

P R E S E N T I N G

THE PATHÉSCOPE

GEM

9·5 ^M/_M PROJECTOR

I N S T R U C T I O N B O O K

THE "GEM" Projector is the product of 35 years' experience in the design of motion picture apparatus. Produced primarily for use in a normal room, an excellent picture can be obtained in larger places, especially if longer focus lenses are used as occasions demand.

The machine is strongly constructed of high-pressure die-castings throughout and the optical system has been specially designed to obtain the maximum amount of light on the screen. All shafts run in self-lubricating bearings and all sliding parts are hardened.

The Transformer conforms to the highest standards and is provided with an earthed shield between primary and secondary coils.

INSTRUCTIONS FOR USE

Please read carefully

● **ERECTION OF THE SPOOL ARMS**

Unscrew the knurled clamping nut in the centre of the spool arms and lift off the arms from their locating bolt.

Reverse the arms so that the pulleys are towards the back of the projector and the spool spindles and clips on the operating side.

Place the arms back over the bolt and push down so that the side of the base of the arms, locates against the raised portion of the projector casing. Screw down the clamping nut tightly.

The take-up (wire) belt is given a half twist and fitted over the large pulley on the take-up side. The rewind (rubber) belt is taken over the large rewind pulley and placed on the small idler pulley on the take-off side. Fig. 1.

● **SETTING THE VOLTAGE**

Underneath the projector will be found a light-brown rectangular plate with three holes and an insulated screw. The machine is sent out with this screw in the 240/250 position. If your mains voltage is either 240 or 250 volts A.C. the screw need not be altered, but if your mains are lower than this figure, unscrew from its present position and screw into the hole which is marked for your voltage, i.e. the first hole is used for both 200 and 210 volts.

See that both lamp and motor switches are in the off position and the projector can now be connected to the mains. A double-purpose adaptor is provided so that either a lamp-holder or a

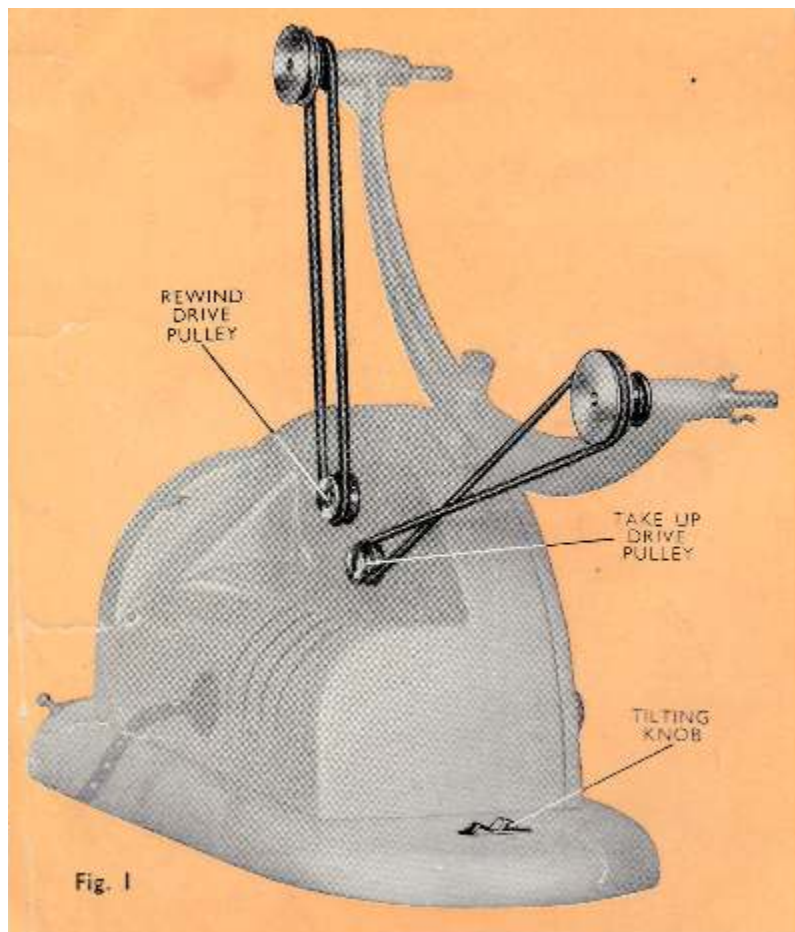


Fig. 1

two-pin socket can be used. After having connected to the mains socket, make sure that the house switch controlling this point is switched on.

Now the machine is ready to operate and it is as well to become acquainted with the controls before a film is used.

A screen should be erected in a position which gives the maximum distance between the projector and the screen in a normal room. At a distance of 12 ft. a 3 ft. wide picture is shown. In larger places the distance should be confined to 18 ft. with the standard lens, in which position a 5 ft. wide picture is obtained.

The centre of the screen, which can be a flat white board or cloth, should not be higher than 6 ft. from the floor. We recommend for the greatest brilliance a Pathéscope Silver Screen, which is specially treated for maximum reflection. Care should be taken to avoid spreading the audience across the room when using a Silver Screen, as the reflected light is directional and is always brightest nearest the centre line between the projector lens and the centre of the screen.

Make sure the projector is mounted on a support, free from vibration and that the motor speed control is towards the lower end of the scale and then switch on the

motor. As the machine is new, the motor speed control will have to be advanced before the projector starts to turn, and it may be necessary to twist the starting knob towards you in an anti-clockwise direction.

With the projector turning, switch on the lamp, and by turning the Lens Hood, focus the projected light rectangle until the edges are sharp. The tilting knob can then be turned in a clockwise direction with the forefinger of the left hand until the rectangle is in the desired position on the screen. Switch off both lamp and motor switches.

THREADING THE FILM

Open the gate by depressing the gate catch and pulling outwards. Turn the starting knob anti-clockwise until the claws protrude into the guideway. Push forward the sprocket guard knob.

Place the spool of film to be projected on the take-off spindle so that the end of the film hangs down at the rear of the machine approximately over the sprocket, and the two spool clips on the spindle line up with the holes on the spool check. Push the spool gently home, when the clips will expand and grip the spool firmly. To remove a spool, place the fingers around the outside rim and the thumb on the end of the centre spindle, a gentle squeeze will release the spool from its clips. Pull off 24 inches of film and place around the front of the machine, allowing enough to reach the take-up spool, place into the guideway, making sure that the claws enter the perforations in the film. Maintain a slight pressure upwards to hold the film against the claws and close the gate with the right hand.

The film from the top of the gate to the sprocket is then threaded round the guide rollers and over the top of the sprocket following the lines on the main body of the machine and leaving a loop of film between the last roller and the gate (see photo.).

The same procedure is then carried out with the film from the bottom of the gate, and the sprocket guide knob returned to its original position so that the film is held on the sprocket.

Place the empty spool on the take-up spindle and secure the end of the film in one of the slots around the centre of the spool, making sure that the film passes under the lower guide roller and over the top of the centre of the spool (see photo.). Verify the correct passage of the film by turning the starting knob towards you. Fig. II.

The projector can now be started as mentioned previously, and **when the film is moving**, switch on the lamp. If the picture is slightly out of focus, it can be corrected by slowly turning the lens hood until a perfectly sharp image is obtained.

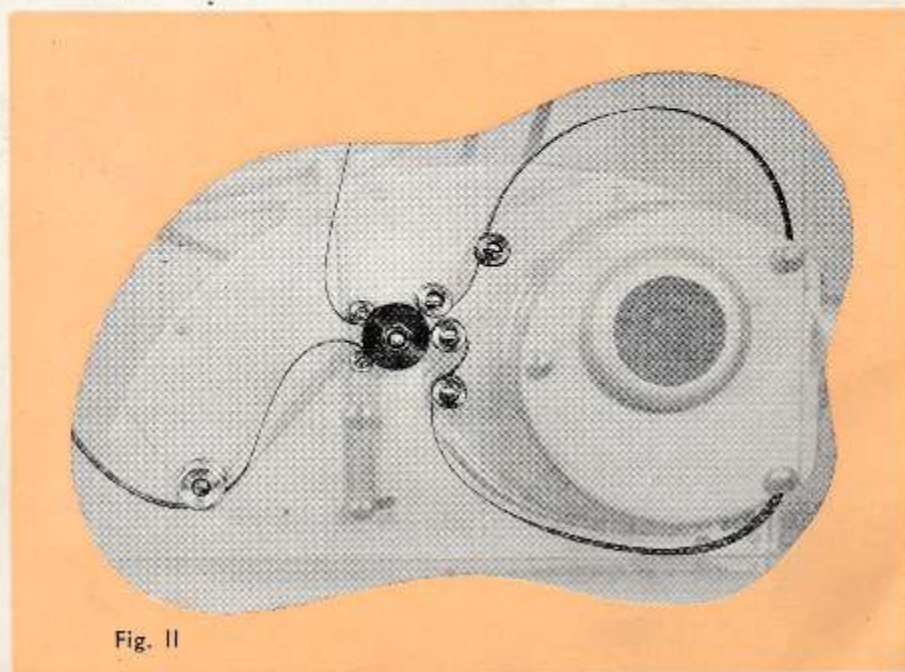


Fig. II

If the perforation hole in the film shows either top or bottom of the picture, move the framing lever in the required direction until it disappears.

The speed at which the film should pass through the machine can be determined by the naturalness of the movements on the screen. As a guide, when Motocamera films and copies of silent films are shown the sprocket should turn twice in a second or 120 turns per minute. For copies of sound films the speed should be 50 per cent. faster, i.e., three turns per second or 180 turns per minute.

Once these speeds have been determined, note should be made of the number on the motor control scale nearest the front edge of the motor speed control, so that for future use (on the same voltage) the control can be pre-set for both types of film.

REWINDING THE FILM

When a film has been projected, it is necessary to rewind before it can be shown again. This rewinding is generally left till the end of the programme and all the films treated together.

The simplicity of the rewinding on the Gem, however, allows each film to be rewound, if required, in a few seconds.

The projected film is left on the take-up spindle and the end of the film taken straight across to the top of the empty spool on the take-off side and fixed into one of the slots in the centre.

The belts are then changed on to the alternate pulleys on the same shaft, i.e. the take-up (wire) belt is put on to the small idler pulley and the rewind (rubber) belt is lifted on to the large pulley. The rewind lever is then moved through a right-angle and the motor switched on. Owing to the high gearing of the rewind it will be necessary to advance the motor speed control to obtain a rapid action. When the film is almost rewound, reduce the speed of rewinding by moving the control so that at the end of the film, when the load is released, the full spool does not fly round at a high speed. Fig. III.

DO NOT FORGET TO REPLACE BELTS
AND RETURN REWIND LEVER TO ITS
UPRIGHT POSITION AFTER REWINDING.

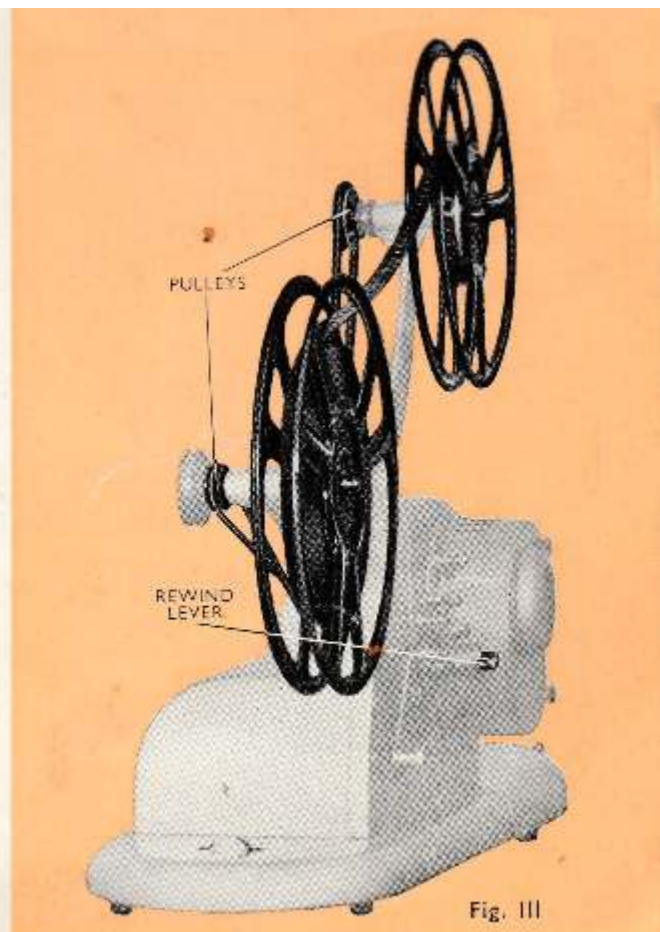


Fig. III

MAINTENANCE

CLEANING

It is most important that the Guideway and Presser Pad be kept perfectly clean. The accessibility of these parts on the Gem Projector and the fact that they have a heavy deposit of chromium make this particularly easy.

Both these parts should be brushed before each film and a close watch kept for emulsion deposits which build up on the running surfaces when a new film is used. Should these deposits occur they should be scraped off with the sharpened end of the cleaning brush.

NEVER USE A METAL SCRAPER OR A PENKNIFE.

We cannot emphasize too much the importance of cleanliness in the Guideway of the machine. Nine-tenths of all troubles experienced, i.e., broken perforations, scratches, unsteadiness and noise arise from this source. When cleaning the Guideway the small guide rollers and the sprocket surface can be brushed to remove film and other dust.

ALWAYS WITHDRAW THE CLAWS FROM THE GUIDEWAY BY TURNING THE STARTING KNOB BEFORE BRUSHING.

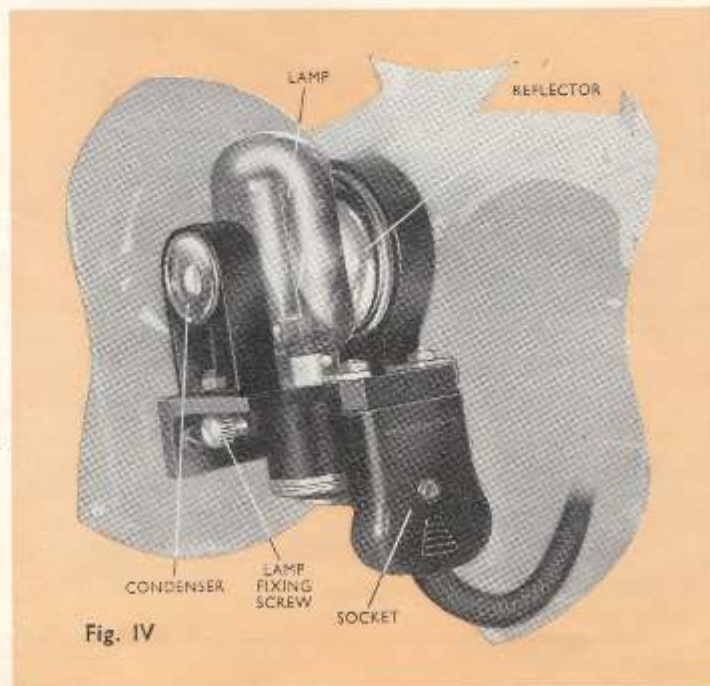
● **REPLACEMENT OF LAMP**

To replace the lamp, undo the three lamphouse cover retaining screws, and lift out the optical assembly at a slight upward angle. Pull off the socket from the pins and the assembly is then free to handle away from the machine. The lamp is held by the small knurled screw in the front of the assembly. This should be unscrewed two turns, when the lamp can be pushed up from the bottom and drawn out. Fig. IV.

Whilst the lamp is out, take the opportunity to clean the outer surfaces of the condenser and reflector. This should be done with silk or very fine non-fluffy linen and the part being cleaned should be supported from the opposite side whilst being polished.

The new lamp is inserted so that the T-piece rests in the opening provided in the front of the lampholder. The lamp should be pushed well down and the fixing screw tightened sufficiently to hold the lamp securely. The point on the end of the fixing screw will hold the lamp without undue pressure.

Reconnect the socket and replace the assembly with an angular downward motion.
Reinsert the cover retaining screws and tighten.



OILING

For Australian conditions the following oiling procedure is recommended and particular care must be taken to use the correct grade of oil in the points indicated.

Periodically remove the Lamphouse and examine the felt pad over the main bearing. This should be kept moist with a good quality projection oil.

The Driving Channel itself should be lubricated with a drop of S.A.E. 50 oil every 3 hours running time. To do this open the small cover over the hole situated in the top half of the front plate and turn the motor starting knob until the end of the driving channel is visible.

To ensure that oil does not come into contact with the driving belt it is recommended that a torch beam be directed through the opening left by the removal of the Lamphouse cover so that the tip of the oilcan may be inserted into the open end of the Driving Channel.

The oil hole in the front of the projector located under the top lens mount support arm is for lubricating the Shuttle Mechanism of the claw assembly. One drop of S.A.E. 50 oil is applied here approximately every 3 hours running time.

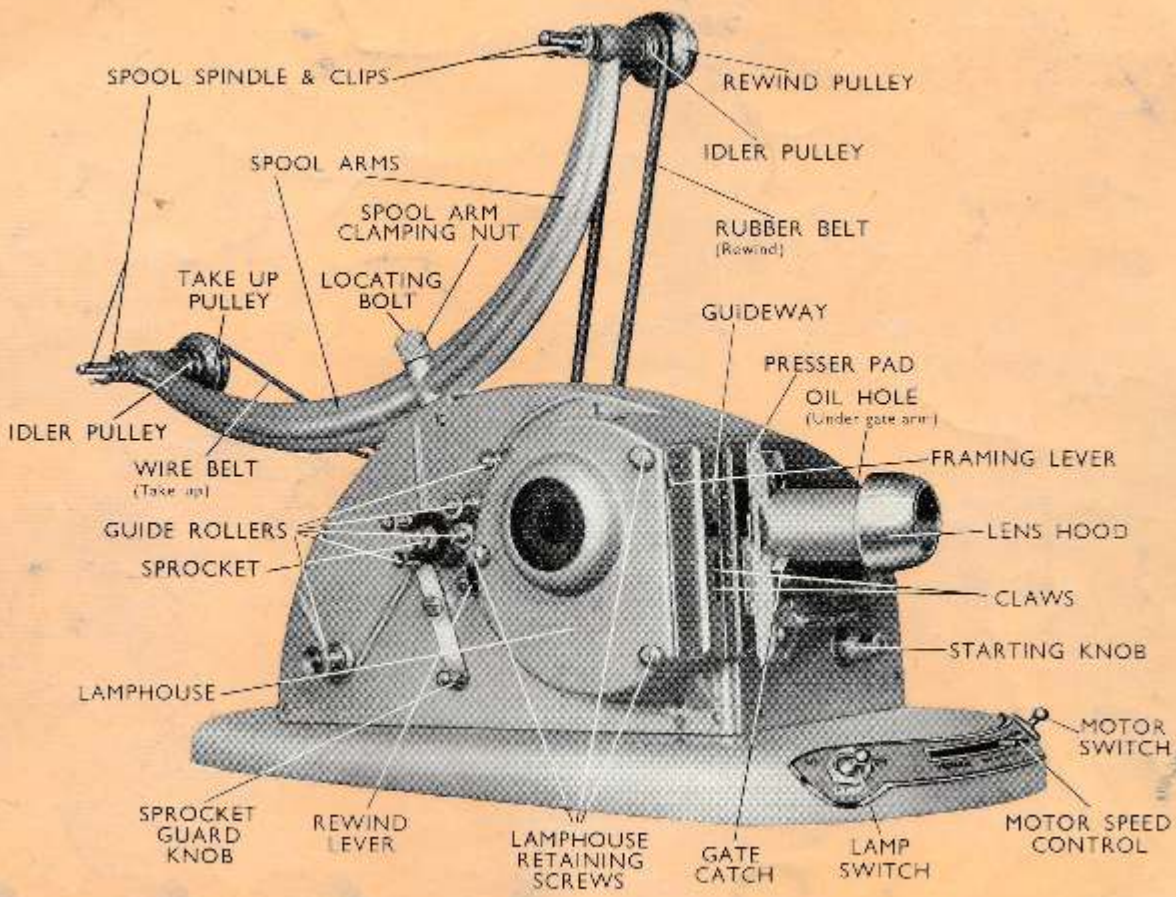
Projection oil can be used to lubricate the guide rollers and spool arm spindles, but here again one drop is sufficient and the rollers should be well wiped after application. The rollers need only be lubricated every few months and this also applies to the thread on the tilting knob located at the rear of the projector.

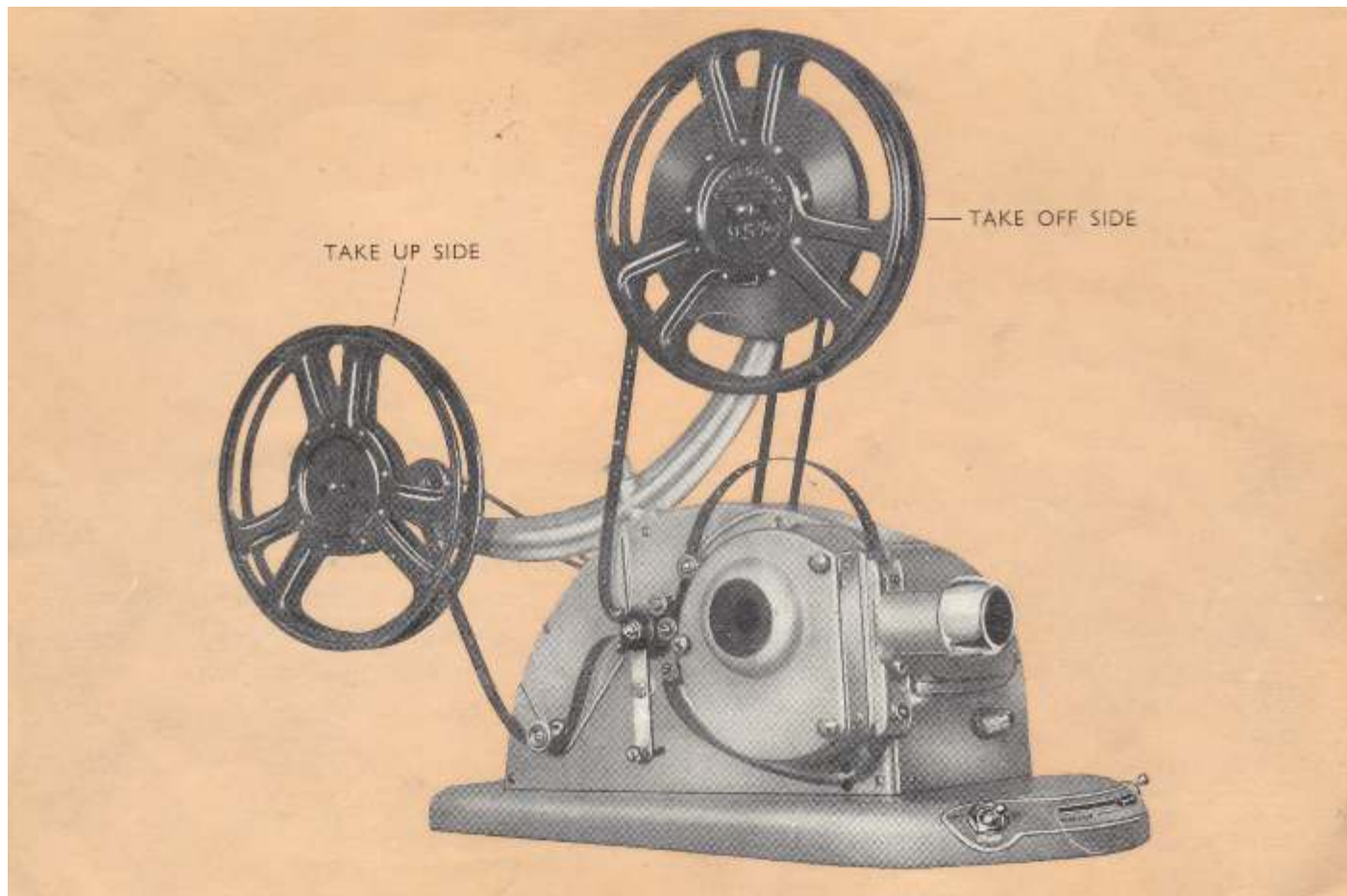
Care must be taken to check all oiling points if the projector has been stored away over a period of time.

Remember that your projector, like a car, needs regular inspection and service, and in order to avoid costly repairs in later years we would suggest that it be returned to your dealer for servicing at regular intervals.

CARE OF THE OPTICAL SYSTEM

The lamp of the Gem is very sturdily constructed and will rarely require replacement, except at the end of its useful life of 50 hours, when the glass may have darkened sufficiently to reduce the picture brilliance.





TAKE UP SIDE

TAKE OFF SIDE

As with all Pathéscope products, this first-class Projector will, with normal usage and ordinary care, give years and years of faithful service and in conjunction with Pathéscope Motocameras will enable you to record and present all those joyous moments you would wish to preserve for your future use.

We welcome you as a new or old friend and assure you of our desire to be of service at all times.

Pathéscope
LTD.

L O N D O N , N . W . 2 .
E N G L A N D

MAKE YOUR OWN

THE PATHÉSCOPE

MOTOCAMERA 'H'

PERSONAL FILMS

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