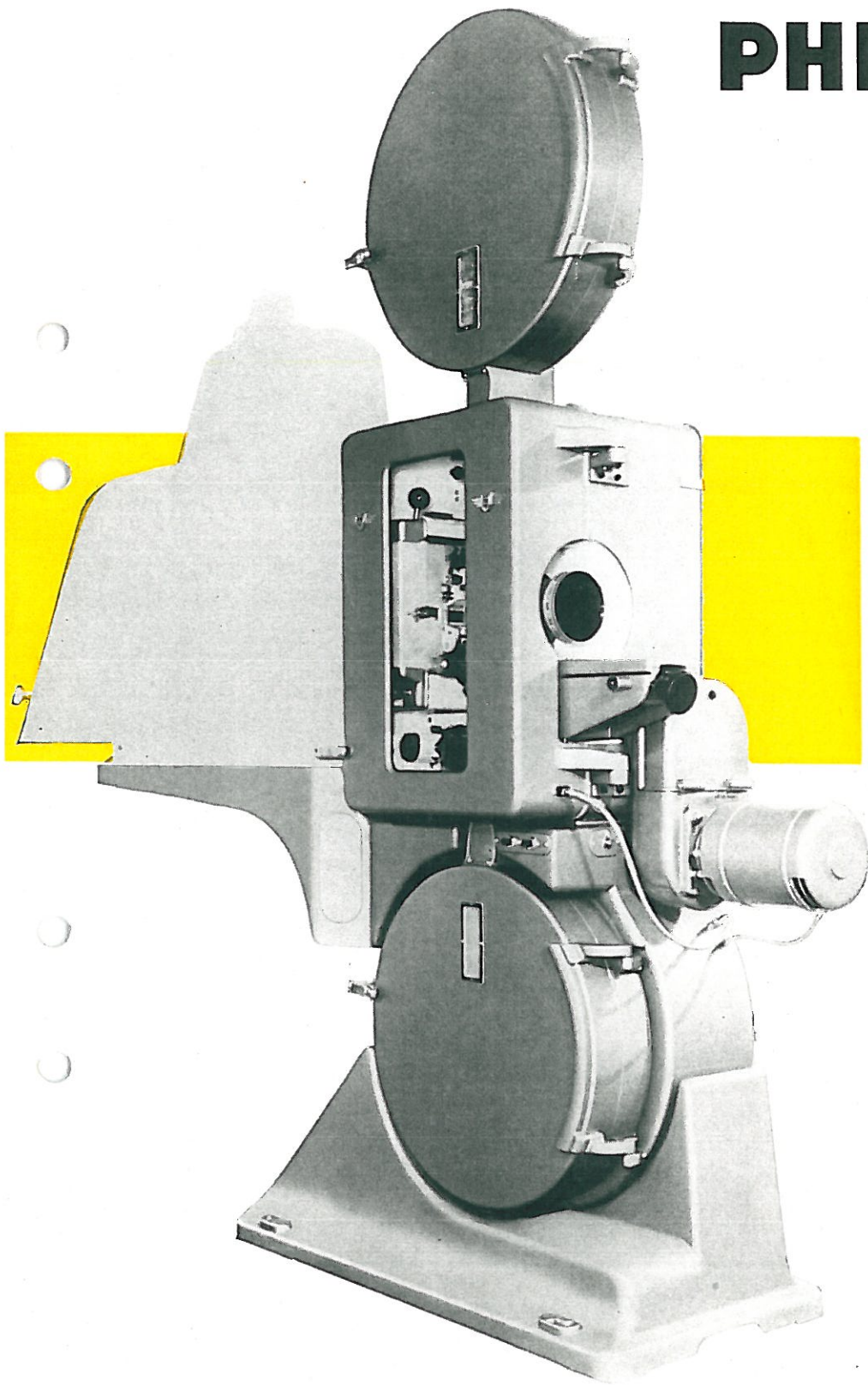


# PHILIPS



## DP 70

**MULTI-PURPOSE  
70/35 mm  
FILM PROJECTOR**

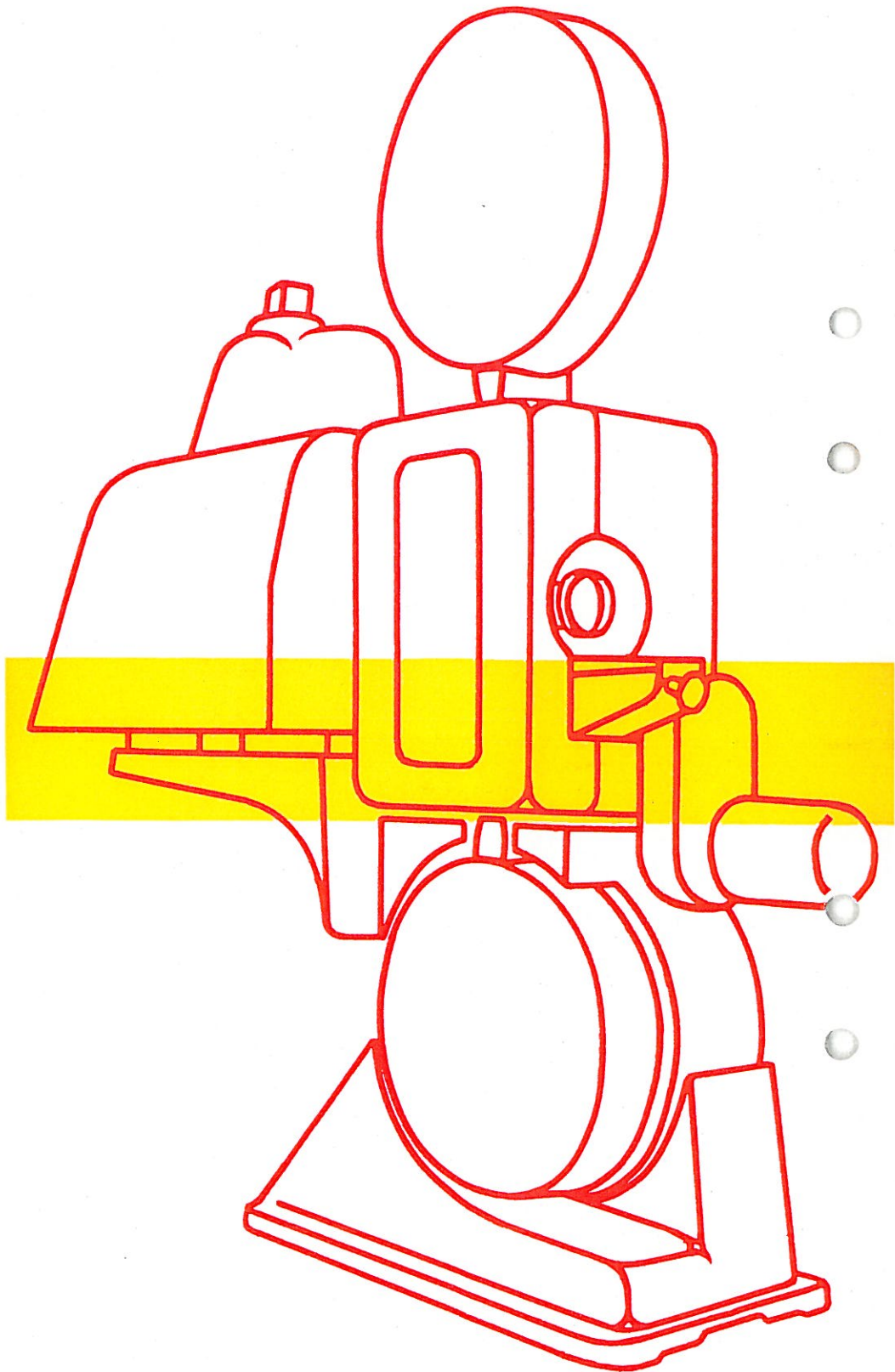


**DESIGNED FOR THE FUTURE.... AVAILABLE TO-DAY**

- **DP 70**, the first 70 mm projector in the world...
- **DP 70**, developed in co-operation with the American Optical Co., Southbridge, Mass., U.S.A., the inventors of the Todd-AO system...
- **DP 70**, built for 70 and 35 mm...
- **DP 70**, the projector which to date\*) has been used for the world premieres of all 70 mm films...
- **DP 70**, the projector used since October 1955 in the Rivoli cinema, Broadway, New York, showing exclusively 70 mm films without a single hitch...

# DP 70

- **DP 70**, the projector which enables the same 70 mm copy to be shown several hundred times (in the Dominion, London, and the Gaumont, Manchester, already more than a thousand times) without any damage to the film or operating trouble...
- **DP 70**, the quality projector...
- **DP 70**, the ideal 70/35 mm projector, not only for today, but also for the future...



\*) August 1960.

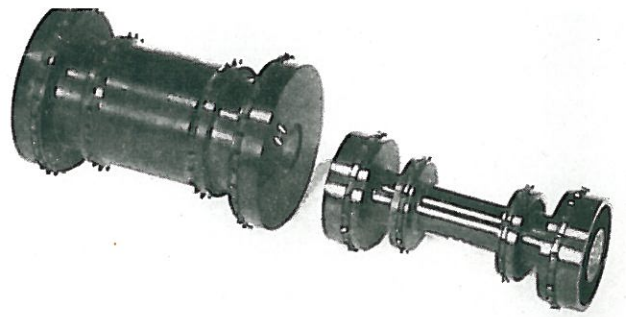


Fig 1

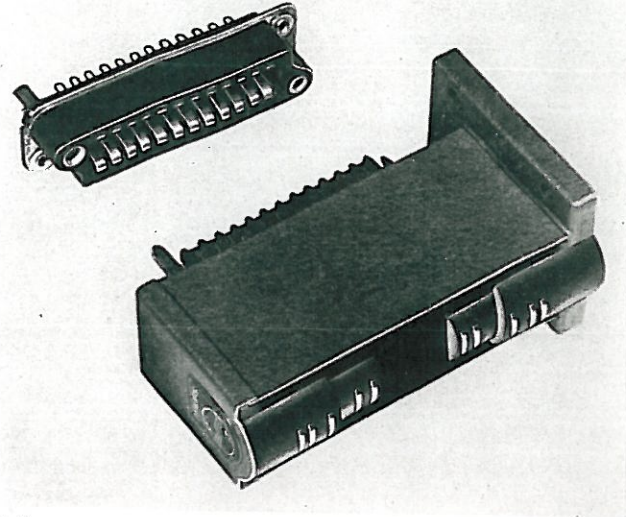


Fig 2



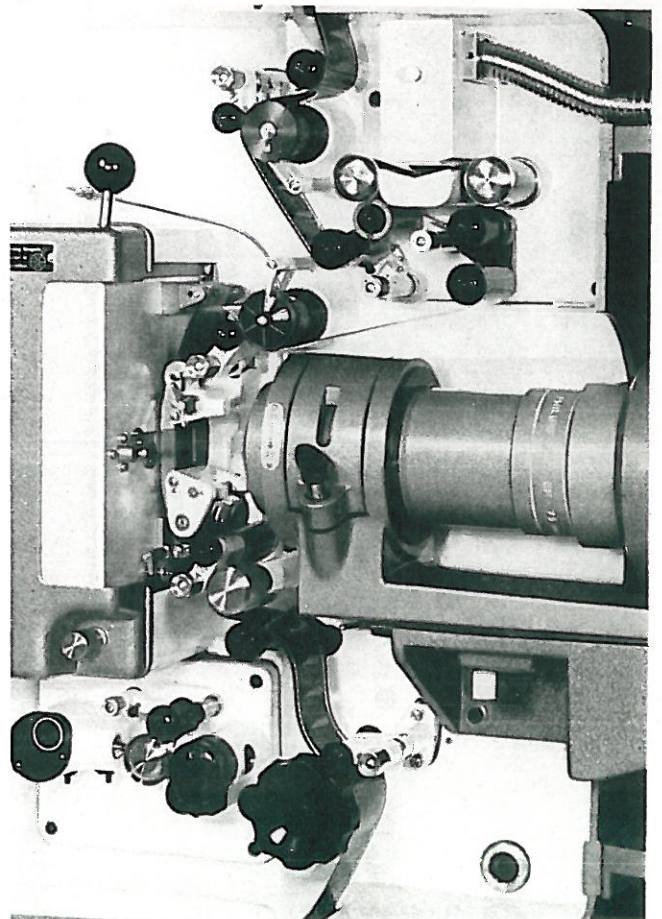
## MULTI-PURPOSE

The multi-purpose projector DP 70 is suitable for use with all 70 mm film systems such as Todd-AO, Super Technirama 70, and Camera 65, and all the usual 35 mm systems in which the film travels vertically, such as standard 1:1.37, CinemaScope with optical sound tracks, CinemaScope with 4 magnetic tracks, Mag-optical copies and WideScreen copies.

It has been possible to achieve this versatility by designing the DP 70 specially as a 70 and 35 mm projector, which also entails that full attention could be paid to the necessity of a rapid change-over from 70 mm to 35 mm film. The number of operations needed to pass from one system to the other is so small that the whole job can be performed in a matter of minutes. Mistakes that could damage the film are practically impossible: for example, the sprockets (fig. 1) and the fire traps are suitable for both 70 and 35 mm films without alteration, and the magnetic cluster (fig. 2) and the sound drums are suitable for 6-channel 70 mm films and 4-channel 35 mm films. The film path is the same for 70 mm film as for 35 mm film with magnetic sound tracks, so the operator soon becomes accustomed to threading the film. The film path (fig. 3) is kept very simple by reducing the number of guide rollers to a minimum.

The complete collection of replacement parts is kept in a handy storage case (fig. 4), so that a single glance is enough to see whether all the parts have been replaced. Among other things, this case contains

Fig. 3



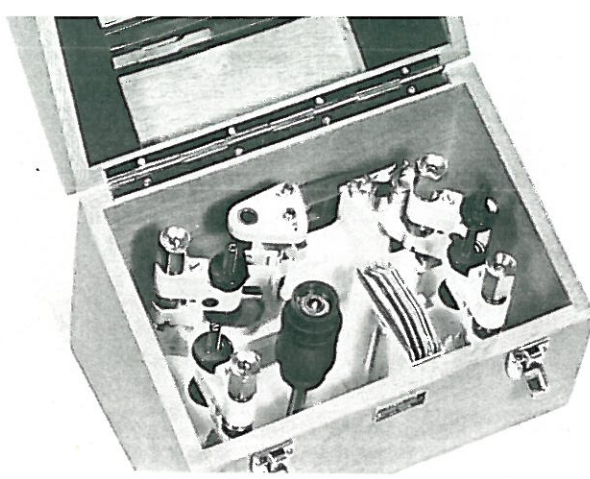


Fig. 4

eight aperture plates for all possible 70 and 35 mm systems. Thanks also to the very efficient water cooling, which keeps the aperture plate cool, the aperture plate can be replaced very quickly, even without tools.

The lenses can also be very quickly replaced. The focussing is not altered when the lens is changed, and the difference between the position of the centre line of 70 and 35 mm films is automatically compensated for.

The film speed can be changed from 24 to 30 frames per second (fig. 5), so that all 70 mm films can be projected.

The film spools (fig. 6) are constructed so that the adjustment of the friction is the same for 70 mm as for 35 mm film.

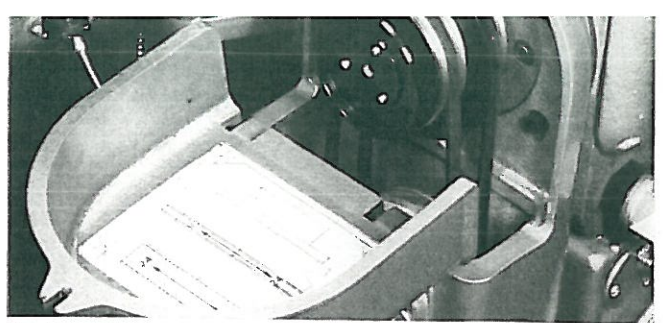


Fig. 5

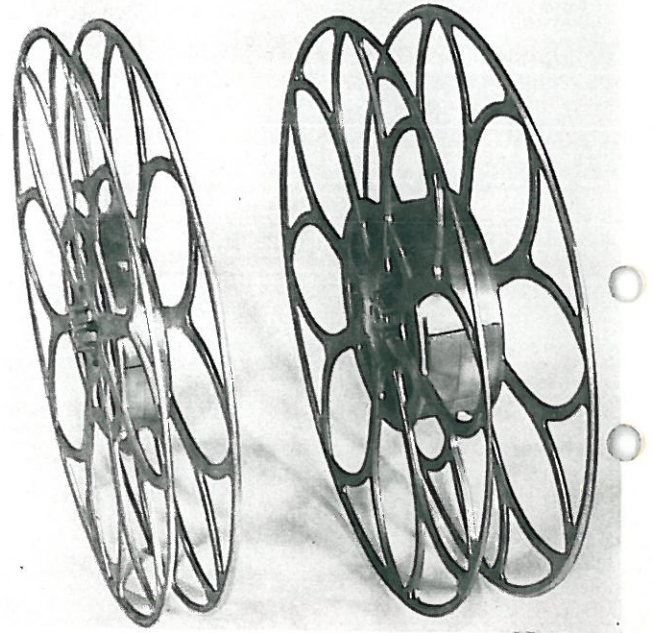


Fig. 6



## IDEAL FOR 70 mm FILM

70 mm film makes very large demands on a projector. Not only is the film twice as wide (fig. 7), but the height of each frame is 5 perforations instead of 4, so that at 24 frames/sec the film speed is 25% more than normal, and at 30 frames/sec 56% higher. The forces arising during the film transport are therefore greater, and this has been taken fully into account in the construction of the DP 70.

The film gate (fig. 8) is curved, so that the film has a great stiffness in the transverse direction. This prevents buckling of the film, and thus improves the sharpness of the picture.

The shaft of the Maltese cross (fig. 9) is supported by bearings on both sides of the sprocket, thus giving a rock-steady projection.

The projector, as well as the stand and the mounting table, are of a sturdy construction, thus preventing vibrations due to the energetic film transport. The lens holder (fig. 10) is also very solidly constructed in order to keep the big (4") lenses needed for 70 mm projection free from vibration, and in order to be able to focus them with the greatest possible accuracy. All shafts and gear-wheels are very stable. The use of exclusively spiral gear transmission with alternate steel and novotext wheels ensures quiet running (fig. 11).

The whole mechanism is thoroughly lubricated automatically by a built-in gear-wheel oil pump.

The life of the projector constructed in this way is even longer than that of a normal 35 mm projector,

Fig. 7

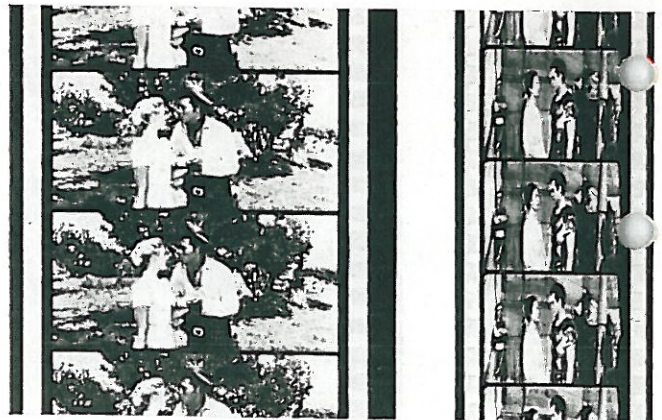
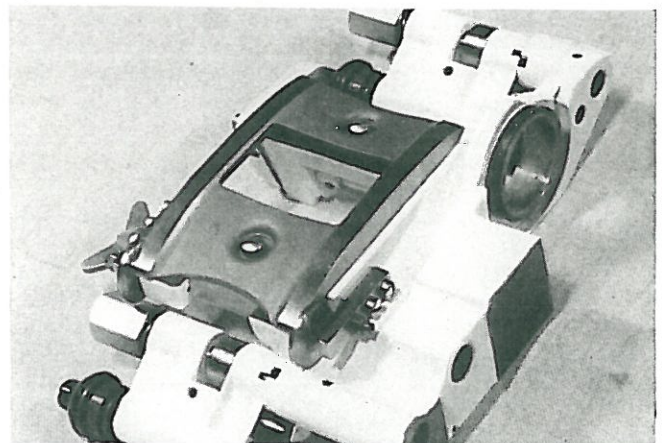


Fig. 8



despite the heavier load put on it by the 70 mm film. Special care has been taken with the film path, because of the great cost of 70 mm prints. The number of rollers has been kept to a minimum. The fire-trap rollers (fig. 12) run in ball bearings. All rollers are grooved, so that scratching is impossible. A large number of teeth of the 30-tooth sprockets are always engaged, so that the strain on the perforations is as small as possible.

Fig. 9

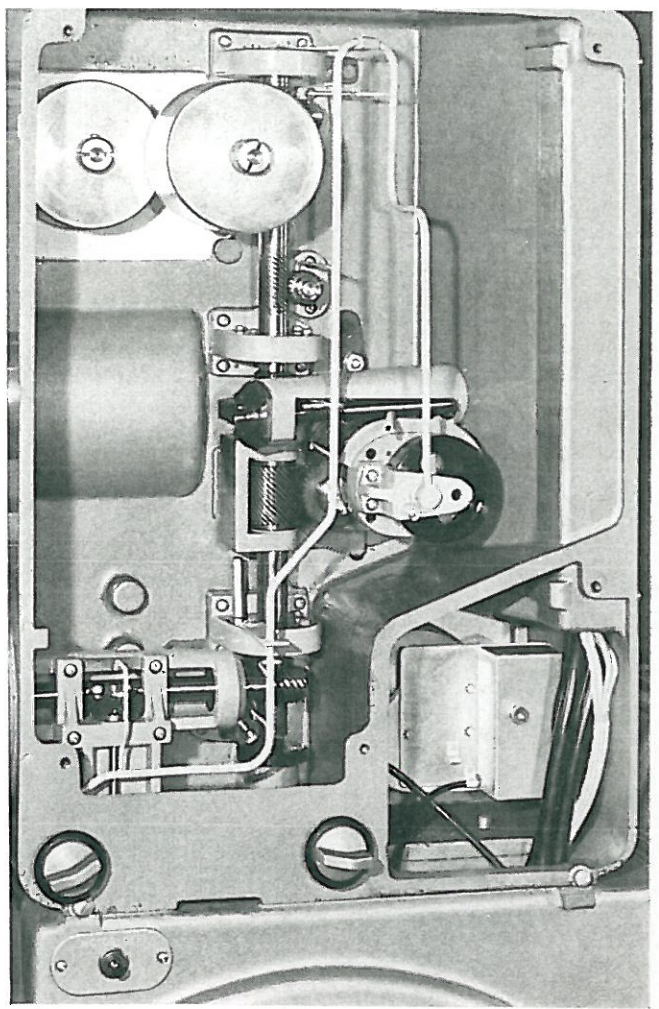
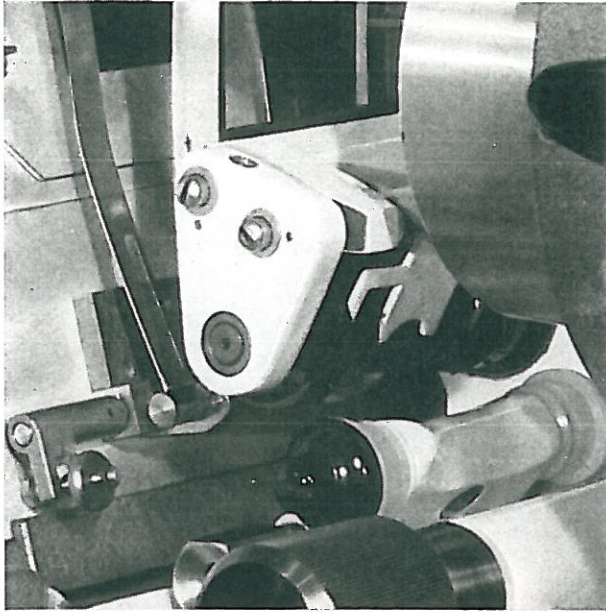


Fig. 11



## MAXIMUM LIGHT INTENSITY

A great light intensity is needed to project the big pictures in 70 mm theatres and drive-ins. The DP 70 can be easily adapted to use all well known types of lamp houses. The combined water and air cooling ensures that even very high light intensities will not damage the film by drying out the film material. The projector is so constructed that even for the biggest lamp houses the beam reaches the aperture plate without obstruction. The single-blade conical shutter (fig. 13) gives the maximum possible efficiency.

Fig. 10

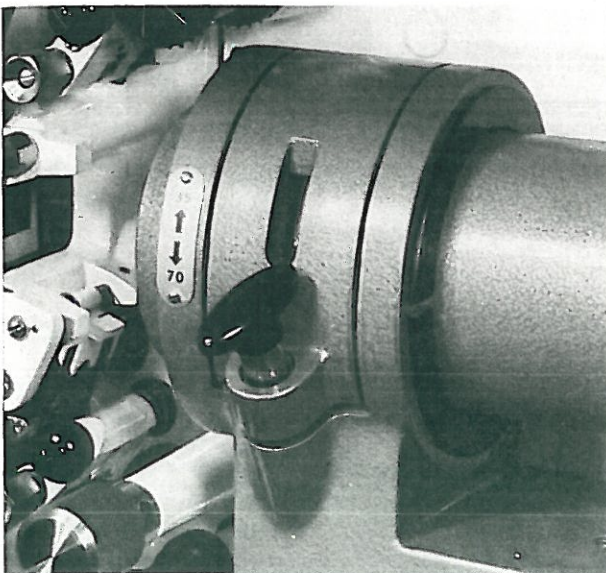


Fig. 12

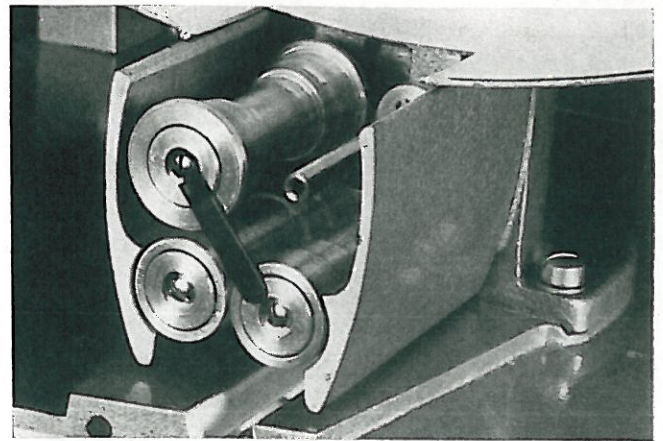
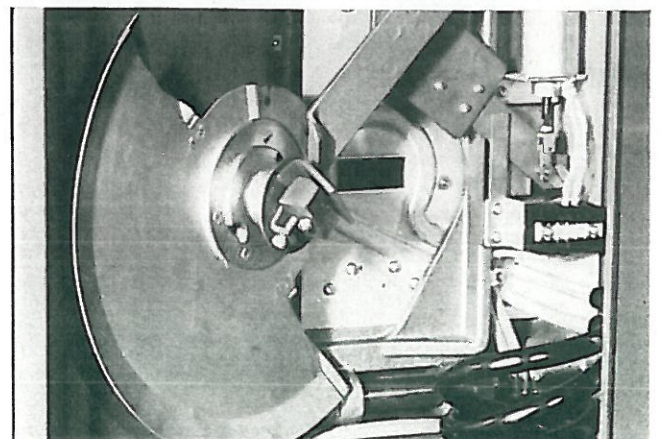


Fig. 13



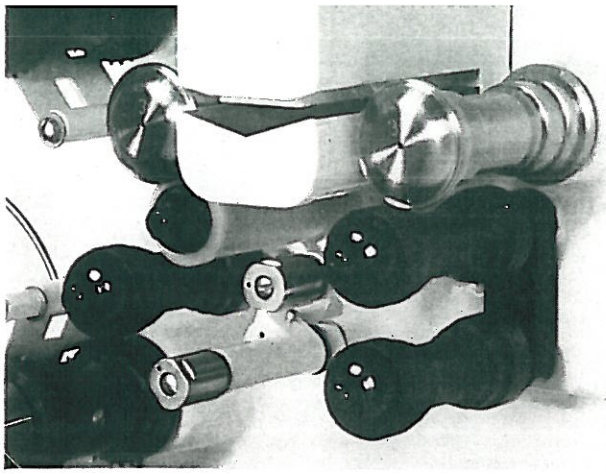


Fig. 14

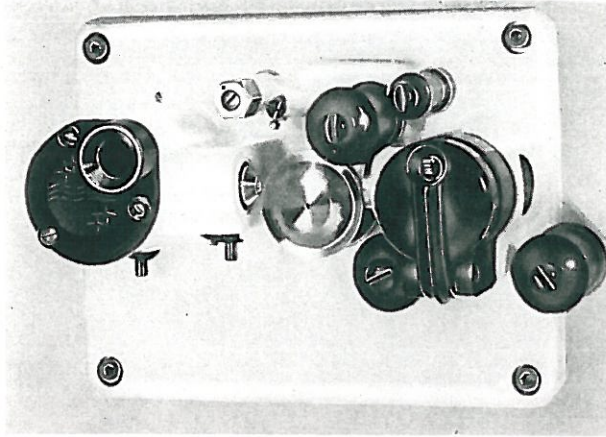


Fig. 15



## EXCELLENT SOUND REPRODUCTION

Thanks to the use of a driven sprocket between the upper spool box and the magnetic soundhead (fig. 14), of two flywheels and a carefully designed filter, the magnetic reproduction is completely free from wow and flutter. Equal care has been taken with the optical soundhead (fig. 15) for 35 mm film, a unique Philips design whereby the film itself acts as a practically inertia-free buffer, eliminating all the irregularities caused by the teeth of the take-up sprocket engaging in the film perforations.

The sound track is projected with a magnification of 13.5 times on the scanning slit. The magnified sound track is visible through an inspection window, so that the correct position of the sound track with respect to the slit can be accurately adjusted.

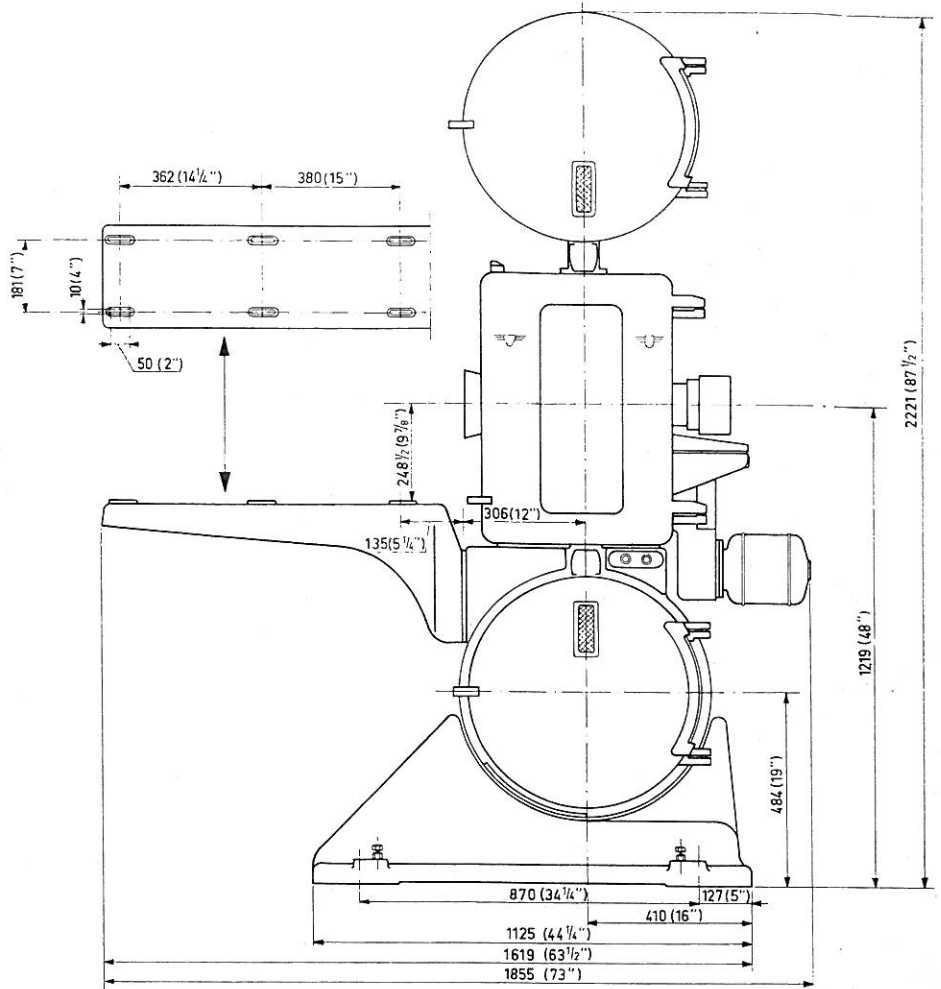
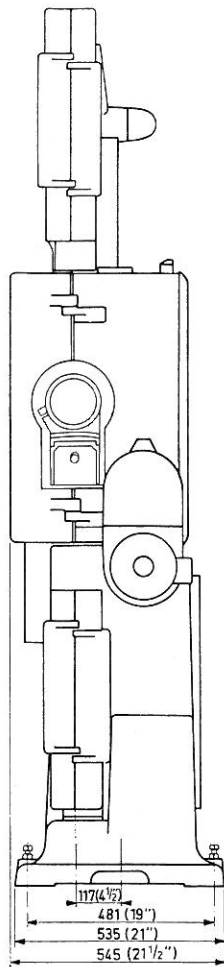
## SIMPLE OPERATION

The threading of the film is very simple, thanks to the small number of rollers and their logical and well spaced arrangement. The pad rollers are closed by

means of a press button. The skate pressure in the filmgate is centrally adjusted by means of a single knob. The lenses are quickly and easily replaced, and do not alter their focus when changed. The projector is switched on and off by push buttons. A single push button changes the picture and the sound over simultaneously from one projector to the other.

## LITTLE MAINTENANCE

The projector is easy to keep clean, thanks to the well spaced components, the hard smooth lacquer and the practical illumination of the film path. In practice, lubrication consists in changing the oil once every 250 hours.



## TECHNICAL DATA

### Capacity of the spools:

3000 ft ( 900 m) for 70 mm film  
3600 ft (1100 m) for 35 mm film

### Motor:

1460 r.p.m. at 50 c/s  
1/4 h.p.  
Mains voltage 110 or 220 V  
Mains frequency 50 or 60 c/s

### Photocell:

type 3554: supply 90 V

### Exciter lamp:

type 7251 C 5 V-4 A

### Dowser supply:

90 V ===

### Water consumption:

1.760 Pints/min (1 liter/min)

### Type numbers and weights:

Shipped in 8 boxes

type no.	description	weight	
		nett	gross
EL 4000/00	complete 70/35 film installation comprising: projector mechanism with built-in optical and magnetic soundhead, stand, mounting table and spool cases, for 50 c/s mains.	1102 lbs. (500 kg)	1823 lbs. (827 kg)
EL 4000/01	As type 4000/01, but for 60 c/s.	1102 lbs. (500 kg)	1823 lbs. (827 kg)

## GREAT-BRITAIN

Dominion - London  
 Gaumont - Manchester  
 Drake - Plymouth  
 Astoria - Brighton  
 West End - Birmingham  
 Gaumont - Glasgow  
 Majestic - Leeds  
 Queens - Newcastle  
 Odeon - Sheffield  
 Odeon - Bristol  
 Odeon - Liverpool  
 Victoria - Edinburgh  
 Capitol - Cardiff  
 Odeon - Nottingham  
 Columbia - London  
 Technicolor - London  
 Lab - London  
 Ritz - Oxford  
 Savoy - Leicester  
 Forum - Southampton  
 Odeon - Hanley  
 Regal - Glasgow  
 Carlton - Nottingham  
 Olympia - Cardiff  
 Regal - Hull  
 Regal - Edinburgh  
 Bristol - Birmingham  
 Odeon - Bournemouth  
 Metropole (Victoria) - London  
 Odeon - Aberdeen  
 Astoria - London  
 Odeon - Middlesborough  
 Gaumont - Norwich  
 Ritz - Leeds  
 White Ladies - Bristol  
 Capitol - Dundee  
 Scala - Worcester  
 Empire - London  
 Deansgate - Manchester  
 Picture House - Manchester  
 Futurist Cinema - Liverpool  
 Odeon - Portsmouth  
 Ritz - Belfast  
**GERMANY**  
 Savoy - Hamburg  
 Royal Palast - Munich  
 Scala - Mannheim

Admiral Palast - Nuremberg  
 Rivoli - Hanover  
 Savoy - Düsseldorf  
 Grand Palast - Frankfurt/M  
 MGM Theater - Frankfurt/M  
 MGM Theater - Berlin  
 Atrium - Stuttgart  
 City - Munich  
 Fuerstenhof - Münster  
 Lichtspiele - Frankfurt/M  
 Filmpalast - Frankfurt/M  
 City Film - Karlsruhe  
 Theater - Stuttgart  
 Gloria Palast - Düsseldorf  
 Tonhalle - Düsseldorf

**ARGENTINE**  
 Luxor - Buenos Aires

**MALTA**  
 Plaza - Sliema

**AUSTRALIA**  
 Plaza - Adelaide  
 Mayfair - Sydney  
 Esquire - Melbourne  
 Paris - Sydney  
 St. James - Brisbane

**NEW ZEALAND**  
 State Theatre - Christchurch  
 Plaza - Auckland  
 State Theatre - Wellington

**JAPAN**  
 Koma Stadium - Osaka  
 Yurakuza - Tokyo

**ITALY**  
 Adriano - Rome

**EIRE**  
 Adelphi - Dublin

**JAMAICA**  
 Regal - Kingston

**SPAIN**  
 Paz - Madrid  
 Kursaal - Barcelona

**DENMARK**  
 Falco Bio - Copenhagen  
 Europa Bio - Copenhagen  
 Palladium - Copenhagen  
 Imperial - Copenhagen  
 Bronobyerne - Copenhagen  
 World Cinema - Copenhagen

**NORWAY**  
 Colosseum - Oslo

**SWEDEN**  
 Ritz - Stockholm  
 Scania - Malmö  
 Palladium - Malmö  
 Garbio (Ricardo) - Stockholm  
 Astoria - Stockholm  
 Centrum - Eskilstuna  
 Palladium - Stockholm  
 Ribo (Capitol) - Stockholm

**SWITZERLAND**  
 Apollo - Zurich

**FRANCE**  
 Palais des Festivals - Cannes  
 Gaumont - Paris  
 Rialto - Nice  
 Paris Palace - Nice  
 Theatre ABC - Vichy  
 Normandy - Rouen  
 Paquebot "France"

**BELGIUM**  
 Quelin - Antwerp

**HOLLAND**  
 Asta - The Hague  
 Casino - Den Bosch  
 Chicago - Eindhoven  
 Corso - Rotterdam  
 Metropole - The Hague

**AUSTRIA**  
 Gartenbau Kino - Vienna  
 Stadtkino - Salzburg

Wellspiegel - Vienna  
 Tabor - Vienna

**PORTUGAL**  
 Monumental - Lisbon

**ICELAND**  
 Laugáras Bio - Reykjavik  
 Hákola - Reykjavik

**RUSSIA**  
 Forum - Moscow

**CHINA**  
 Broadway Theatre - Kowloon  
 Theatre - Kowloon  
 Royal Queens Theatre - Kowloon  
 Theatre - Hongkong  
 Theatre - Peking

**PHILIPPINES**  
 Rizal - Manila  
 Galaxy - Manila

**IRAQ**  
 Cinema Houses Ltd. - Baghdad

**BRAZIL**  
 Cine Windsor - Sao Paulo  
 Rio Branco - Sao Paulo  
 Cine Movetec - Porto Alegre

**VENEZUELA**  
 Cine Olimpo - Caracas

**MEXICO**  
 Cine Hidalgo - Poza Rica

**SOUTH-AFRICA**  
 Drive-in (Germiston) - Germiston

**VIETNAM**  
 Rex Theatre - Saigon

**FINLAND**  
 Bio Bristol - Helsinki

**THAILAND**  
 Chalerm Khert Theatre - Bangkok



PHILIPS

**THEATRES EQUIPPED WITH  
 PHILIPS 70/35 mm INSTALLATIONS  
 UP TO AUGUST 1960**

## U.S.A. AND CANADA

Ritz Theatre - Albany	Capitol Theatre - Little Rock	Shoppingtown Theatre - Syracuse
St. James Theatre - Asbury Park	Strand Theatre - Lexington	Eckel Theatre - Syracuse
Roxy Theatre - Atlanta	Brown Theatre - Louisville	Britton Theatre - Tampa
Virginia Theatre - Atlantic City	Loew's 170St. Theatre - Miami Beach	Tivoli Theatre - Toronto
New Theatre - Baltimore	Sheridan Theatre - Miami Beach	Ritz Theatre - Tulsa
Liberty Theatre - Beaumont	Strand Theatre - Milwaukee	Stanley Theatre - Vancouver
Astor Theatre - Boston	Academy Theatre - Minneapolis	Uptown Theatre - Washington
Gary Theatre - Boston	Bellevue Theatre - Upper Montclair	State Theatre - Youngstown
Saxon Theatre - Boston	Alouette Theatre - Montreal, Canada	Ritz Theatre - Birmingham
Century Theatre - Buffalo	Panorama Theatre - New Orleans	MGM Theatre - Culver City
Granada Theatre - Buffalo	Criterion Theatre - New York	Screen Directors Guild Theatre - Hollywood
McVickers Theatre - Chicago	Loew's State Theatre - New York	Florida Theatre - Miami
State Lakes Theatre - Chicago	Rivoli Theatre - New York	Houck's Patio Theatre - New Orleans
Todd's Cinestage - Chicago	Warner Theatre - New York	Esquire Theatre - St. Louis
Valley Theatre - Cincinnati	State Theatre - Oklahoma City	Ben-Hur Theatre - Denver
Loew's Ohio Theatre - Cleveland	Cooper Theatre - Omaha	Riviera Theatre - Rochester
Hunt's Cinestage - Columbus	Boyd Theatre - Philadelphia	Colony Theatre - Cleveland
Tower Theatre - Corpus Christi	Goldman Theatre - Philadelphia	Palace Theatre - Cleveland
Tower Theatre - Dallas	Midtown Theatre - Philadelphia	New Cooper (Harber) Theatre - Oklahoma City
Wynnewood Theatre - Dallas	Vista Theatre - Phoenix	Hollywood Theatre - Portland
Hunt's McCook Theatre - Dayton	Nixon Theatre - Pittsburgh	Stanley Theatre - Philadelphia
Center Theatre - Denver	Warner Theatre - Portland	Rogers Theatre - Chattanooga
Mercury Theatre - Detroit	Broadway Theatre - Providence	Strand Theatre - Madison
United Artists Theatre - Detroit	Elmwood Theatre - Richmond	Warner Theatre - Washington
Clyde Theatre - Ft. Wayne	Willow Lawn Theatre - Rochester	Music Box Theatre - Portland
Strand Theatre - Hartford	Monroe Theatre - Sacramento	United Artists Penn Theatre - Pittsburgh
Carthay Circle Theatre - Hollywood	Alhambra Theatre - Salt Lake City	Capitol Theatre - Cincinnati
Egyptian Theatre - Hollywood	Villa Theatre - San Antonio	Bay Shore Theatre - Long Island
Kuhio Theatre - Honolulu	Broadway Theatre - San Diego	Palace Theatre - Chicago
Tower Theatre - Houston	Capri Theatre - San Francisco	Music Box Theatre - Seattle
Uptown Theatre - Houston	Alexandria Theatre - San Francisco	Strand Theatre - Vancouver, Canada
Lyric Theatre - Indianapolis	Coronet Theatre - San Francisco	Westhampton Theatre - Richmond
Five Points Theatre - Jacksonville	Blue Mouse Theatre - Seattle	Bronxville Theatre - Bronxville
Capri Theatre - Kansas City	Saenger Theatre - Shreveport	Century Theatre - Minneapolis
	Ambassador Theatre - St. Louis	
	Pageant Theatre - St. Louis	
	Syosset Theatre - Syosset	