all circumstances. They are graduated and tested under water pressure; and the strictest precautions are taken to prevent the access of even the slightest trace of oil to the interior of the Gauge.

The connection of each Gauge is so fitted to prevent the sudden inrush of pressure to the Gauge-Tube, and the back is made in the form of a hinged flap, held down by a light spring, thus serving to instantly relieve the case from all pressure in the event of the Gauge-Tube giving way.

Before these Gauges are sent out, every trace of moisture is removed from the interior; and the checks are adjusted on an air cylinder charged to 120 atmospheres.

The check can be tightened by inserting a screw-driver into the bottom of the long connection; and it should be so tight that the pointer occupies at least two seconds in travelling from Zero to 120 atmospheres.

The Gas Indicator is constructed similar to a Bourdon Gauge, and has been made to meet the want for a cheaper instrument for the purpose of indicating the quantity of gas in cylinders. This instrument is fitted with every safeguard, and is recommended where great accuracy of reading is required.

Price, fitted with Patent Coupling, £1 12 6
 „ without Coupling ... 1 10 0



Front Vi. w. Half Size.

High Pressure Gas Gauges.

(SECOND QUALITY.)

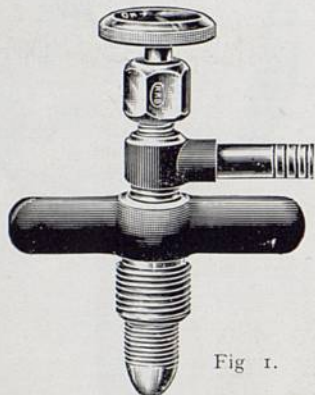
To meet the demand for a cheaper Gauge, I am now making one similar in appearance to the 3 inch best quality, but a smaller diameter. These Gauges are thoroughly reliable.

Price without Coupling, 2 3/4 in. dia., 21/- each.

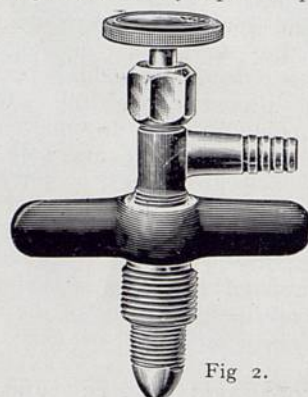
Fine Adjustment Valves.

For Oxygen or Hydrogen.

They are intended for regulating the flow of gas from either oxygen or coal gas cylinders, but should only be employed when a single light is used. Even then they are not as efficient as an automatic regulator, for they require frequent adjustment. They are a cheap form of regulator and are preferable to using a cylinder connected direct with the jet.



Best Quality 7/6



Second Quality 6/6

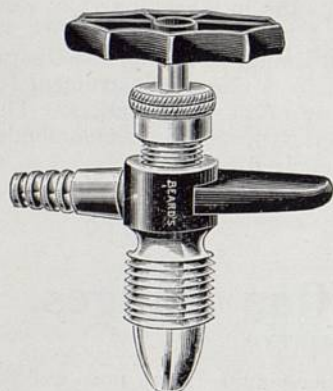
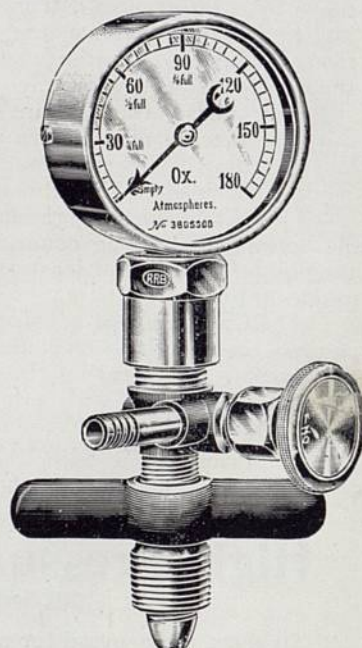


Fig. 3.
Second Heavy Quality,
suitable for rough use,
theatre work, etc. each 6s. 0d.



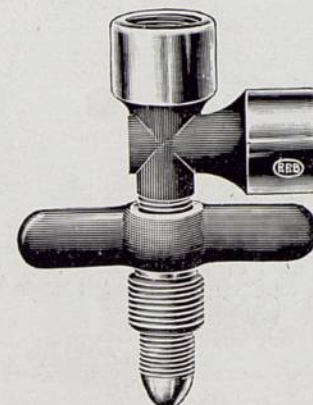
Fine Adjustment Valve
with fitting for gauge £0 12 6
3 in. diam. gauge .. 1 10 0
2 1/4 in. " " .. 1 1 0

Tee Connection.

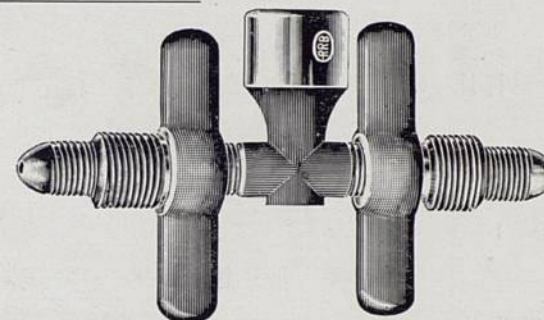
For connecting Regulator and
Gauge together

Enamelled Gun Metal, for either
Oxygen or Hydrogen.

Price 6/6.



Double Union.

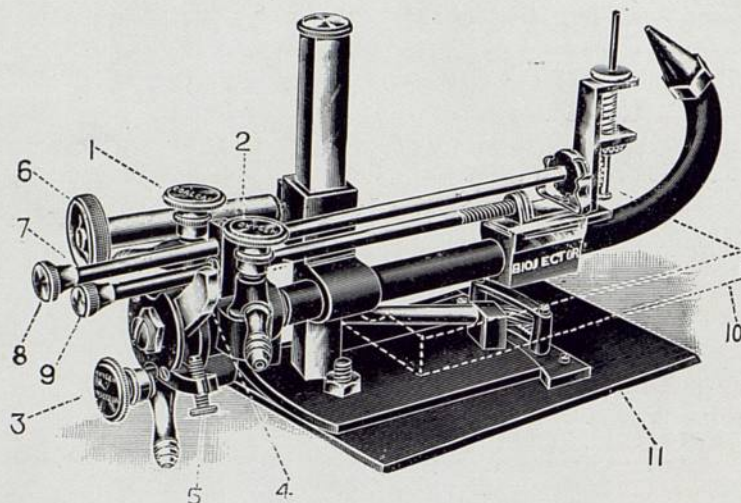


For decanting gas from one cylinder to another.

With connection for gauge as above	...	...	...	8/6
Without " " "	...	...	...	6/6

Combined Coupling Wrench

Beard's Biojector Jet.



COMBINED MIXED AND INJECTOR JET.

KEY TO INDEX.

Fig.

1. Hydrogen Valve (supply compressed Hydrogen and House Gas).
2. Oxygen Valve. Mixed.
3. Oxygen Valve. High pressure Injector.
4. Cut-off Lever.

Combined Mixed and Injector Jet.

Designed for using House Gas supply or Gas stored in Cylinders.

Combining all the essentials for convenience, in utilising the most improved methods for producing the **best possible limelight** from gases, under pressure in Cylinders and from the House Gas supply.

It saves the carrying of an extra Jet, also the inconvenience of rearranging the Lantern when a second Jet is required.

Every possible mechanical arrangement for centring with milled heads from the back, also a lever cut-off arrangement for the gases, with adjustment screw for regulating the bye-pass.

The novelty of the Cut-off is, that when it requires lubricating or cleaning, by removing three small screws the cover can be taken away and the plug removed, not occupying more than a few seconds, the only tool required being a small turnscrew.

As will be seen from the illustration, there are three Adjustment Valves or supply taps fitted to the Jet, viz.,

- Fig. 1. Hydrogen Inlet,
2. Oxygen Inlet,
3. Oxygen Inlet for Injector,

stamped respectively, Coal Gas, Oxygen, Oxygen Injector.

When using as a **Mixed Jet**, connections are made to the Valves, Figs. 1 and 2, the Injector Valve (Fig. 3 closed).

By using Cylinders, with Automatic Regulators giving a pressure from 2 to 5 lbs. per square inch, probably the best result will be obtained.

The **Injector** is used where House Gas is available, and is connected with valve, Fig. 1, and Oxygen supply to valve, Fig. 3 (Fig. 2 closed).

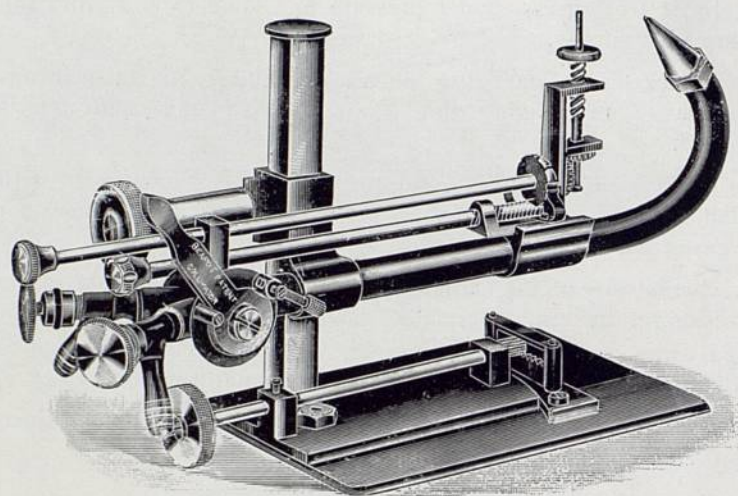
To obtain the best light an Automatic Regulator should be used, giving a pressure of from 10 to 15 lbs. per square inch, or the Variable Pressure Regulator, as on page 28 of Catalogue.

The consumption of Oxygen is about 10 feet per hour, with a pressure of 10 lbs. when using Injector.

Price, **£4 4s. Od.**

Beard's "Collimator" Jet.

IMPROVED No. 2 PATTERN.



The great improvement in this Jet is the perfect mixing of the two gases, causing them to burn with intensity and quietness.

The gases have no sharp corners to turn nor percolate through discs, as these are entirely dispensed with.

The gases are laminated or sliced up by an ingenious and simple contrivance, and brought together again and again, and finally pass through a precinct of gauzes, and thence to the nipple.

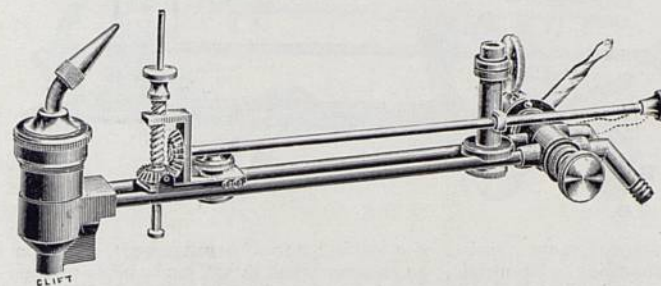
The adjusting of the gases is by fine adjustment valves, which are fitted to cut-off arrangement, and reduces the gases in succession leaving only a small Bye-pass flame of Hydrogen.

Price on Mechanical Tray, as illustration, £3 5 6

.. Ordinary Iron Tray ... £2 10 0

DOUBLE VALVE CUT-OFF JET

FOR CINEMATOGRAPH.



The improvement consists of a perfect cut-off arrangement, also a perfect mixing chamber, combining the latest and best method of regulating the gases, ensuring the most perfect light with a minimum quantity of gas.

DESCRIPTION.

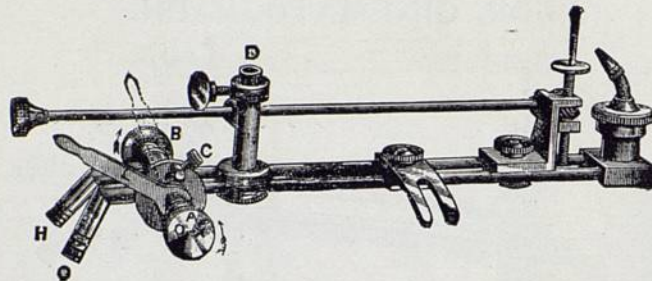
Only one tap is used, which is shown, having the Oxygen and Hydrogen tubes projecting. The lever of the plug moves in the direction of dotted line. Inserted in each end of plug are milled head valves, by which the quantity of gases are adjusted. To light the jet the lever is turned down in a line with the jet tubes (the valves being screwed home). The hydrogen valve is opened to allow the gas to pass and lighted in the usual way, then open the oxygen valve, and regulate the two to the best result. When this is obtained move the lever up slowly until it leaves a small bye-pass of hydrogen flame. Screw the adjusting screw down until the point comes in contact with lever.

The cut-off regulated, it only requires the lever turned down to the horizontal to start the light, the gases being already adjusted. No further adjustment is necessary only to keep the lime turned.

Price of Jet as described, £2 5 0

Double Valve Cut-off Jet.

For Optical Lanterns.



The improvement consists of a perfect cut-off arrangement, also a perfect mixing chamber and nipple, combining the latest and best method of regulating and adjusting the gases, ensuring the most perfect light with a minimum quantity of gas.

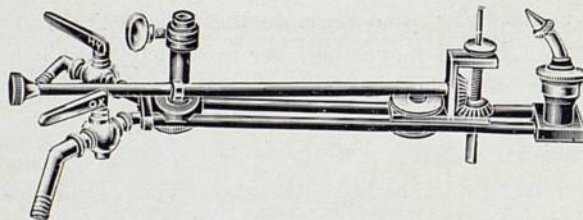
£2 0 0

Mixed Gas Jets.



Packed Mixing Chamber with double Regulating Taps.

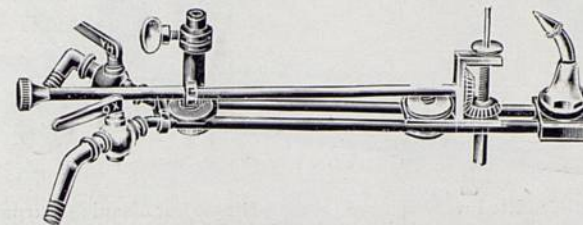
£1 15 0



MIXED JET, with Lever Cocks and Improved Mixing Chamber.

£1 10 0

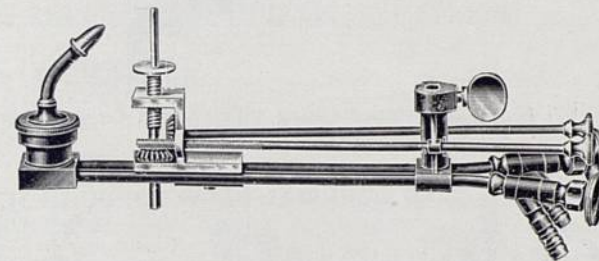
Mixed Gas Jets.



Open Mixing Chamber, high-class finish.

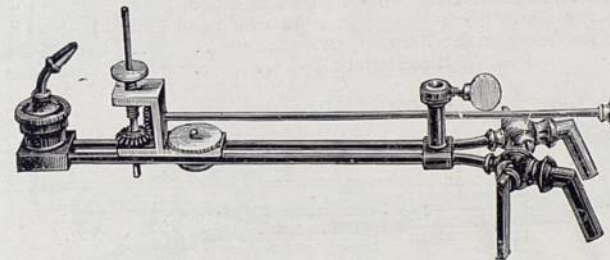
27/-

Commercial Mixed Gas Jets.



Mixed Jet, fitted with extra movement for altering the position of the Lime from the back of the Lantern.

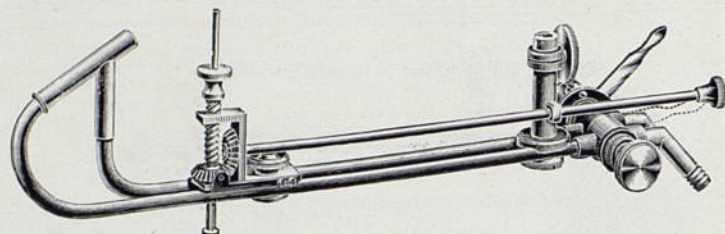
15/- each.



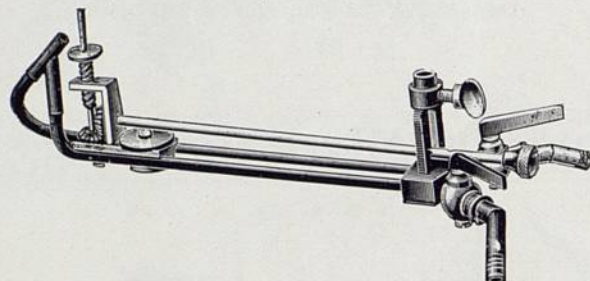
Fitted with Cog-wheel adjustment for turning, raising, or lowering the Lime.

13/- each.

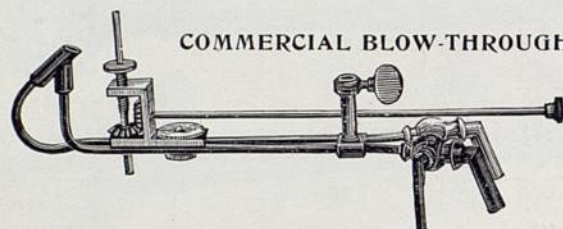
Any of the above Jets can be fitted with Screw-down Valves in place of ordinary lever taps.

BLOW-THROUGH JETS.

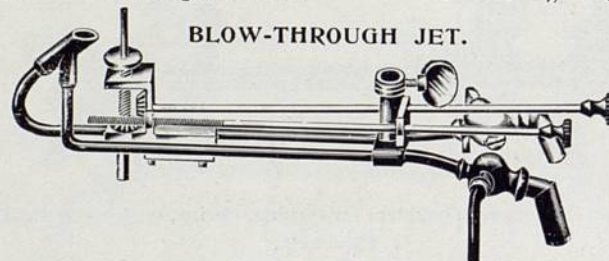
Best quality, fitted with squared Oxygen Nipple for cleaning purposes, and with Cut-off Arrangement. Price, **35s. 0d.**



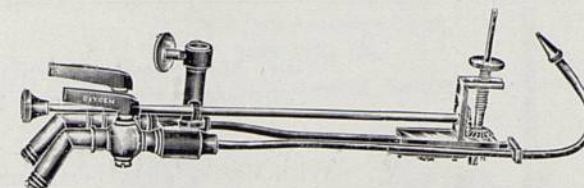
1st Quality, as per illustration, fitted with squared Oxygen Nipple for cleaning purposes. Price, **21s. 0d.**

**COMMERCIAL BLOW-THROUGH JET.**

Oxygen-Hydrogen Safety Blow-through Gas Jet, of Reliable finish and durability. Fitted with Cog-wheel gear for turning the Lime, Sunk Nipple in solid cast head and screw pillar for fixing on Jet Tray each **10s. 6d.**
Do. Do., Lighter Pattern each **9s. 0d.**

**BLOW-THROUGH JET.**

Better quality safety Blow-through Gas Jet, fitted with extra movements for altering position of Lime from the back of Lantern each **11s. 6d.**

ACETYLENE JET (Injector Pattern).

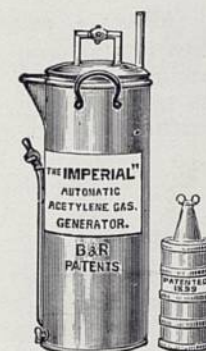
The Oxygen is supplied at a pressure of from 5 to 15 lbs.; the higher the pressure the greater the light. The Acetylene must be taken from a generator which has a floating holder. The action of the high-pressure Oxygen is to suck the Acetylene from the holder.

This Jet can also be used with the ordinary House Gas and Oxygen from a cylinder. Price **£1 5 0.**

The Imperial Automatic Acetylene Generator is most suitable for use with above Jet.

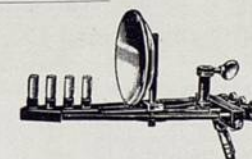
THE IMPERIAL AUTOMATIC ACETYLENE GAS GENERATOR.**Cold Generation of Gas.**

This Generator has been designed to meet the demand for a cheaper form of apparatus whereby the Gas is generated and purified by a cold automatic process, and is extremely safe, simple to use, highly efficient and very portable.



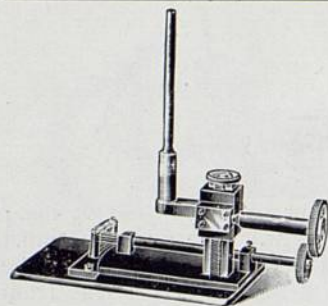
No.	Lights	hours,	Each.	Extra Carbide Holder.	
			£ s. d.	s. d.	
No. 1	for 2	5	1 5 0	8 6	
" 1½	" 3	" 5	1 15 0	9 3	
" 2	" 4	" 5	2 0 0	10 0	

One Patent Carbide Holder is included with each Generator.

ACETYLENE BURNERS.

	s.	d.
2-burner, with separate Control Valves	8	6
3-burner, with separate Control Valves	10	6
With 4 burners, each with separate Control Valve ..	12	6

MECHANICAL TRAY for Limelight Jet.



With Mechanical, Vertical and Horizontal Movements, 18/-

With Vertical Movement only, 12/-

In ordering state make of Jet.

BEARD'S IMPROVED TRAY for Jets.

Also made with Centre Pillar for Collimator and other Jets.



To meet the requirements of the various County Council and Fire Insurance Companies, I have made this improved tray, which has a depth of an inch all round, sufficient to catch any lime that may break and fall when Cinematograph is in use.

Tray is specially made in one piece (no joins) and entirely of iron with steel pillar, suitable for lanterns requiring jets up to 9-inch centre. Price 2/- each.

LIMES.

Large Cinematograph Limes, $1\frac{1}{4}$ inch diameter. Packed 6 in a box. 2/- per box.

Small Cinematograph Limes, 1 inch diameter. Packed 12 in a box. 2/- per box.

RUBBER TUBING.

Best Red India Rubber Tubing, per ft. 4½d.

Extra Stout, for use with Injector and Biojector Jets, per ft. 1½.

METALLIC TUBING.

Fitted with rubber push-ons, for use in L.C.C. halls.

3 ft. long	...	...	...	...	1/6
4 ft. "	...	...	...	...	2/-
5 ft. "	...	...	...	...	2/6

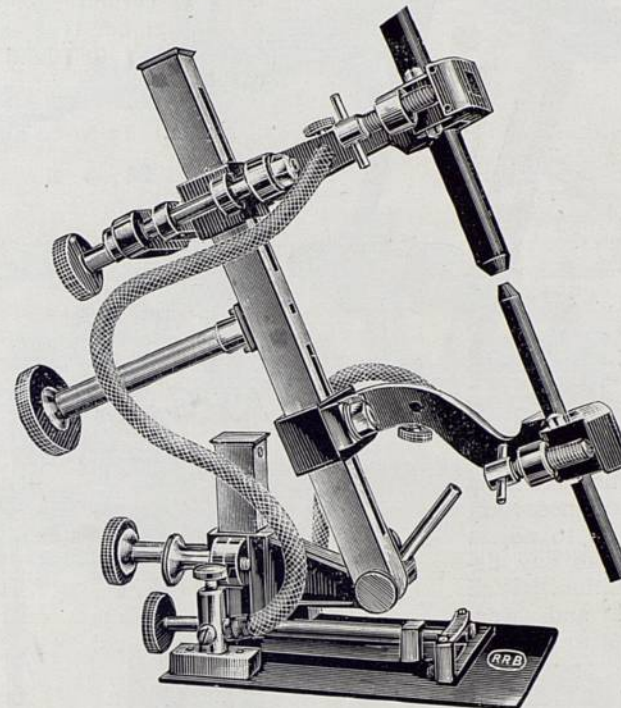
BEARD'S
IMPROVED

HAND=FEED ARC LAMPS

New Pattern Square Tube.

MODEL A.

For Cinematograph and Optical Lantern Projection.



Made in Various Sizes.

The introduction of the **Square Tube Arc Lamp** is owing to the experience of many workers with the round tube lamp complaining of the wear of the sockets, which soon cause the carbon holders to oscillate and put them out of line. To obviate this and maintain the truth of the carbon, the square tube pattern has been produced; the wear and tear takes place only upon the edges of the tube, which will appeal and be plain to all users and operators as a better system, and ensuring rigidity and truth of the working parts.

The Carbon holders are of special construction, and, being fitted with a single screw clamp, give greater facility for removing and renewing the Carbons.

The Lamp is fitted with a swing joint and clamping screw for setting the Carbons at any desired angle.

No 1.	Fitted with Top Adjustment for Carbons or	...	...	...	...	£3	3s.
	10 to 25 amps.	...	...	...	...
No. 2.	Fitted with Top Adjustment for Carbons and	...	...	...	...	£4	4s.
	special Holder, for 15 to 60 amps.	...	...	...	...
No. 3.	Do. do. heavy pattern, for 25 to 120 amps.	...	...	...	...	£5	5s.

ARC LAMPS.

MODEL B.

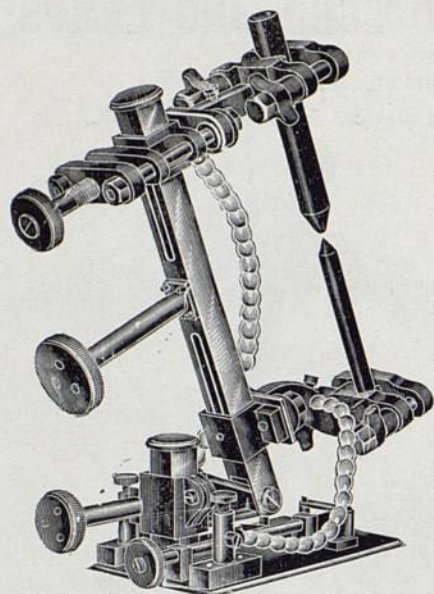
Same design as Model A, but the carbon clamps are of the flat bar type, having two nuts to hold the carbons.

No. 2. 15 to 60 amps.,

£4 4 0

No. 3. 25 to 120 amps.,

£5 5 0



ARC LAMPS.

MODEL U.

A practical arc lamp with all the necessary movements to adjust the lamp to any desired position. Well insulated and warranted not to stick or bind in any way. With an easiness of manipulation which the professional demands.

It has mechanical motions for raising and lowering, lateral movements, rack adjustment for carbon feed, and screw motion to top carbon for alignment of arc.

All pinions are cut from solid steel bar and the gearing racks, etc., are machine cut and guaranteed accurate.

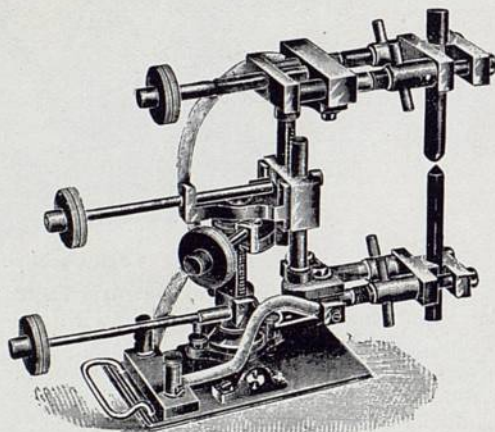
They are extremely heavy and the general finish excellent.

Price, No. 1 will carry 50 amps. ... £4 0 0

„ No. 2, heavy pattern, will carry 100 amps. 5 15 0

Asbestos-Covered Leads for Arc Lamps, per pair 0 4 0

Extra carbon holders ... per pair 0 7 6



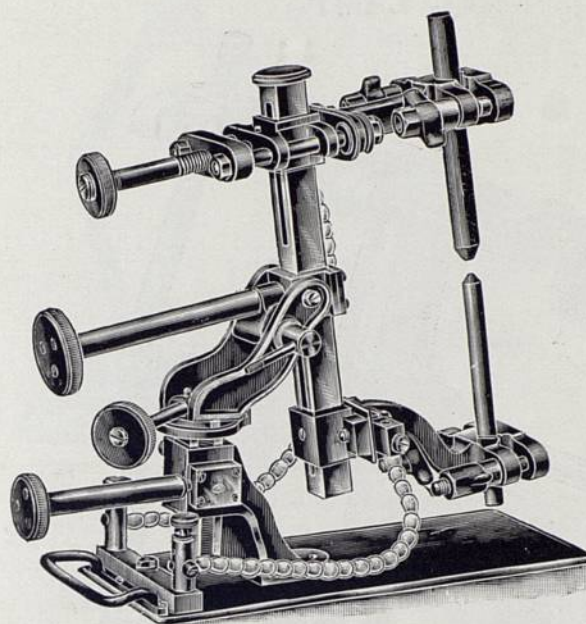
If required, any model can be supplied with carbon clamps to hold the carbons at an angle of 30° for use with alternating current **without extra charge.**

ARC LAMPS.

MODEL C.

Made to carry up to 120 amps., and has every mechanical movement and adjustment for optical centring. Most suitable for heavy & rough use.

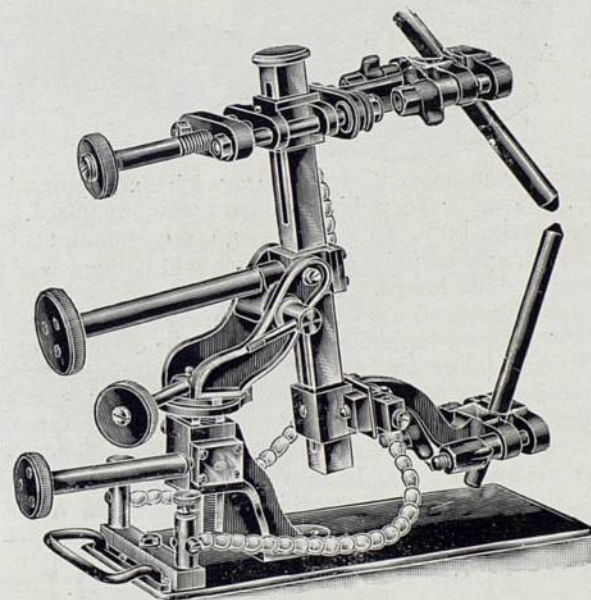
Price, £6 0 0



MODEL D.

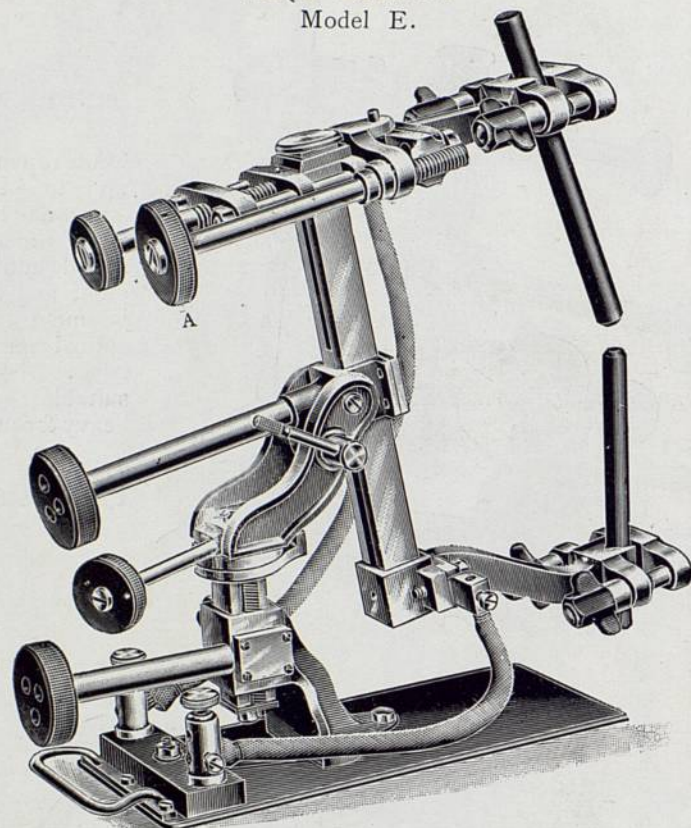
This lamp is the same design as above but fitted with arms for use with the carbons at a V

Price, £6 0 0



BEARD'S IMPROVED HAND-FEED ARC LAMP.

Model E.



Specially intended for cinematograph exhibitions in public halls, etc., where a very high amperage is required. This lamp is strongly built, so as to stand any amount of hard wear.

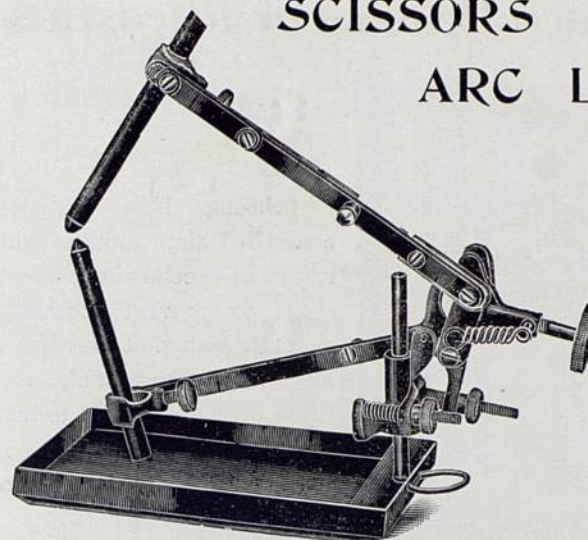
Another special point is one which will be approved by all users of hand feed arc lamps. In all other types of lamps, if the carbons get out of alignment, a good light cannot be got on the sheet because a crater is being formed on the side of the carbon instead of the front.

In such lamps this cannot be corrected while the lamp is in use.

In this lamp (see handle A), a new principle is introduced. This handle actuates the whole of the top carbon holder arm and allows a lateral movement either way of nearly an inch, and the carbons can always be brought into absolute alignment whilst the arc is working. **£6 10 0**

MODEL F, similar to above but with the carbons arranged for use on direct current **£6 10 0**

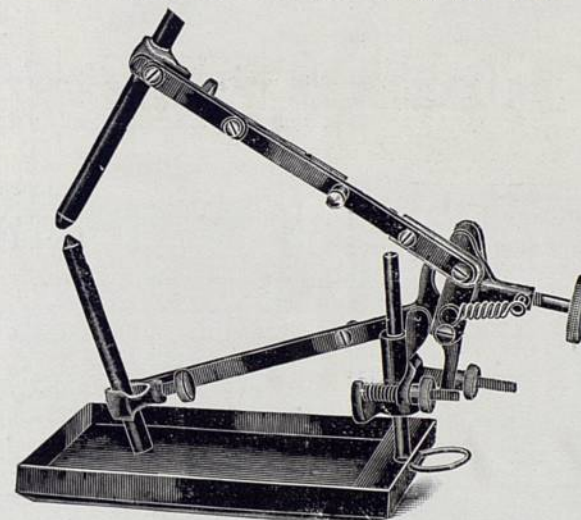
SCISSORS ARC LAMPS.



Hand-feed, movements in all directions, for alternating or continuous current of 8 to 15 amps. Suitable for ordinary projections. Price **£1 5 0**

Resistance for use with the above lamp 8 amps without adjustment for 240 volt circuit **£1 15 0**

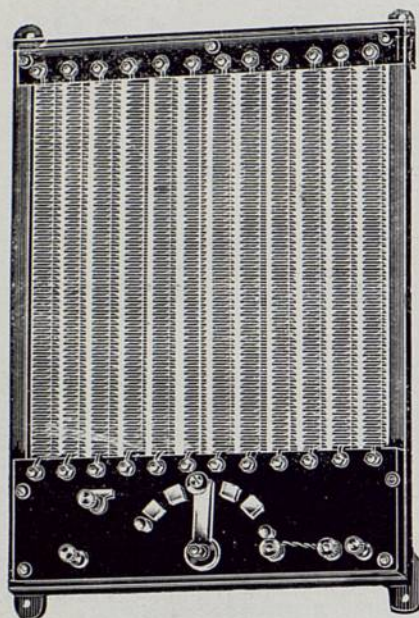
Resistance for 110 volt circuit **£1 7 6**



Best quality, suitable for Theatre Lighting up to 25 amps., with Horizontal and Vertical centring arrangements, complete on stand, **£3 3 0**

Same as above, without centring movements, **£2 2 0**

Resistance Frames or Rheostats.



FRAME PATTERN.

Strong Iron Frames, enamelled slate mounts with spirals of special alloy, spaced apart to prevent accidental short circuiting. The switches are very substantial, and fitted with adjustment to take up wear, and an off position; fuse terminals are also provided.

For any Supply Circuit up to 250 volts.

No.	Amps.	Size of Frame.	Circuit.	Price.
3	8 to 15	18 x 15	250 Volt	3 5 0
3a	12 to 20	18 x 15	250 "	3 10 6
4a	15 to 30	21 x 19	250 "	4 0 0
4	25 to 40	21 x 19	250 "	4 10 0
5	25 to 60	26 x 19	120 & 250	4 15 0
7	25 to 60	26 x 19	120 250 & 480	9 10 0



FRAME PATTERN.

For any Supply Circuit up to 110 Volts.

No.	Amps.	Size of Frame.	Circuit.	Price.
2	10 to 25	18 x 15	110 Volt	3 0 0
8	20 to 40	17 x 16	"	3 10 0
9	30 to 60	17 x 16	"	4 0 0

Special Resistances made to Customers' Requirements.

—•—•— ESTIMATES GIVEN. —•—•—

RESISTANCE FRAMES OR RHEOSTATS.

BOX PATTERN.

Strong Ventilated Iron Box, having the coils inside, enamelled slate on the top, with 6 multiple Contacts and Fuse cut out, 3 terminals, the centre one being connected direct to switch, and the other two being—one 250 volts and the other for 120 volts circuit—to connect to switch or lamp. A hinged Iron Cover closing the top, for travelling purposes.



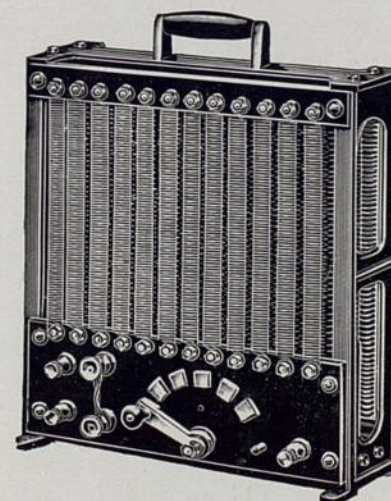
HIGH-POWER TYPE.

Box type for 480 volts, 50 to 80 amps., with a tapping for 250 volts and one for 100 volts.

£12 0 0



IMPROVED TYPE TO STAND ON FLOOR.



Specially built for the travelling exhibitor.

Fitted with six switch contacts and "off" position with terminals for 250 and 120 volts circuits, and also fuse terminals.

Will pass 25 to 60 amps. on above circuits.

Price £7 0 0

Smaller Type, giving 15 to 40 amps. on 120 and 250 volts circuits.

£6 0 0

Lantern Type, giving 8 to 20 amps. on 120 and 250 volts circuits.

£4 0 0

CARBONS.**Best Electric Light Carbons.**

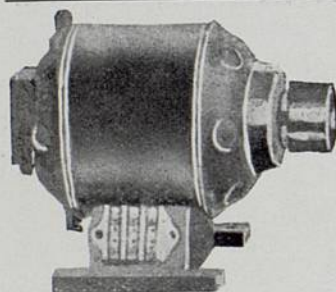
Price per package of 25 pairs.

FOR CONTINUOUS CURRENT.						s.	d.
No. 1.	5 to 10 amperes	(7 ^m / _m solid and 10 ^m / _m cored)				2	0
2.	10 to 15 "	(10 " " 13 " ")				2	6
3.	15 to 25 "	(12 " " 16 " ")				3	6
4.	25 to 40 "	(13 " " 18 " ")				4	0
5.	30 to 60 "	(14 " " 20 " ")				4	6
6.	40 to 80 "	(16 " " 22 " ")				5	6
ALTERNATING CURRENT.							
No. 7.	10 to 20 amperes	(10 ^m / _m cored)	...	...	...	2	0
8.	20 to 30 "	(13 " " )	...	...	...	3	0
9.	33 to 50 "	(18 " " )	...	...	...	5	6

CABLE.

Specially suitable for Lantern and Cinematograph work.
Pure and vulcanised india rubber insulated, taped and braided.

Size	19/18	SWG, carrying capacity	35	amperes	...	Per yard.
"	19/17	"	"	50	"	1/10
"	19/15	"	"	75	"	2/3
"	19/15	"	"	75	"	3/4

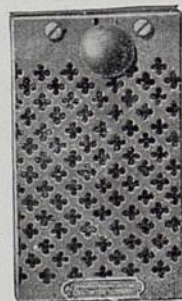
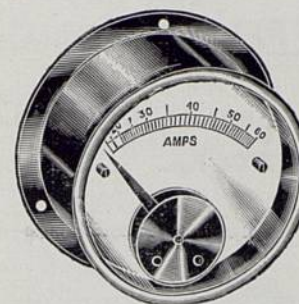
MOTORS AND STARTING AND REGULATING SWITCHES.

Small Motors, ventilated enclosed type, and developing about 1/16 B.H.P. when running at approximately 2,000 revolutions per minute, shunt wound for direct current.

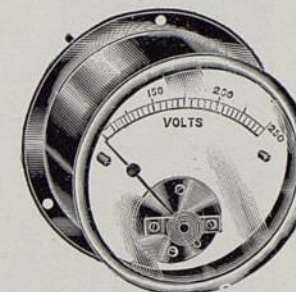
		£	s.	d.
No. 1,	110 volt	...	4	2 6
No. 2,	220 "	...	4	12 0

Starting and Regulating Switches for above Motors provided with 16 steps.

		£	s.	d.
No. 1	...	1	4	0
No. 2	...	1	7	0

**Ammeters.**

	Diam. 4 inch.	6 inch.
10 to 30 amps.	£1 10 0	£2 0 0
15 to 50 "	1 12 0	2 0 0
15 to 100 "	1 15 0	2 10 0

Voltmeters.

	Diam. 4 inch.	6 inch.
Reading to 160 Volts—	£1 10 0	£2 5 0
" 250 Volts—	1 15 0	2 11 0

Front or back connections are fitted to the 4 inch diameter instruments, and back connections only to the 6 inch diameter. If front connections are required the price will be 5/- extra.

Marine type 11/- extra in any of the above sizes.

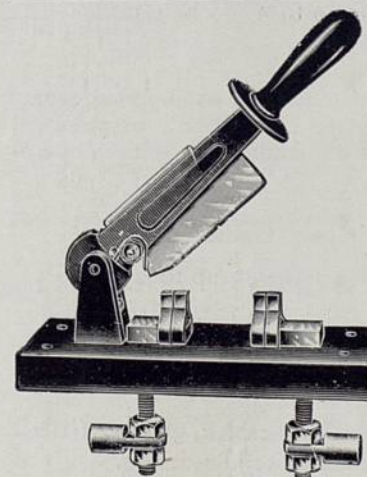
Electric Switches.**Single Pole.**

Quick break main Peel switches, laminated adjustable copper brushes, substantial brass contacts and sweating sockets, well insulated on enamelled slate bases.

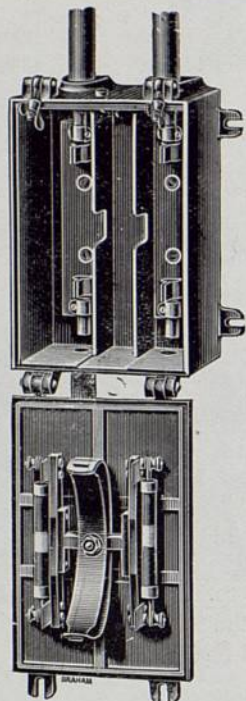
30 amps. ...	£0 10 0
50 " ...	0 14 0
100 " ...	1 1 0

Double Pole.

30 amps. ...	£1 3 0
50 " ...	1 14 0
100 " ...	2 10 0



Electrical Switchgear.



FOOL-PROOF, IRONCLAD FUSED SWITCHES.

Simplicity. Safety. Strength.

This apparatus conforms with the revised Home Office Regulations, and is approved by every Electricity Supply Authority in the United Kingdom.

On account of its compactness it is a great improvement upon the old-fashioned method of erecting a double-pole switch and separate single pole fuses, in addition to which it possesses the following special features:—

Great Mechanical Strength.

Freedom from springs likely to get out of order.

Rapid "make" and "break."

Intermediate position impossible.

Cover cannot be opened whilst current is on. Operating the switch to "on" position automatically locks cover.

A blown fuse can be replaced in a matter of a few seconds.

The switches can be supplied separately (as 1st illustration), or mounted complete on framework with ampere-meter.

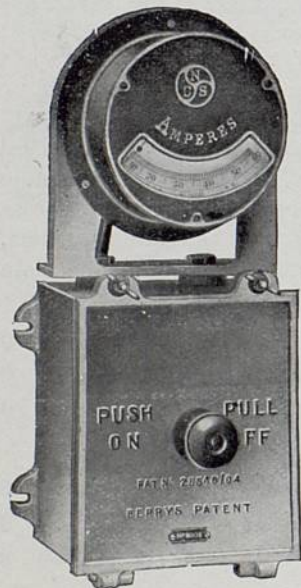
Made in two standard sizes:—

(a) for voltages up to 250

(b) " " " 500

and for currents up to 400 amps.

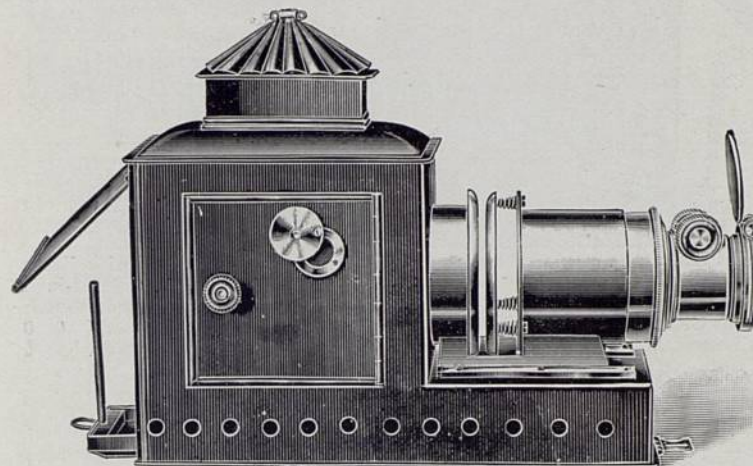
Prices upon application, giving particulars of requirements.



Russian Iron Lantern.

Suitable for use in either

Small Rooms or Large Halls.



Pattern No. 1.

Specification:—

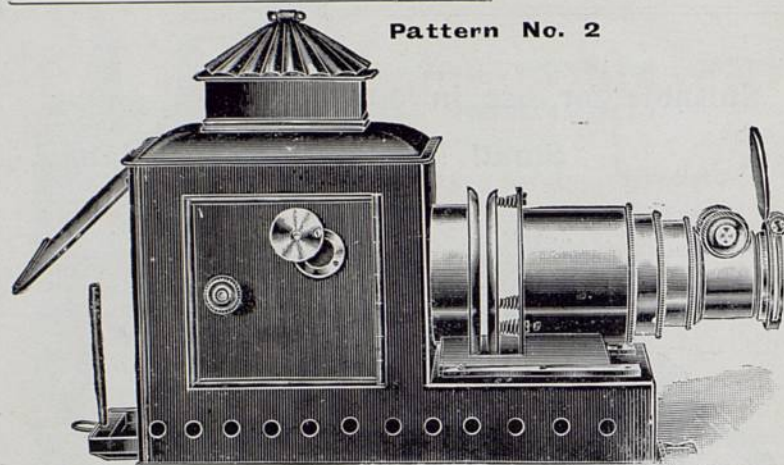
Russian Iron Body Square form specially made for taking any pattern Arc Lamp (as quoted in Catalogue); the ordinary Russian Iron Lanterns are not constructed to allow the usual size Arc Lamp being used. Light-tight Door, fitted with covered sight hole. This pattern being made higher in the body allows the use of any Arc Lamp, sufficient room being given for adjustment of Carbons.

The front stage being entirely of brass, can be drawn forward to allow the Condenser being placed in its position from the front; Single O.G. Brass Tube, 2-inch diameter Double Portrait Combination Lense, Double Rack and Pinion Mount, 4-inch Double Plano-Convex Condenser.

Lantern as above described with—	£	s.	d.
Russian Iron Cowl and Japanned Tray ...	2	18	0
Russian Iron Box with Leather Handle ...		6	0
Extra if fitted with 4½ in. condenser ...		3	0
Extra if fitted with 4½ in. condenser ...		5	0

RUSSIAN IRON LANTERN.

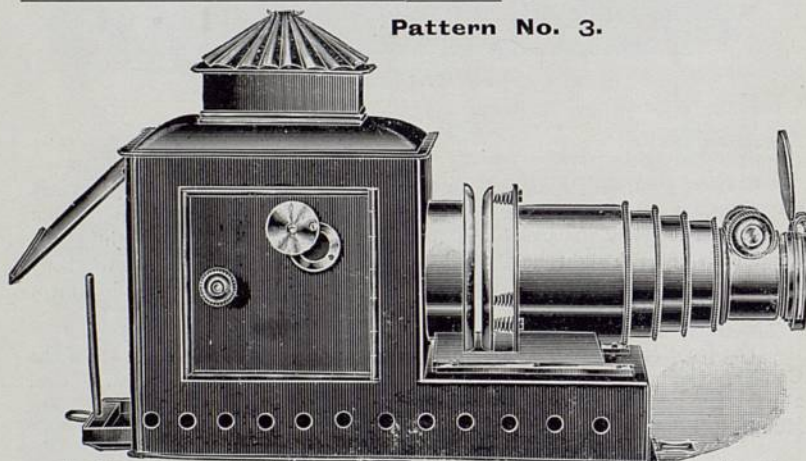
Pattern No. 2



This Lantern is precisely the same as Pattern No. 1, but is fitted with Extra Large Double-draw Front Tubes, to take Double Rack and Pinion Lenses 2 $\frac{3}{4}$ -inch diameter. This Lantern will take either 6, 8, or 10-inch focus Lenses, 4-inch Meniscus Condenser. Price with one Lense.. .. £4 0 0
Extra Lenses, any Focus desired each £1 4 0

RUSSIAN IRON LANTERN.

Pattern No. 3.



Lantern fitted with Telescopic Brass Front, Double Portrait Combination Lense, 2-inch diameter in tubes (any focus), 4, 6, 8, 10, 12-inch, Double Rack & Pinion Mount, 4-inch Meniscus Condenser, Price £4 0 0
Extra Lenses in tubes each 7/0

RUSSIAN IRON LANTERN. Pattern No. 4.

Lantern fitted with Telescopic Front, 4-in. Meniscus Condenser, 2 $\frac{3}{4}$ -inch Lenses in tubes (any focus), 6, 8, 10, 12 or 14-inch, Double Rack & Pinion Mount. Price £4 6 6 Extra Lenses in tubes, each 16s. 0d.
Any of the above Lanterns fitted with Russian Iron Case, extra 6s. 0d.
Extra if fitted with 4 $\frac{1}{2}$ inch Condenser, 3s. 0d.; or 4 $\frac{3}{4}$ inch, 5s. 0d.

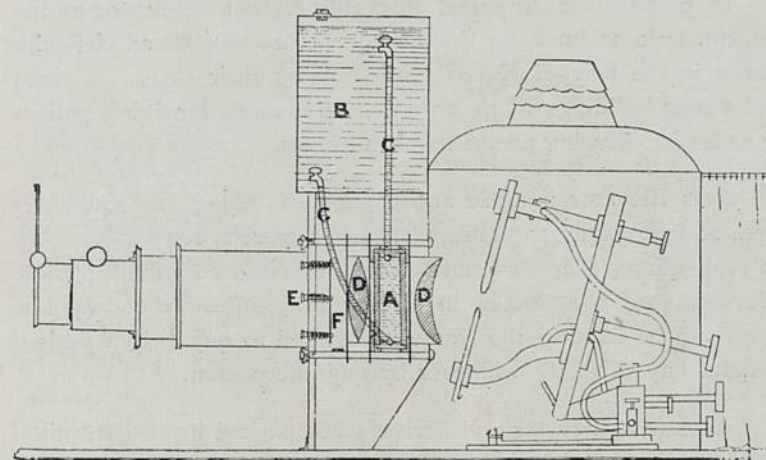
Beard's Lantern

For Autochrome Slides.

Prevents Heating of Slides and Condensation.

As supplied to the Royal
Photographic Society, &c.

Can be fitted with Electric
(Hand-feed or Automatic),
Nernst, Oxy-Hydrogen,
Acetylene, &c.

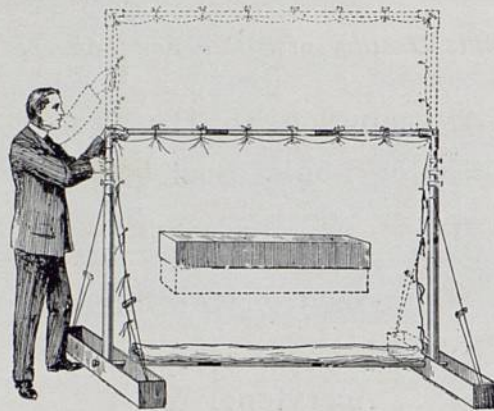


The Body is large size of Russian Iron (suitable for any make of Lamp) with light-tight door and brass-covered sight hole. The front is a three-draw telescope slide, Rack Jacket, and 2 in. diameter Lenses Cylinder type, with 4 in. Condenser and water cooling apparatus mounted on a polished oak base board, all self contained. **£10 10s.**

Similar to above, but fitted with 6 in. diameter condenser and 2 $\frac{3}{4}$ in diameter Lenses, **£15 15s.**

Travelling Cases Extra.

The Imperial Telescopic Portable Screen Elevator.



In placing the **Imperial Portable Screen Elevator** on the market, I do so knowing the very great difficulties and obstacles placed in the way of Exhibitors in raising their sheets in Halls and Public Buildings where no provision is made for fixing pulleys or ropes for drawing up the Lantern Sheets.

This Elevator is made and capable of taking any size sheet from 20 foot square to the smallest size required; for sheets above 20 foot square, Elevators can be made specially to order. These Elevators are constructed in a most simple form that any size sheet can be fixed to the frame and raised to any height desired without any difficulty whatever by any one person.

A 20 foot Elevator and Screen when packed in its galvanised iron case, which is used as feet for the frame, measures only 5 foot long by 7 inches square.

The Upright Standards are made of specially drawn steel telescopic tubes, the top and bottom poles are made of best pine fitted with steel ferrules.

To the Telescopic Upright Standards at each joint is fixed a clamping ring and thumb screw.

PRICES.

	12 Foot.	16 Foot.	20 Foot.
Best Polished Nickelled Standards	£ s. d.	£ s. d.	£ s. d.
and Ferrules, in galvanised case	6 6 0	7 7 0	9 9 0
Dull Nickelled " " "	5 5 0	6 6 0	8 8 0
Plain Tubes " " "	5 0 0	6 0 0	8 0 0

The above prices are for tubes the smallest diameter of which is $1\frac{1}{8}$ inch. For Elevators of less than 12 foot square, tubes would be smaller and cheaper in proportion.

Screens for Lanterns.

BEST CALICO.

WITHOUT SEAMS.			WITH SEAMS.		
5ft. square	...	£0 4 0	12ft. square	...	£1 0 0
6ft. "	...	0 5 0	14ft. "	...	1 10 0
7ft. "	...	0 7 0	16ft. "	...	2 0 0
8ft. "	...	0 8 0	18ft. "	...	2 10 0
9ft. "	...	0 9 0	20ft. "	...	3 0 0
10ft. "	...	0 14 0			

LINEN SHEETS.—All sizes made to order. Prices on application.

Specially Prepared Opaque Screens.

Fitted with lath and pulleys, cord and roller complete with protection cover.

6ft. square	...	£0 17 6
7ft. "	...	0 19 6
8ft. "	...	1 6 0
9ft. "	...	1 7 0
10ft. "	...	1 10 0
12ft "	...	2 0 0
14ft. "	...	2 18 0
16ft "	...	4 0 0
18ft "	...	4 15 0

LARGER SIZES MADE TO ORDER.

General Sundries and Parts.

Set of 6 Pressure Bars for Gate, with Springs and Screws	£0 12 0
Set of 6 Bow Steel Springs, with Screws ... set	0 5 0
Single Bow Steel Springs, with Screws ... each	0 1 0
Refitting Steel Guides in Film Trap	0 18 0
Support for Top Reel with Thumb Screw	0 10 0
Vulcanite Eccentric Roller, with Metal Bearings and Steel Spindle	0 2 6
Gun Metal ditto	0 2 6
Vulcanite Rollers (grooved or flanged)	0 1 0
Brass ditto	0 1 3
Bevel Steel Gear Wheel for Shutter Shaft	0 4 0
Beater Shaft with Steer Gear Wheel	0 7 6
Bioscope Handles	0 2 2
Screws, various sizes each	0 0 3
Extra Film Trap, complete	2 10 0
Fireproof Pattern, as fitted to the Patent Perfect Bioscope	3 0 0
Extra Shutter, Opaque Blade, with Fittings	0 5 0
Translucent Violet Shutter Blade	0 0 3
O G Flange to fit Lantern Lense... ..	0 6 0
Film Take-up with Steel Coil Belt	0 15 0
Take-up Springs with Fittings	0 2 6
Patent Automatic Light Cut-off	2 2 0

FITTINGS FOR LIMELIGHT JETS.

Nipples for mixed Jets each	£0 1 6
Nipples for Biojector Jets	0 2 0
Nipples for Collimator Jets	0 2 0
Lime Pin, Screw, and Table	0 2 0
Table and Lime Pin only	0 1 6
Lime Tongs pair	0 0 9
Brass Rubber Tube Connectors each	0 0 4
Brass T or Y Tube Connectors each	0 1 0

REPAIRS of all kinds to Bioscopes, Projectors, Arc Lamps,
Jets, Regulators, &c., undertaken and finished at short
notice.