606

S.B.-Bell & Howell

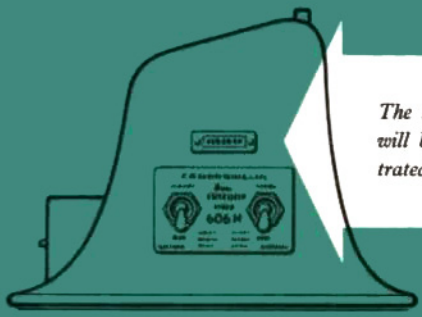
8mm. PROJECTOR

Instruction manual

Register your projector now

Make sure that your G.B.-Bell & Howell guarantee is valid by completing the accompanying Reply Paid registration card and mailing it within seven days from the date of purchase. Registration of your projector provides these advantages

- Helps to locate lost or stolen equipment
- Enables you to obtain the full benefits of our guarantee
- Enables you to receive full service facilities
- Puts you on our Mailing List for "Better Filmcraft", and other interesting literature



The serial number of your 606 projector will be found on the nameplate as illustrated

G.B.-Bell & Howell

Model 606

8mm. Projector

Guarantee

Provided that the product is returned with all transit charges paid by the purchaser to our factory at 52a Goldhawk Road, Shepherds Bush, London, W.12, if resident in the United Kingdom, or to the nearest G.B.-Bell & Howell authorised Service Agent or Dealer if resident Overseas and that the purchaser has completed and signed the registration card and returned it within seven days of the date of purchase, the product will be serviced in accordance with the following conditions of guarantee :

1. If the product is returned as above provided within 30 days of the date of purchase as entered on the registration card by the purchaser any defective material or workmanship will subject as hereinafter provided be replaced and/or remedied without cost.

2. After the expiration of 30 days from the date of purchase as entered on the registration card by the purchaser any parts requiring replacement as a result of defective material and/or workmanship will subject as aforesaid be replaced without cost other than the cost of labour.

3. This Guarantee shall not be valid in the case of unauthorised alteration, modifications or substitutions or in the case of damage due to accident or misuse or fair wear and tear, and shall not be transferred to any other person than the registered purchaser without the Company's written consent.

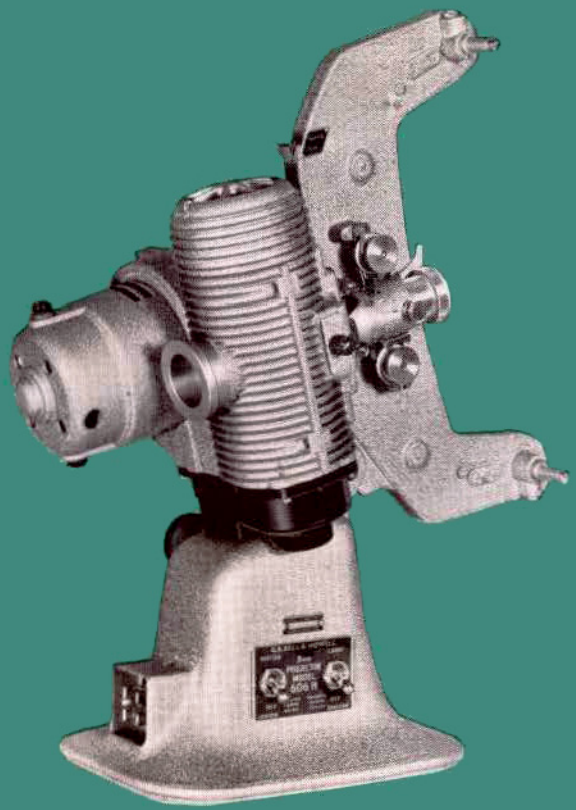
4. Every replacement of any defective part as laid down in the forgoing conditions shall be subject to the final decision of the Company.

RANK PRECISION INDUSTRIES LTD.

The type and serial number of your equipment must always be quoted in all correspondence, claims, etc.

Your projector...

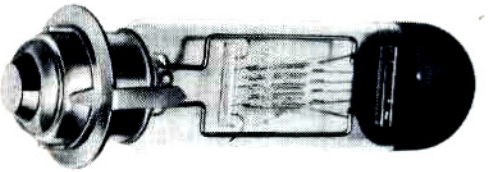
comes to you only after the most stringent checking and testing at our factory. To obtain the best results from this precision-built machine, carefully follow the instructions in this manual regarding setting up, operating procedure and simple maintenance.



Illustrations on these two pages show the projector and parts as you receive them.

1 *6 ft. Main lead with large rubber plug which fits into projector socket*

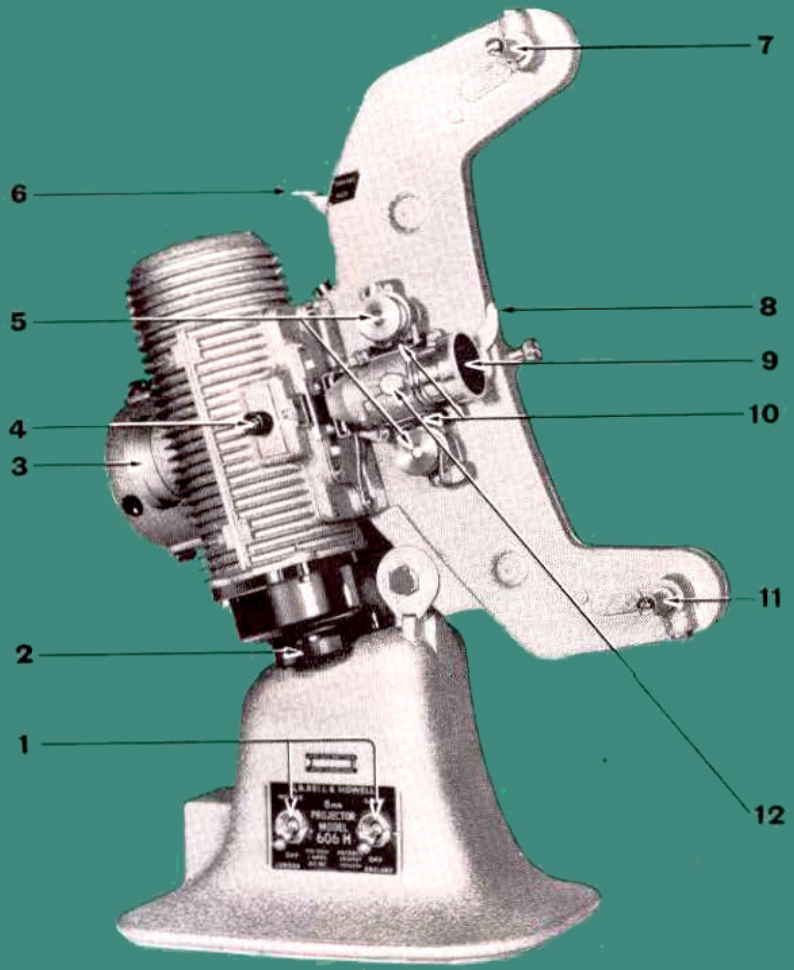
2 *400 ft. spool*



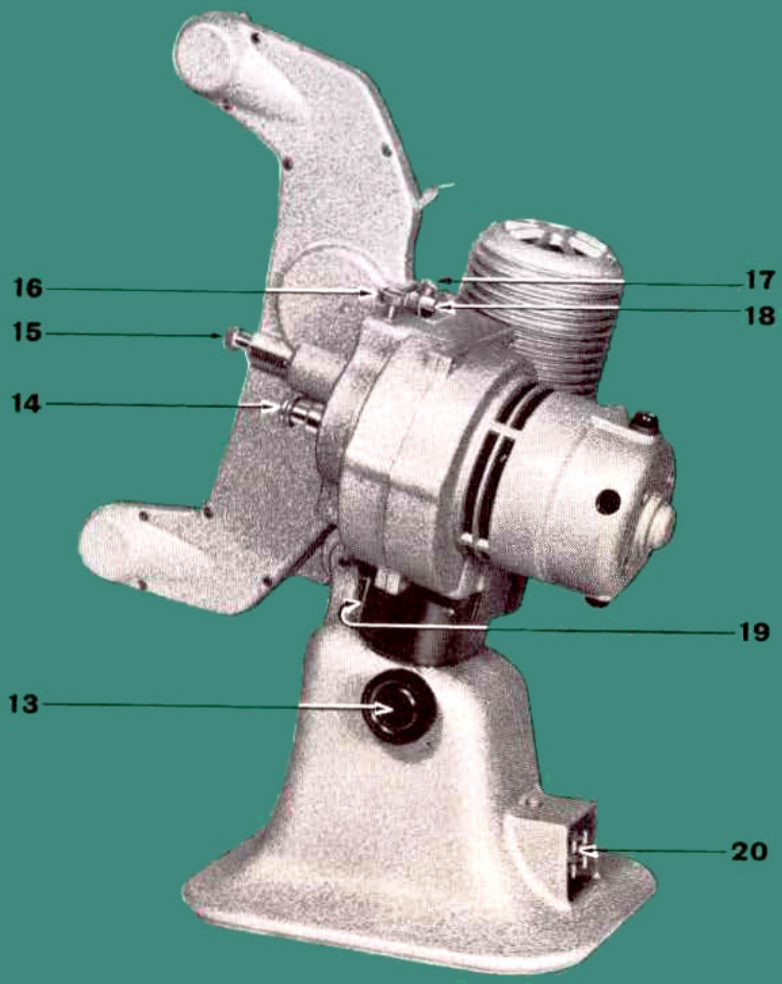
3 *Projector lamp*

4 *Oil can (filled)*

5 *Cleaning brush*



1	Motor and Lamp switches	7	Feed spool spindle
2	Lamp locking screw	8	Film gate lever
3	Reflector	9	Projection lens
4	Condenser lens	10	Sprocket guards
5	Sprockets	11	Take-up spool spindle
6	Run/Rewind lever	12	Lens locking screw



13 Tilt knob

14 Speed control

15 Hand setting knob

16 Framing knob

17 Oiling cap

18 Clutch

19 AC DC control (front end lower)

20 Mains connector socket

Setting up

Electrical connections

IMPORTANT Before attempting to connect your projector to the Mains, check the following points carefully

1 Find out the voltage of your electricity supply, and whether it is A.C. or D.C. Your Electricity Authority or local dealer will supply the information.

2 Make sure that your projector corresponds to this voltage. The voltage range of the projector is clearly shown on the switch panel.

3 Check that the lamp supplied with the projector is of the same voltage as the supply. This information is printed on the lamp.

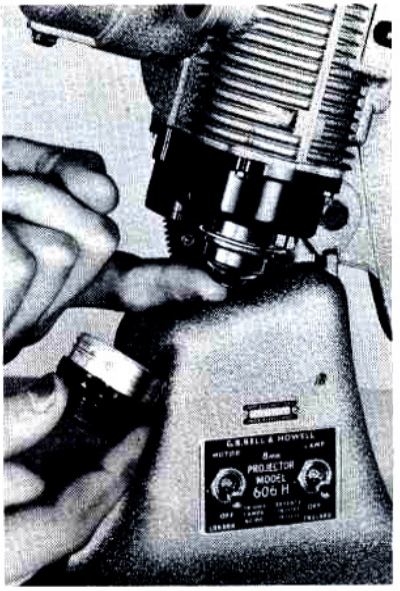
4 Adjusting for AC/DC. At the front of the bakelite housing above the tilt knob is the AC/DC control knob (19). Uppermost letters indicate type of current to which projector is set—rotate clockwise to obtain alternative setting if required.

5 Connection to Mains. The free end of the mains lead should be connected to a suitable 3-pin plug. Connect the red and black wires to the mains pins and the green wire to the large earth pin. If your power supply is from two-pin socket only, then the green wire must be connected to a suitable earth point. If in any doubt, please consult a qualified electrician.

DO NOT CONNECT THE PROJECTOR TO THE ELECTRICAL SUPPLY UNTIL YOU HAVE READ THE INSTRUCTIONS ON THE FOLLOWING PAGES

Inserting the lamp

Turn the tilt knob (13) clockwise until the projector is fully tilted forward. Unscrew the bakelite cap below the lamp housing (2) and insert the projector lamp with the vertical tongue at its base towards the front of the projector. Rotate slightly so that the tongue passes through the pre-alignment slot in the lamphouse, when the lamp can be pushed home out of sight. Now the lamp is in position, replace the lamphouse cap.



Focusing the projector

First ensure that both the motor and the lamp switches (1) are in the " off " position, and then insert the rubber covered mains plug into the socket (20). This plug will fit only in the correct position. Now plug into electrical supply. Switch on motor and lamp, and move the clutch (18) to the " run " position. The motor will operate and a beam of light be projected.

Move the projector on its stand or table to a position where the light falls squarely onto the screen, using the tilt control (13) to either raise or lower the picture area. To adjust the size of picture area move the projector nearer to or further away from the screen as required.

If there is a noticeable flicker of the light on the screen turn the speed control (14) in an anti-clockwise direction until the light is steady. Sharp definition of the edge of the light area on the screen indicates approximate focus of the lens.

To focus the lens, loosen the lens locking screw (12). Slide the lens backwards and forward for rough focus, and to make fine adjustment rotate the lens by its knurled front edge. Lock the lens in position. Return the clutch to the " stop " position and switch off lamp and motor.

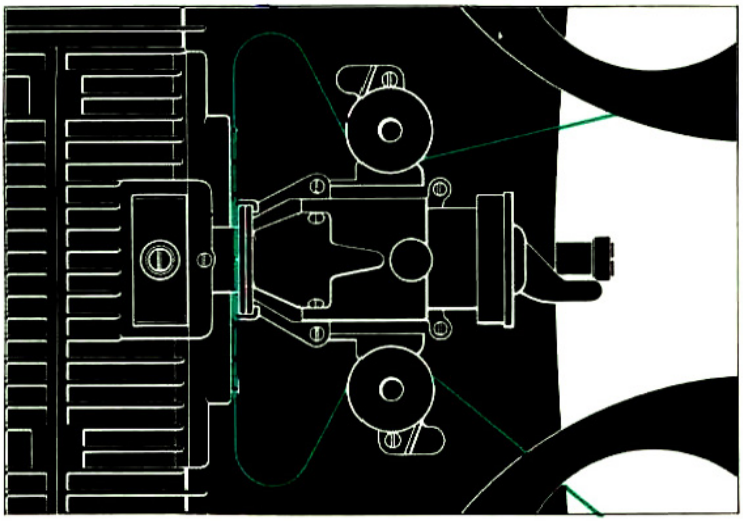
Threading the film

Place the empty take-up spool on the spindle of the lower arm (11) with the spool centre hole slits towards the take-up arm. The spool must click firmly over the spring of the spool spindle. Place full spool on feed arm spindle (7) in the same way.

Unwind about 18" of film from the top spool. The film should feed from the lower front of the spool, with the dull side out and the sprocket holes nearest you as you thread the projector.

Open the sprocket guards (10) by pressing towards the lens mount, and open the film gate by raising the gate operating lever (8).

Pass film under top sprocket and ensure that the perforations fit over the sprocket teeth. Close the sprocket guard. Next form the upper film loop as shown in the diagram.



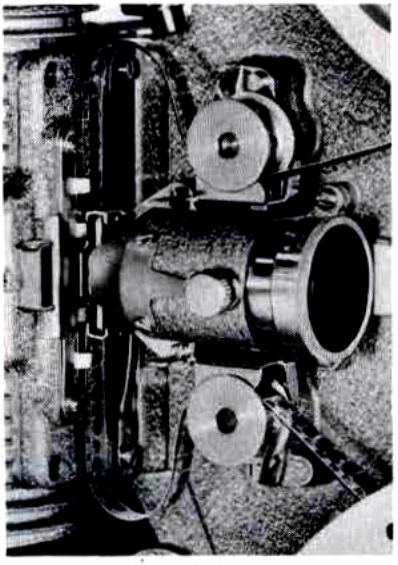
Lead the film through the channel behind the lens, making sure that it is fully located in the channel. Then close film gate by lowering lever (8). The gate will only close properly when the rewind lever (6) is in the " run " position.

Form the second loop before passing the film over the lower sprocket, and close the sprocket guard. It is most important that both of the film loops are contained within the area indicated in the threading diagram.

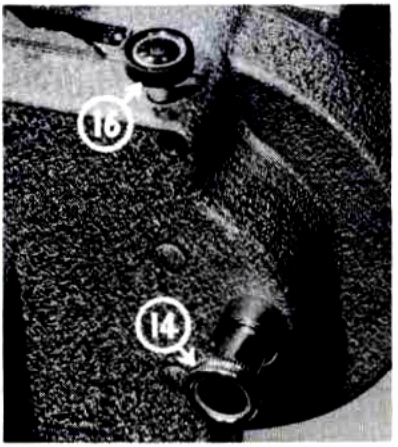
Feed the end of the film into the slot in the take-up spool and rotate the spool in a clockwise direction to take up slack.

The threading complete—your machine should appear as in the illustration. To test that threading is correct, push in and turn the hand setting knob (15) in a clockwise direction, carefully watching the movement of the film over the sprockets and through the gate.

The show begins



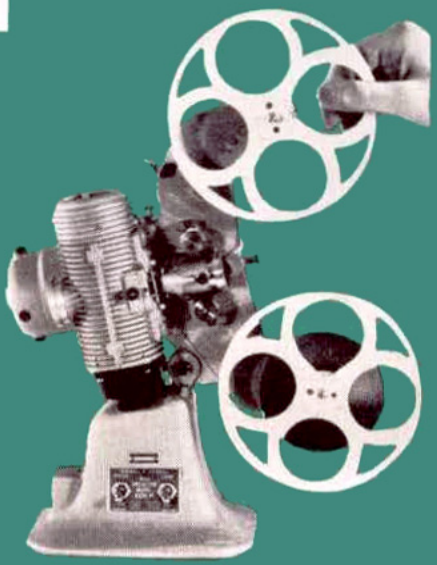
Turn off the room lights, switch on the projector motor and lamp and move the clutch (18) to the " run " position. When the first picture or title appears on the screen, loosen the lens locking screw (12) and obtain fine focus by rotating the lens (9). When the picture is sharp and clear tighten the lens locking screw.



If the picture is cut off on top or bottom, rotate the framing knob (16) in either direction until the full picture comes into view. The only other adjustment which may now be necessary is to reset the speed control (14) if the movement on the screen seems unduly fast or slow. You need do nothing else until the film has run through —then return clutch to " stop " position and switch off the projector.

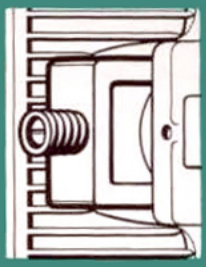
Rewinding

Push up film gate lever (8) and move the lever (6) to the " rewind " position.
Thread film from the take-up spool (11) up and over the front of the now empty feed spool (7). Insert end of the film into the slot on the spool and turn spool anti-clockwise to secure the film.
Switch on motor only, move clutch to " run ", and the film will rewind. Immediately the film has run off the take-up spool return the clutch to " stop " and switch off motor. To reset the projector for the next show return the rewind lever to the " run " position.



Pilot light

When threading in a darkened room, the condenser (4) can be partially withdrawn as indicated in the diagram, so that light from the projector lamp falls onto the lens and sprocket assembly.
The clutch (18) must first be placed in the " stop " position, before turning on the motor and lamp. After threading the projector, it is then only necessary to push the condenser fully home and return the clutch to " run "



Still picture device

If you wish to view a still picture place the clutch in the " stop " position. This may be done at any time, even while the film is running. If the picture does not fully appear, press and turn the hand setting knob (15) to obtain a complete picture. It will be necessary to adjust the focus of the lens for the still picture. Re-focus the lens when clutch is returned to the " run " position.

Taking care of your projector

Built for a lifetime of dependable service your " 606 " needs little maintenance, but to obtain a consistently brilliant performance the lens system must be kept clean and the projector mechanism lubricated. It will also occasionally be necessary to renew the lamp.

Lamp replacement

If the lamp fails, switch off the projector and disconnect from electrical supply. Remove the take-up spool and tilt the projector fully forward. Unscrew the lamp housing cap (2) and allow the lamp to drop out. Be careful to grasp the lamp only by the alignment ring. Insert the new lamp as instructed on page 9.

NOTE : Never attempt to change a lamp while the current is on. The machine must never be laid on its side or turned upside down while the lamp is burning.

Lubrication

If the projector is used infrequently the oil hole (17) should receive one drop of projector oil before every show. Alternatively, one drop should be applied for every five hours operation.

Cleaning optical parts

Before every show the projection lens (9) and condenser lens (4) should be removed and cleaned.

Remove the projection lens by loosening the locking screw (12) and pulling the lens forward. The condenser lens is removed by pulling on the handle. All glass surfaces should be cleaned with a soft camel hair brush or alternatively with lens cleaning tissues. Care must be taken to avoid scratching.

The reflector (3), which is retained in position by a powerful internal spring clip, should be pulled out and cleaned in the same manner.

Cleaning film path mechanism

Gate shoe

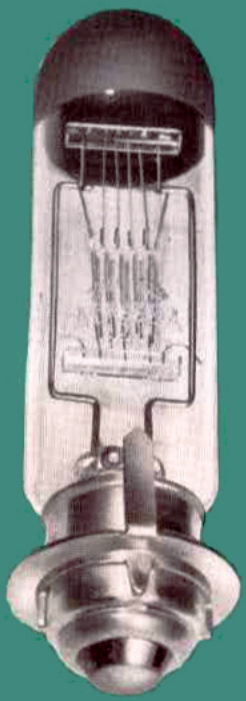
Grip gate shoe as arrowed

With lens removed and film gate lever raised, withdraw gate shoe by grasping the metal frame at top and bottom as arrowed in illustration. Clean the gate shoe with a soft cloth, moistening it if necessary, to remove obstinate dirt. Never use sharp tools on any part of the projection mechanism.

Clean the film channel by inserting the cleaning brush vertically, and sliding it up and down with a rotary movement. The brush may also be used to clean carefully other exposed parts of the film mechanism.

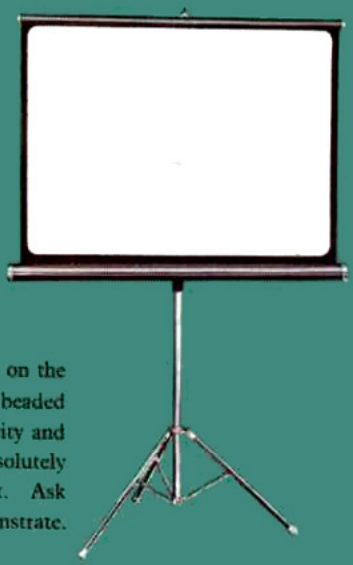
Replace the gate shoe in its guides, taking care that the long slotted hole is at the lower end, and that the shoe is fully home.

Accessories



Always keep a spare 500-watt projector lamp to hand in case you should ever require one whilst show is in progress. Make sure the lamp is the correct voltage to suit your electricity supply.

A spare 400 ft. spool is a most useful accessory. This can be obtained from your G.B.-Bell & Howell dealer.



Project your home movies on the Miralux screen. The brilliant beaded surface will bring new clarity and brightness to your films. Absolutely portable and easy to erect. Ask your dealer to demonstrate.

Projected picture size table

Projected picture sizes obtained with Model 606 projection lenses

Focal Length of Projector Lens	DISTANCE IN FEET FROM PROJECTOR TO SCREEN												
	8	10	12	15	20	25	30	35	40	45	50	60	75
	WIDTH AND HEIGHT OF PICTURE												
20mm	1'9" 1'4"	2'2" 1'8"	2'7" 2'0"	3'3" 2'5"	4'4" 3'3"	5'5" 4'1"	6'7" 4'11"	7'8" 5'9"	8'9" 6'7"	9'10" 7'4"	10'11" 8'2"		
1"		1'10" 1'4"	2'2" 1'8"	2'9" 2'1"	3'8" 2'9"	4'8" 3'5"	5'7" 4'2"	6'6" 4'10"	7'5" 5'7"	8'5" 6'3"	9'4" 6'11"	11'3" 8'4"	14'0" 10'5"
1½"						3'1" 2'3"	3'8" 2'9"	4'4" 3'3"	4'11" 3'8"	5'7" 4'2"	6'2" 4'7"	7'5" 5'7"	9'4" 6'11"

Upper Dimension is width of Picture

Lower Dimension is height of Picture

The serial number of your projector is

_____

Inspector's signature

_____

The type and serial number of your equipment must always be quoted in all correspondence, claims, etc.

If the Registration and Guarantee cards are missing when you receive this book, please contact us immediately

If you need advice or assistance with cine problems, write to:

Rank Precision Industries Ltd.
Cine & Optical Division,
37-41 Mortimer Street, London, W.1.
Telephone: MUSeum 5432

For Service, write to:

8mm. Service Department,
Rank Precision Industries (BAF) Limited,
52a Goldhawk Road, Shepherds Bush,
London, W.12.
Telephone: Shepherds Bush 8681

RANK PRECISION INDUSTRIES LTD

CINE AND OPTICAL DIVISION

37-41 MORTIMER STREET LONDON W1 · MUSeum 5432