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ILFORD

for faces
& places



PHOTOGRAPHIC
MATERIALS &
ACCESSORIES



I L F O R D

**Materials
and
Accessories
for
Amateur
Photography**

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All prices include purchase tax where this is chargeable and are subject to alteration without notice.

I L F O R D

**Materials
and
Accessories
for the
Camera**

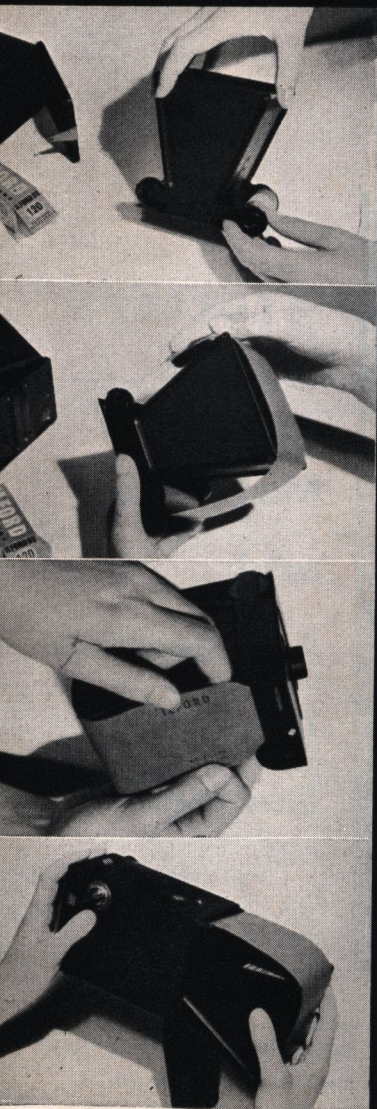
USING YOUR CAMERA

Whatever type of camera you use, remember that it is a sensitive instrument, and always treat it as such. Even an inexpensive box or folding camera has a delicate shutter mechanism, and a carefully positioned lens, so try to avoid knocks that might harm them. Dampness can cause a great deal of trouble with all cameras, as also can dust and particles of sand, so to be on the safe side, always keep your camera in its case when it is not in use, and dust it out periodically. Lens tissues will clean the lens, and a clean, dry paint brush will remove dust from all the corners.

It is surprising how many amateur snapshots are spoiled by careless loading of the film, with consequent fog marks at the edges. If you are not entirely happy about loading, read your instruction book again, or ask your dealer to demonstrate, next time you buy a film. Your skill in handling the camera, and the way in which you position yourself (or your subject when taking a portrait), will determine the success of your pictures, but for more information on this, you are invited to consult the *Ilford Manual of Photography*, price 10s. 0d., from your dealer. In this book will be found the answers to all your camera and processing problems, and for many years to come it can be used for reference and guidance.

Loading a typical box camera

1. Remove the empty spool and replace it with the new film
 2. Un-seal the film and pull the yellow paper over the film rollers
 3. Push the tab of the paper into the wider slot on the empty spool
 4. Replace film-holder in camera body and wind-on to number one
-



ESTIMATING DISTANCES

Many people who own cameras on which there is a focusing scale often experience difficulty in estimating the distance of the subject from the camera. Perhaps the easiest way of doing this is to pace-out the distance, in strides of roughly 3 ft., until you reach the camera viewpoint which gives you the best picture size and arrangement. The point on the focusing scale can then be set accordingly.

A SAFER WAY OF FOCUSING

A simple and safe way of ensuring sharp focus in your pictures is to use the "hyperfocal distance" method.

According to its focal length, and the aperture at which it is being used, there is a specified hyperfocal distance for each lens; if the focusing scale is set to this distance (which may, for example, be 20 ft.) then everything beyond HALF that distance will be in sharp focus. Here is a table from which you can find the hyperfocal distance for your own lens:—

HYPERFOCAL DISTANCES (in feet)

Focal Length (inches)	HYPERFOCAL DISTANCES (in feet)		
	$f/2$	$f/2.8$	$f/4$
1	42	30	21
$1\frac{1}{8}$	57	41	29
$1\frac{1}{2}$	63	45	31
2	84	60	42
$2\frac{1}{2}$	104	74	52
3	125	89	63
$3\frac{1}{2}$	146	104	73
4	167	119	84
$4\frac{1}{2}$	188	134	94



When the lens is focused at infinity objects close to the camera are unsharp.



By focusing at the hyperfocal distance both near and distant objects are sharply defined.

STOPS

$f/4.5$	$f/5.6$	$f/8$	$f/11$
19	15	11	8
26	21	14	10
27	22	16	11
37	30	21	15
46	37	26	19
56	45	31	23
65	52	37	26
74	60	42	30
84	67	47	34

CAMERA SECTION



*A typical subject for
Selochrome roll film*



*A typical subject for
FP3 roll film*

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ILFORD MATERIALS

From this, let us take the 3.5 cm. focal length lens on our Advocate Camera as an example. A conversion of 3.5 cm. gives $1\frac{3}{8}$ in. focal length, and it will be seen from the table that at $f/4.5$ the hyperfocal distance is 26 ft. In this case, if the focusing scale is set to 26 ft., all objects more than 13 ft. away from the camera will be in sharp focus. The more the lens is "stopped down" the shorter the hyperfocal distance, until at $f/11$ the hyperfocal distance is 10 ft., which means that all objects more than 5 ft., from the camera will be in sharp focus.

It will be seen that the hyperfocal distance increases with the focal length of the lens, and decreases as the lens is stopped down.

This method of focusing can be extremely useful when there is very little time to estimate distances carefully and to set the distance scale; it will also be useful for landscape work when the foreground is an essential part of the picture. By memorising the hyperfocal distance for one particular aperture of your own lens, the distance scale and aperture can be quickly set for an "emergency," and a sharp picture obtained.

CHOOSING A FILM

Are you one of the many amateurs who, with camera in hand, ask the dealer for "a film"? This is quite a common practice, and one that we, as film manufacturers, are interested in eliminating. You wouldn't, for example, just order "a suit"; the tailor would want to know if it were for winter or summer, day-time or evening wear. So it is with films. Ilford Limited supply four different roll films, each with its own characteristics for particular uses in amateur photography.

ILFORD MATERIALS

Perhaps the most talked-of film characteristic is that of SPEED, and since film speed, in conjunction with weather conditions, determines whether a snapshot is correctly exposed or not, a few words of explanation may be helpful. As an analogy, we could instance motor cars. Fast models are available which will travel, very fast, from A to B, in a very short time. Alternatively, the same journey could be made in a slower car, taking a longer time. The two factors involved here are distance and time.

With Ilford films, the factors involved are lighting conditions and time. For given lighting conditions, a fast film such as Ilford HPS requires *less* exposure than a slower speed film such as Selochrome. Looking at it another way, when the exposure time is constant, as on simple cameras, HPS will produce good pictures in very dull lighting conditions, while the speed of Selochrome is sufficient for snapshots in good sunlight. And then, generally speaking, the slower-speed films have finer grain than the high-speed types, and are thus capable of producing negatives which will stand greater enlargement. Many types of subject, however, can only be taken with high-speed films, and you have only to see some of our advertisements to know what can be done.

So, from the following descriptions, choose a film for your own particular requirements, and ask for it by name. By always using the same films you will quickly understand their properties, and will learn of their capabilities.

CAMERA SECTION



A typical subject for
HP3 roll film



A typical subject for
HPS roll film



SELOCHROME
30° Sch. 80 Weston

An orthochromatic film, specially designed for use with simple cameras, and fast enough to permit snapshots to be taken in reasonably bright daylight in summer time. Selochrome allows for varying conditions of lighting and can be relied upon to produce a good result every time.



FP3
29° Sch. 64 Weston

A panchromatic film, very slightly slower than Selochrome; FP3 is immensely popular because of its very fine grain, and its great ability to reproduce all the subtle tones to be found in portraits and landscapes. Particularly useful where subsequent enlargements may be required.



HP3
34° Sch. 200 Weston

HP3 is nearly four times the speed of FP3, and even with very inexpensive cameras, more subjects become "takeable" more often. For example, you can photograph until well into the evening, and then carry on taking night pictures out of doors, or indoors with flash and photoflood bulbs. With an HP3 film in your camera, you are ready for almost any type of snapshot.



HPS
37° Sch. 400 Weston

Faster and faster still. HPS is the fastest film in the world, and, therefore, we advise its use outdoors only when lighting conditions are really poor. It will produce good results when the weather is very dull, and will permit the shortest possible exposures to be given for both indoor and outdoor night subjects.

ILFORD MATERIALS

From these descriptions you will see that our four roll films of varying speeds now make snapshot photography possible all day long, and all the year round as well. Use the following table as a guide to the film to use for particular subjects and times :—

Subject	Summer	Winter
Faces and places in good daylight	Selochrome or FP3	HP3
Faces and places in dull light	HP3	HPS
Faces and places on a bright evening	HP3	—
Faces indoors with flash or photoflood bulbs	Selochrome or HP3	
Places outdoors at night	HP3 or HPS	

NOW ABOUT EXPOSURE

The amount of exposure which the film receives decides how the subject will appear on the print. For example, too little exposure produces a dull, blackish-looking print, with no detail in the shadows, and with too much exposure the print appears far too light, with little or no detail in the lightest areas. While Ilford films are renowned for their exposure latitude, which helps to allow for lighting variations, more consistent results will be obtained with simple cameras by reference to Ilford Exposure Tables. They are easily understood by those with a knowledge of the relationship between shutter speeds and lens apertures, and for those users of simple cameras (where no variable set-

CAMERA SECTION



A typical under-exposed negative



A typical correctly exposed negative



A typical over-exposed negative

tings can be made) they are easier still. Refer to the table for the film you are using ; if the *f*/number given for any particular combination of subject and lighting conditions is in the UN-SHADED area, then a good picture will be obtained.

Ask your dealer for a free copy of the Ilford Exposure Guide.

EXPOSURE METERS

Those who have cameras with variable lens apertures and shutter speeds can, using a photo-electric exposure meter, give just the required amount of exposure for each particular subject. The types we supply are described on page 19, and for users of these and other instruments, we give below the exposure meter settings for some of the Ilford materials most used in amateur photography:—

Material	ILFORD SCHEINER	B.S.I., and METERS	A.S.A., WESTON and G.E. METERS	
	Daylight	Tungsten	Daylight	Tungsten
Selochrome Roll Film	30°	27°	80	40
FP3 Roll Film	29°	28°	64	50
HP3 Roll Film	34°	33°	200	160
HPS Roll Film	37°	36°	400	320
Pan F 35 mm. Film	23°	21°	16	10
FP3 35 mm. Film	29°	28°	64	50
HP3 35 mm. Film	34°	33°	200	160
HPS 35 mm. Film	37°	36°	400	320
Selochrome Plate	30°	27°	80	40
FP4 Plate	30°	28°	80	50
S.G. Pan Plate	28°	26°	50	32
HP3 Plate	34°	33°	200	160
HPS Plate	37°	36°	400	320
Selochrome Flat Film	30°	27°	80	40
FP3 Flat Film	29°	28°	64	50
HP3 Flat Film	34°	33°	200	160
HPS Flat Film	37°	36°	400	320

35 mm. FILMS

During the last few years the 35 mm. camera has become immensely popular, chiefly due to the fact that comparatively inexpensive models (such as the Ilford Advocate, described on page 14) have become available. The 35 mm. worker is well catered for with the following films:—

Pan F. A film supplied only in 35 mm. size, of slow-to-medium speed and of extremely fine grain to allow for really big enlargements to be made. Used extensively by exhibition workers because of the excellent rendering it gives of portraits and landscapes.

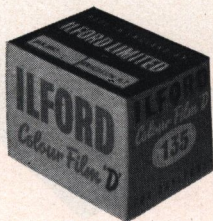
FP3, HP3, HPS. These emulsions have already been described on page 8, and the 35 mm. film versions are exactly the same. With the wide-aperture lenses used on 35 mm. cameras, HP3 and HPS offer exceptional opportunities for *snapshots* indoors after dark, theatre and circus work, and outdoor night photography too.

ILFORD COLOUR FILMS

Ilford Colour Film is available only in the 35 mm. size. It is used in the camera in exactly the same way as black and white film. Two types of film are supplied—for use in daylight and artificial light (known as "D" and "A"), and when you have exposed the film, it should be returned to Ilford Limited for processing.

ILFORD COLOUR PRINTS

From your transparencies, Ilford Colour Prints can be made at a cost of 10s. 0d. for four. Your dealer will give you details.



FLAT FILMS AND PLATES

For the worker who uses a stand camera employing flat films or plates, there is a wide range of materials for every requirement in photography. Many of our film emulsions are also supplied on plates, and photographic dealers will be only too pleased to give advice and information from their own comprehensive catalogues.

PRICES

Roll Films

Size	Selo-	FP3	HPS
	chrome	and HP3	
127	s. d. 2 8½	s. d. 2 11	s. d. 3 1
120 and 620	3 1	3 4	3 5
† 116 and 616	3 11	4 1	—
* 828	—	2 7	—

* Available in FP3 only.

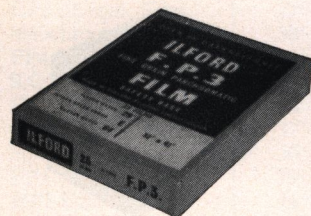
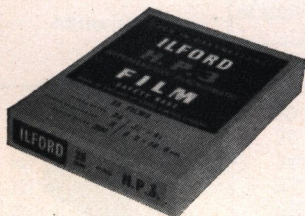
† Not available in FP3.

35 mm. Films

	Pan F, FP3, HP3	HPS
	36-exposure cassette	s. d. 8 3
36-exposure refill	4 8	5 8
Unspooled 5 m. length	12 8	—
Unspooled 10 m. length	23 7	26 1
Unspooled 30 m. length	67 4	74 4

35 mm. Colour Films

Colour films A and D
20-exposure cassettes 21s. 6d.
(including processing)



ILFORD ACCESSORIES

CAMERA SECTION

ILFORD ENVOY CAMERA

Price £2 1s. 8d.
Ever-ready Case 9s. 9d.

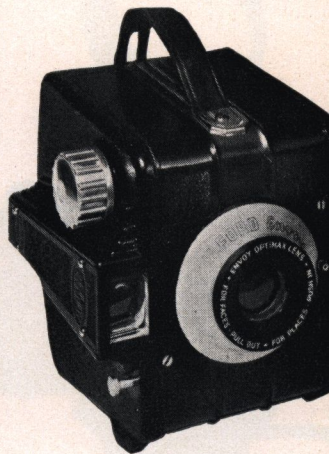
The Ilford Envoy Camera, which takes eight pictures, size $2\frac{1}{4} \times 3\frac{1}{4}$ in. on 120 or 620 films, satisfies all the requirements of the beginner in photography—young or old—by providing excellent snapshots for those with the minimum of photographic knowledge. It is designed to be simple in use and to give a good picture every time.

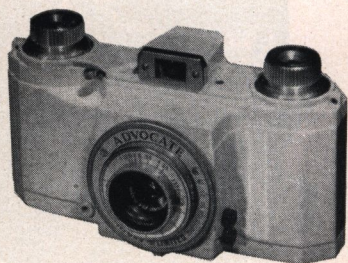
The shape allows comfortable eye-level handling, and the direct-vision viewfinder shows a really brilliant picture of the subject being taken. It is fitted with an Optimax lens which can be set for two positions of focusing; for close-up **FACES**, at a distance of 4 ft., the lens is pulled **OUT**, and for **PLACES**, or anything more than 4 ft. away, the lens is pushed **IN**. This is the only camera-setting movement required. When all is ready the snapshot is taken by a push-button shutter release. Loading and unloading the film is a very simple matter because the camera is in two separate parts, held together by a quick-release catch.

The Envoy is an "indoor" camera too. It is fitted with flash contacts which synchronise the shutter for use with flashbulbs so that, with one of the flash guns described on page 33, indoor snapshots are just as easily taken as those outside.

The camera is fitted with a carrying strap and an ever-ready case is available.

Our free booklet contains full details and instructions.



**ADVOCATE CAMERA, Series 2***Price £20 17s. 0d.*

The Advocate is a very versatile 35 mm. camera for those who take their photography seriously, and want to include a wide range of subjects. It uses 35 mm. film—black and white in cassettes of 36 exposures, and Ilford Colour Film in cassettes of 20 exposures.

The coated lens was specially designed for the camera by Dallmeyer, and is of aperture $f/3.5$ and focal length 3.5 cm. The wide aperture of the lens allows a very wide range of subjects to be taken, and the short focal length provides exceptional depth of field, making a rangefinder unnecessary. The shutter has settings for "B" (brief time), 1/25, 1/50, 1/100, 1/150 and 1/200th second, and the action of winding-on the film automatically sets the shutter for the next picture.

The lens can be focused at any distance from 3 ft. to infinity, a direct vision viewfinder showing a clear and accurate view of the amount of subject included.

For interior work, the standard Advocate is fitted with flash contacts which synchronise the shutter for use with flashbulbs, or a special model can be supplied at the same cost for use with electronic flash. A flash connector is supplied.

The Advocate is attractively finished in stoved ivory enamel, and all the metal parts are of bright metal finish. It measures, overall, $5 \times 2\frac{1}{4} \times 2\frac{3}{8}$ in. high and, in its leather case, weighs only 18 ounces.

EVER-READY CASE*Price £3 9s. 6d.*

Made from leather, to keep the camera clean, and to protect it from accidental knocks. Two filters can be carried in the lid.

ILFORD ACCESSORIES

CAMERA
SECTION

ADVOCATE ACCESSORIES

Filter Mount—For holding colour filters in front of the Advocate Lens. (Filters on page 16.)

Price 12s. 6d.

Lens Hood—Keeps unwanted light from the lens. Particularly useful for indoor work with photoflood lamps and outdoors for "against the light" subjects.

Price 12s. 6d.

Combined Lens Hood and Filter Mount—An assembly combining the functions of the two preceding items.

Price £1 5s. 0d.

Supplementary Lens—Allows pictures of objects only 12-16 in. away from the lens to be taken.

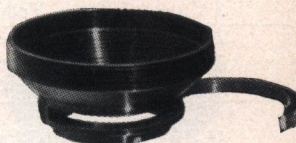
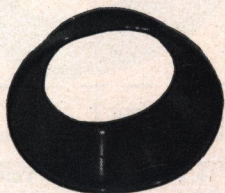
Price 19s. 6d.

Lens Cap—To protect the lens when the camera is not in use.

Price 5s. 3d.

Flash Lead—A lead for connecting the camera to a flash gun for indoor pictures.

Price 6s. 11d.



DURAPLAN COLOUR FILTERS

Duraplan colour filters are specially selected *dyed-in-the-mass* glass filters, for all general photography. They are available in a range of 10 colours as listed below.

Note.—Where colour filters are required for technical and scientific purposes, Ilford Colour Filters (gelatin or cemented gelatin) should be used. Details on application.

Duraplan Colour Filter No.	Colour
1½.Y	Yellow
2.Y	Yellow
3.Y	Yellow
2.G	Green
3.G	Green
2.YG	Yellow-Green
1½.B	Blue
5.O	Orange
8.R	Red
1½.UV	—

Factor		Uses
Ortho	Pan	
2	1½	Three filters of increasing density for providing contrast between sky and cloud
3	2	
4	3	
3	2	General correction filters for outdoor portraits and landscapes
4	3	
4	2	
—	1½	Correction filter for portraits on panchromatic film by tungsten light
—	5	Gives strong contrast between sky and cloud
—	8	Gives extreme contrast between sky and cloud
1½	1½	Ultra-violet absorbing filter for snow and high altitude scenes

SIZES & PRICES

Diameter, mm.	Price
19	s. d. 4 10
21	4 10
22	4 10
24	7 4
25	6 3
26	6 3
28	6 3
28.5	8 4
29	8 4

Diameter, mm.	Price
31	s. d. 7 4
32	8 4
33	7 4
35	7 4
36	10 9
37.5	10 9
38	8 4
38.5	8 4
41	10 9

ILFORD ACCESSORIES

CAMERA SECTION

FILTER MOUNTS

Filter mounts are used to hold colour filters in front of the camera lens, and are supplied to fit most lenses. The exact *outside* diameter of the lens mount, in millimetres, should be stated when ordering.

DURAFIT FILTER MOUNT

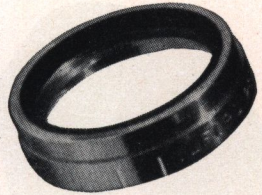
Made from duralumin, and with it, the Durafit Lens Hood (described on page 18), of the same diameter may be used. Filters are held by a screw retaining ring, and the mount is notched so that lens mount markings can be seen. Sizes from 23 to 42 mm. diameter.

ILFORD STANDARD MOUNT

A push-on mount held in place by spring arms which grip the lens barrel. The front component unscrews so that filters may be changed. Supplied in sizes from 19 mm. upwards. Finished in black cellulose.

ILFORD "S" TYPE MOUNT

On this mount, the rear portion fits on to the lens barrel, and the front portion is made to the same size as the barrel, so that a lens hood may also be used. The filter is held by a spring circlip. Supplied in sizes from 19 mm. upwards. Finished in black cellulose.



SIZES AND PRICES	Size	DURAFIT	ILFORD STANDARD	ILFORD "
	mm.		s. d	s. d.
	19 to 38	All sizes	12 2	—
	44 and 51	from 23 to	10 0	—
	19 to 28.5	42 mm.	—	6 11
	29 to 32	7s. 3d.	—	7 8
	36 to 38		—	8 4
	42		—	9 0

LENS HOODS

Relatively few amateurs trouble to use a lens hood, yet in a great many instances its employment would result in greatly improved pictures. It should be used in all cases where it is necessary to shield the sun, or any interior light source, from shining directly into the camera lens.

DURAFIT LENS HOODS

Price, all sizes, 5s. 7d.

Durafit lens hoods are made of duralumin, with a turned outside finish and a matt black interior. They are designed for lenses of normal focal length, and the flanges are notched so that lens mount markings are not obscured. Supplied in sizes 23, 24, 25, 27, 28.5, 29, 30, 31, 32, 33, 36, 37 and 42 mm.

DURAPLAN SUPPLEMENTARY LENSES

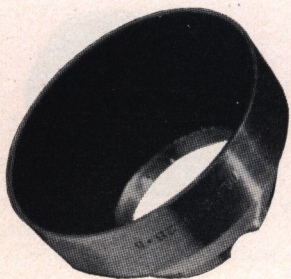
Price, all sizes, 5s. 7d.

These supplementary lenses, which are used over the normal camera lens, enable close-up pictures to be made with the subjects at only inches distance from the camera. Three different lenses are available, approximately 1, 2 and 3 diopters in power, and full details for use, together with a focusing table, are packed with each lens. These lenses are designed for use in the Durafit Filter Mounts described on page 17. Supplied in sizes 19, 21, 22, 25, 28, 31, 33, 35, 38, 38.5 and 41 mm.

LENS CLEANING TISSUE

Price, per book, 4j.

A special soft tissue for cleaning the lenses on cameras and enlargers. Supplied in booklets of 10 sheets, size 3×4 in.



Close-up portraits like this need a supplementary lens on cameras with fixed focus lenses

ILFORD ACCESSORIES

CAMERA SECTION

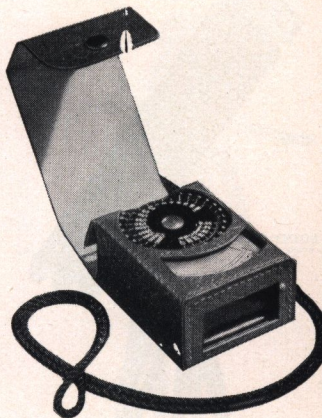
PHOTO-ELECTRIC EXPOSURE METERS

A photo-electric exposure meter removes all doubts concerning exposure times for both black-and-white and colour photography. When using a meter for the first time, test exposures should be made so that the meter readings can be related to the shutter speeds of the camera. It may be necessary to modify the readings with a particular camera to obtain the required negative quality.

ILFORD MODEL C

Price £7 13s. 7d.

An easy to use, and extremely efficient meter for both outdoor and indoor subjects. Only one "setting" operation is required, and the necessary exposure can then be read off in terms of shutter speeds and lens apertures. Conversion tables enable this meter to be used also for indoor photography by artificial light. An ever-ready leather case costs 11s. 1d.



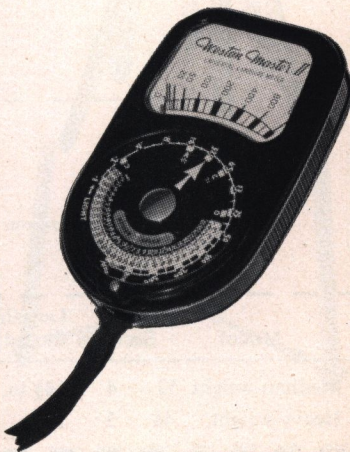
WESTON MASTER II

Price £10 18s. 3d.

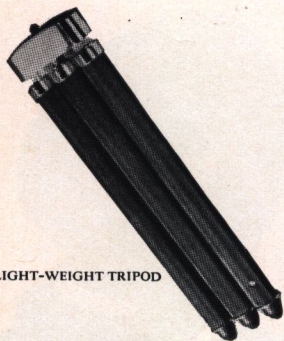
A highly sensitive meter with scales for both high and low intensities of light. For normal outdoor photography the photo-cell is covered, but for use in dull weather, and in artificial light, the baffle folds back to uncover the cell.

Exposures are calculated on the Weston film speed numbers, and the exposure dial allows for exposure times from 1/1200th to 90 sec. An ever-ready leather case costs £1 5s. 0d.

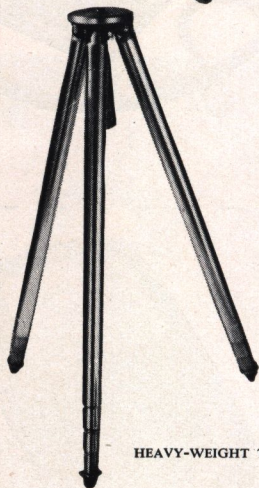
For the serious colour worker and those who wish to make incident light readings, the Invercone Attachment is available, price £1 6s. 5d.



CAMERA SECTION



LIGHT-WEIGHT TRIPOD



HEAVY-WEIGHT TRIPOD

Model	Sections	Length closed
Medium-weight, 52	4	14½ in.
Heavy-weight, 46	3	19 in.

ILFORD LIMITED

ILFORD ACCESSORIES

TRIPODS

A tripod should be used whenever circumstances allow, particularly when pin-sharp enlargements are required from small negatives. Make your choice carefully, bearing in mind the weight of your camera, the weight of the tripod, and the sort of work for which the tripod is required.

LIGHT-WEIGHT TRIPODS (Model 47)

These tripods are light in weight, and the sections telescope to form a compact carrying unit. They are suitable for small cameras. The feet have metal spikes for use in soft ground, which are normally covered with rubber caps for use on polished floors. The head is flat, with a reversible English/Continental tripod thread.

Model	Length closed	Height erected	Price
4-section	13¾ in.	46½ in.	£ 3 5 10
5-section	11⅞ in.	45½ in.	3 17 2
7-section	9¼ in.	47¼ in.	4 11 9

MEDIUM- AND HEAVY-WEIGHT TRIPODS

These are of much heavier construction. They are made of brass, satin-chrome plated, and the telescopic legs are locked and unlocked by a half-turn twist in relation to the tube above. They are fitted with spiked, rubber-capped feet.

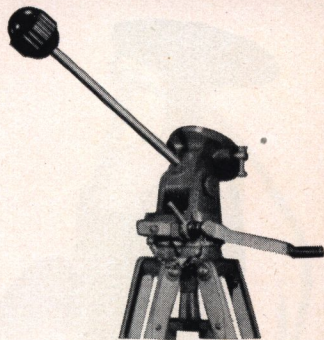
Height erected	Weight	Head	Price
45 in.	22 oz.	E & C	£ 5 0 9
50 in.	35 oz.	E	6 5 1

ILFORD · LONDON

ILFORD ACCESSORIES**CAMERA
SECTION****M.P.P. TRIPOD***Price £6. 6s. 0d.*

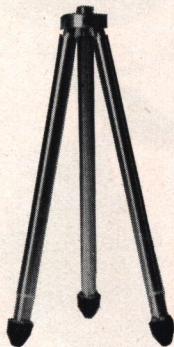
An extremely rigid tripod for both still and cine cameras. Fully erected, the head is 57 in. high, and the whole unit may be collapsed to 34 in., for storage and transport. The upper limbs are of wood, and the lower, tubular legs are adjustable for height.

A separate pan and tilt head unit is available, on which slow panning for cine work can be controlled by a winding arm. Price £7 14s. 0d.

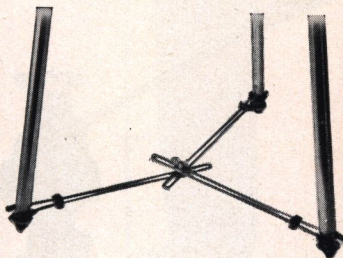
**TABLE TRIPOD. Model 53***Price £2 15s. 7d*

A small two-section telescopic tripod ideally suitable for indoor photography. It is fitted with rubber feet, and thus can be stood on furniture as a camera support for table-top work and indoor portraiture.

It is made of satin-chromed brass, and has both English and Continental bushes. The length closed is 8 in., and the height extended 13 in.

**TRIPOD BRACING
ATTACHMENT***Price 16s. 8d.*

Even using spikes on soft ground, and rubber caps on polished surfaces, there is often a tendency for a tripod to slip. This accessory holds the three legs absolutely rigid. Three adjustable sections are held at one end by a wing nut, and the other ends are fixed to the tripod legs by spring clips. The closed length is only 10 in.





ENVOY BALL AND SOCKET HEAD

Price 18s. 9d.

For special effects it will often be found necessary to tilt the camera—upwards, sideways or downwards—and it is not always easy to do this by adjustment of the tripod legs. Much greater and finer control will be obtained with a ball and socket head, which allows the camera to be positioned to any angle, and firmly fixed by a thumb-screw. Sufficient movement is available to allow cameras to be moved from the horizontal to the upright position.

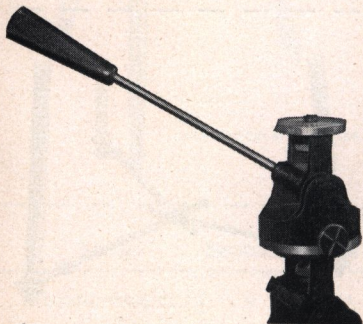
This Envoy model is light in weight, and has a ball joint 1 in. in diameter. It is fitted with an English tripod thread.



TRIPOD HEAD

Price £1 9s. 2d.

A high quality ball and socket head which matches the finish of high-grade miniature cameras, for use with the medium- and heavy-weight tripods described on page 20. It is rigidly constructed of satin-chromed brass, the top plate having an English thread, and the base Continental.



PAN AND TILT HEAD

Price £5 14s. 8d.

For those who need the maximum controllable camera movements, this pan and tilt head supplies them, for both cine and still photography. Full movements of 90° vertical and 360° horizontal are possible, and the head can be locked for absolute rigidity.

It is made of brass, finished in satin-chrome and black crackle enamel, and is specially recommended for use with our heavy-weight tripods described on page 20.

BODY TRIPOD*Price £1 9s. 2d.*

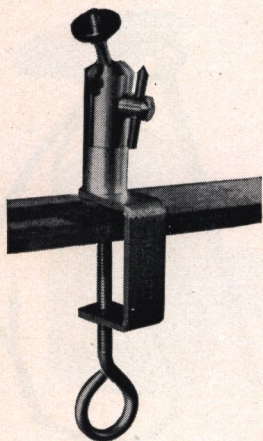
Another form of camera support when giving short time exposures at either waist- or eye-level. It consists of a stout neck-cord and a two-section column ; with the cord round the neck, the camera is placed on the (English) thread screw, and the camera adjusted for height by means of the two-section column. By holding the camera and column, and bearing downwards against the neck-cord, exposures of the order of $\frac{1}{2}$ to 1 sec. may be made without movement. This support is also threaded at the bottom (Continental) so that it may be used on top of a conventional tripod when extra height is required. The length closed is $8\frac{1}{4}$ in. and extended $14\frac{1}{4}$ in.

**UNIPOD***Price £2 10s. 0d.*

Provides a convenient eye-level support for cameras on the occasions, such as in crowds, when space does not allow the use of a tripod. Collapsed, the length is 24 in. and the three sections can be extended to any height up to 61 in., a half-turn movement locking the tubes. The black plastic top unscrews, revealing an English tripod screw. The lower end has a spike, fitted with a detachable rubber cap.

**TRIPOD BUSH ADAPTER***Price 7d.*

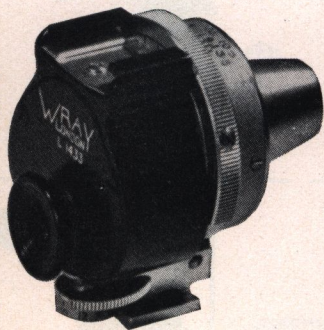
An adapter for converting a camera bush with Continental thread to the English size, or an English threaded tripod for use with a Continental camera bush. It is made from nickel-plated brass.



JUNIOR CAMERA CLAMP

Price 15s. 8d.

A small, very useful device, which can often be used as a substitute for a tripod. It consists of a simple "G" clamp, to which is fitted a pillar which may be rotated horizontally, and a ball and socket head which may be tilted up to about 130° from the vertical. The clamp can be fixed, by a thumbscrew, to any support up to 1½ in. in thickness (such as the top of a chair, or a gate, etc.), and the camera is then fixed to an English size tripod thread. A single, finger-operated screw locks the camera in any desired position. The top section may be detached for use as a ball and socket head on an ordinary tripod.

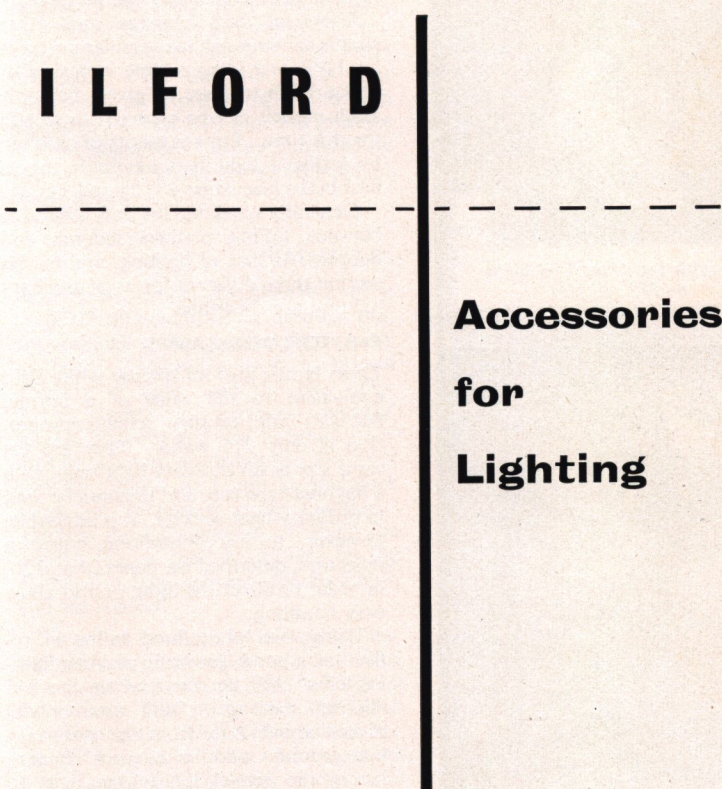


WRAY UNIVERSAL VIEWFINDER

Price £22 3s. 2d.

A universal viewfinder for those miniature cameras on which interchangeable lenses are used. Provision is made for the different fields covered by the normal range of lenses and adjustment for parallax can be made for varying distances, the marking for this being in either feet or metres as desired. This viewfinder fits into the accessory shoe of the camera, and is itself provided with a shoe for additional accessories. Two models are supplied, for Leica type or Contax type cameras.

I L F O R D



**Accessories
for
Lighting**



Taken with two photoflood bulbs
on FP3 roll film



Taken with four photoflood bulbs
on HP3 roll film

TAKING PICTURES INDOORS

Today, with HPS films, snapshots can be taken indoors at night by the normal room lighting providing the camera has an $f/4.5$ lens. With a 100-watt lamp in the ceiling light and another 100-watt lamp in a table lamp near the model, exposures of $1/25$ th sec. can be given.

Users of box cameras and other simple cameras can take similar portraits on HPS providing a time exposure of about $1/5$ th to $\frac{1}{2}$ sec. is given, but only adult models can be expected to sit still for this time. For snapshots of children by artificial light it is advisable to use flashbulbs (see pages 27, 28 and 32).

Generally speaking, the only difference between taking pictures indoors and outdoors is that of lighting, and in this section three different forms of auxiliary lighting are described.

PHOTOFLOOD LAMPS

These lamps give an intense white light equivalent to the value of a normal 800 watt bulb, yet their actual consumption is only 275 watts. They are the same size as an ordinary light bulb, with a bayonet-type cap, and thus can be used in ordinary light sockets. It is advisable, however, to use photoflood bulbs in reflectors, described on pages 29 and 30, in order to direct the light, and to allow easy handling.

Using two photoflood bulbs in reflectors, a good, generally pleasing lighting effect will be obtained by the "45 degree" method. With your model placed about 2 ft. from the wall as a background, and with your camera facing the model, place one light to the right of the camera, positioned at about 45° between yourself and the wall—at about 3 ft. from the subject and at a height of about 12 in. to 18 in. above the level of the model's

ILFORD MATERIALS

eyes. This provides the main light, but some slight adjustment may have to be made for deep-set eyes. The second light should be used only as a "fill-in," to lighten the shadows in the subject's clothes, etc., and could be placed slightly to the *left*, and very near to, the camera position. This light should be *at least* 5 ft. away from the subject, so that the shadows thrown by the first light are not "killed," but only softened. With the two lights thus positioned, an exposure of 1/50th of a second at *f*/4.5 on HP3 film will produce a good negative. Further information will be found in the Ilford Manual of Photography.

FLASHBULBS

Flashbulbs, which are available in a range of different sizes for amateur use, are designed to be operated from a dry battery. Flashbulbs give a known quantity of light, and the two other factors affecting exposure—namely, camera distance and lens aperture—can thus be adjusted accordingly. For each type of film a flashbulb is therefore given an "exposure guide number," which is the "*f*" number at which the camera lens is used multiplied by the distance in feet between the flashbulb and the subject.

To give an example, let us suppose that a portrait is to be taken indoors with a box camera (aperture *f*/11) on Ilford Selochrome film using a Philips PF.1 (Capless) bulb. The guide number for the PF.1 bulb with Selochrome is 90 (see page 34). The lens aperture is known to be 11, so this is divided into the guide number (90), which gives approximately eight. The distance of the

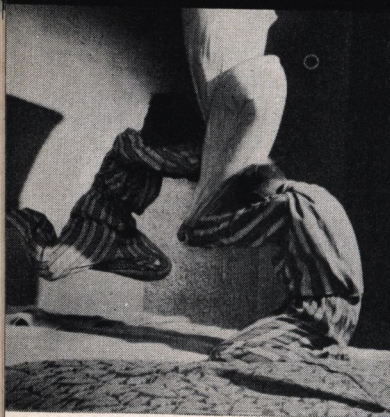
LIGHTING SECTION



Flash picture at the circus on HP3 roll film



Flash picture taken with two bulbs, one as a "fill-in" on HP3 roll film



An electronic flash picture on
HPS roll film



An electronic flash picture on
HP3 roll film

camera and flashbulb from the model must therefore be 8 ft. to produce a good negative in these circumstances. If, on a different camera, the aperture used was $f/22$, then by dividing 22 into 90, we get a distance of 4 ft.

Flashbulbs can be used in two ways. With simple cameras, using the "open flash" technique described on page 32, only a simple bulb-holder and battery firing device (such as that described on page 32) are necessary. Many cameras today (the Advocate and the Envoy are among them) are, however, fitted with synchronised shutter contacts for use with flash "guns." With these, a bulb is fitted in the gun, and a connection made to the camera; when all is ready, the shutter release is pressed, and while the camera lens is open, the bulb is automatically fired. We shall be pleased to supply you with further information on flash photography. Flashbulbs, prices and guide numbers are shown on page 34.

ELECTRONIC FLASH

Electronic flash units consist of a flash "tube" in which an electrical discharge takes place. There is no foil or wire (as in flashbulbs) to be consumed, and the tube can therefore be flashed repeatedly. Electronic flash units are operated from dry batteries, as in the units described on page 36. An average tube is rated at 100 joules, but both smaller and larger tubes are available. A typical 100-joule tube gives a total light output which corresponds closely with the output of the smallest flashbulbs.

ILFORD ACCESSORIES**LIGHTING
SECTION****JUNIOR FLOOD LIGHTING UNIT***Price £1 7s. 6d.*

A lighting set of solid construction for lasting use. The metal reflector (10 in. diameter) has an anodised matt reflecting surface and the base is of strip metal. Supplied with flex and a bayonet-type lamp holder.

It will be found that using lights on supports makes for easier and more accurate positioning. For this unit we can supply a two-section telescopic stand on a folding tripod base, which has a universal clamp on the top of the column for positioning the reflector. The height of the reflector can then be varied between $37\frac{1}{2}$ and 72 in. The stand, separately, costs £1 16s. 0d.

A special Stand Model, comprising reflector and two-section stand is available for £2 6s. 6d. With this model the small triangular metal base is not supplied.

**DURALIGHT LIGHTING UNIT***Price £3 17s. 6d.*

A small but versatile lighting unit for use with photoflood lamps. It consists of a 10-in. spun aluminium reflector, lacquered on the outside and with a matt finish on the inside, with a B.C. type lamp holder.

The reflector is fitted to an 18-in. extension arm, which, in turn, is fixed by means of a universal clamp to the top of the tripod stand. The extension arm makes a wide range of reflector positions possible from near floor level up to a height of about 6 ft.

The stand has a single extension draw tube, and the feet can be folded for carrying or storage.





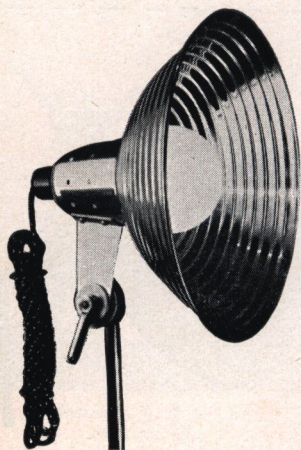
JUNIOR STUDIO LIGHT

This is a "de luxe" unit for the serious worker. Three variations are available, which allow for all portrait and general indoor photography requirements.

STANDARD MODEL

Price £7 10s. 0d.

A 10-in. diameter aluminium reflector is detachable, enabling the head unit to be used separately, if required, as a hand-held light. A chromium plated two-section telescopic column is fitted on a tripod base, allowing a maximum reflector height of 8 ft. For storing, the stand collapses to 38 in. At the top of the telescopic column is a universal clamp which holds the reflector support and allows the reflector to be positioned to any angle. Supplied with flex and bayonet-type lamp-holder.



BOOM MODEL

Price £7 18s. 6d.

Particularly for overhead lighting positions, a 46-in. long Boom is available which fits into the clamp. The Boom Model consists of the stand, the universal clamp, and the reflector, but the reflector support is replaced by the Boom. As an addition to the Standard Model, the Boom can be supplied separately, price £1 10s. 0d.

E.S. MODEL

Price £7 0s. 0d.

Has a larger reflector and takes lamps with E.S. caps. This reflector gives a flood of light, and is supplied with the telescopic stand and base. This reflector cannot be used with the Boom, but takes the more powerful Series 2 or Series B photoflood lamps. As an alternative addition to the Standard Model, the large reflector can be supplied separately, price £2 0s. 0d.

ILFORD ACCESSORIES

PHOTOFLOOD LAMPS

High efficiency lamps which give an intense light for all indoor photography. The life of the lamp is necessarily limited, as detailed below. For indoor colour photography the colour temperature of photoflood lamps should be rated at 3,400°K and the Photopearl at 3,200°K. The following three types are supplied :—

Type	Watts
Photoflood Series 1	275
Photoflood Series 2	500
Photopearl Type B	500

PHILIPS REFLECTOR LAMPS

These lamps are designed for use without reflectors, and are ideal for home use, particularly when equipment is transported from one place to another. The half of the lamp nearest to the cap is internally coated to form an untarnishable internal reflector.

REFLECTOR FLOODLIGHT

Price 18s. 9d.

Provides a wide cone of even illumination. E.S. caps only, 150 watts.

REFLECTOR SPOTLIGHTS

Prices Type R, 18s. 9d. Type G, £1 2s. 5d.

These lamps give a concentrated beam of light, Type G giving a narrower beam than Type R. E.S. caps only, 150 watts.

REFLECTOR PHOTOFLOODS

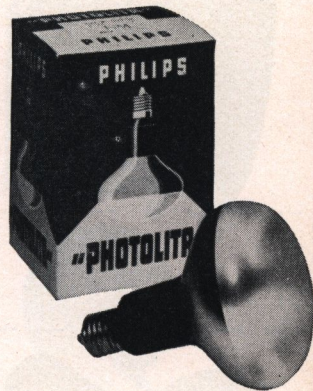
Two high-efficiency photoflood lamps giving a wide even spread of light. Two types are supplied :—

Type	Watts	Volts
SM	275	Supplied in all voltages
NM	500	

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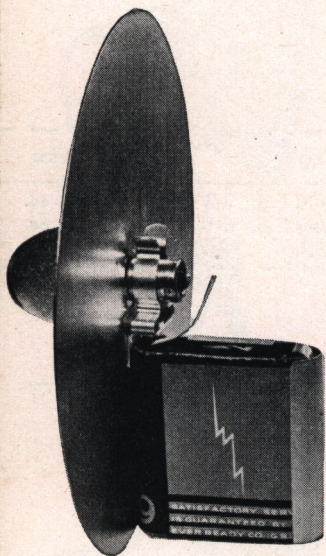
LIGHTING SECTION

Cap	Average life	Price
B.C. and E.S.	2-3 hours	2s. 6d.
B.C. and E.S.	6-10 hours	6s. 6d.
E.S.	100 hours	£1 2s. 0d.



Cap	Average life	Price
B.C. and E.S.	3 hours	13s. 0d.
B.C. and E.S.	6 hours	£1 2s. 0d.

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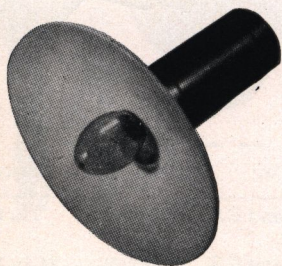
OPEN FLASH PHOTOGRAPHY

The "open flash" technique can be used with any camera having a "T" or "B" shutter setting, and is particularly useful for those cameras which do not have synchronised flash contacts. Having chosen the appropriate bulb for the lens aperture in use ($f/11$ is suited to most box cameras), place the camera at a calculated distance (see pages 27 and 28 for details of indoor work with Selo-chrome Film) and set the camera shutter to "T" or "B". The camera should be fixed firmly so that it will not move while the flash exposure is made. One hand should now be used to work the shutter, and the other hand to fire the bulb. The procedure is as follows: 1. Open the shutter. 2. Fire the bulb. 3. Close the shutter. With a little practice the shutter remains open for about $\frac{1}{4}$ sec. only while the bulb is fired.

OPEN FLASH HOLDER

Price 4s. 6d.

A 7 in. diameter metal reflector with a bulb-holder and a bracket for holding a flat, 4.5-volt torch battery. With one battery terminal in contact with the metal holder, the other terminal is used to fire the bulb. Supplied for use with bulbs having ASCC caps only.



JUNIOR FLASH GUN

Price 6s. 6d.

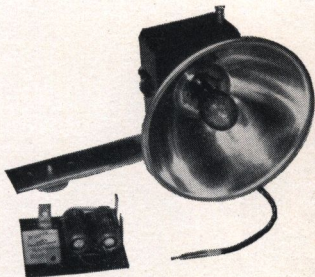
This model has a black plastics battery case, a white reflector, and a diffusing cover. The battery is pressed through a hole in the base, and the terminals on battery and bulb are touched together to fire the bulbs. This gun uses the G.E.C. BA 6115 Photoflash Cell, price 9d. For use with bulbs having ASCC caps.

ILFORD ACCESSORIES**LIGHTING
SECTION****SYNCHRONISED FLASH
PHOTOGRAPHY**

Synchronised flash photography can be done when the camera is fitted with shutter "contacts," and a bulb-firing device is used which synchronises the flash of the bulb with the opening of the shutter. Three types of "gun" are available. Batteries are not supplied.

ENVOY "MINOR" GUN*Price £1 2s. 11d*

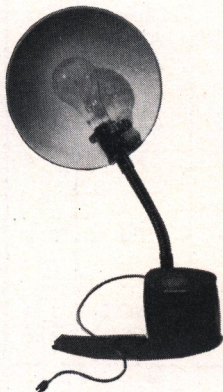
An inexpensive unit, with a 5 in. aluminium reflector using a 4.5-volt torch battery to fire the bulb. The type of camera-connection lead required, i.e., Compur, B.S.S. or Ilford should be stated when ordering. Takes only bulbs with ASCC caps. May also be used for "open-flash" work.

**ENVOY "MAJOR" GUN***Price £1 12s. 0d.*

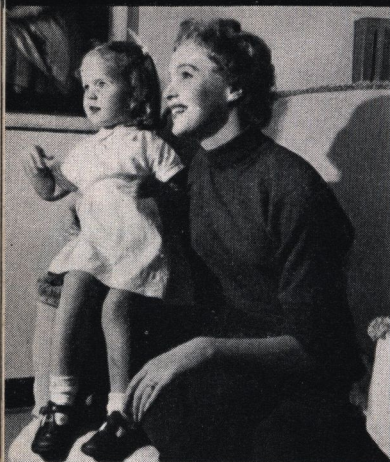
Similar to the above, but using the battery capacitor system with a 22.5-volt battery. Takes only bulbs with ASCC caps. May also be used for "open-flash" work.

ENVOY "ZING" GUN*Price £6 5s. 2d.*

A gun working on the battery capacitor system, using a 30-volt battery which will fire thousands of flashbulbs. The anodised reflector provides a good spread of light, and may be removed from the flexible "neck" for storing. This gun takes bulbs with ES and ASCC caps, and provision is made for connecting two extension units so that two or three bulbs can be used simultaneously. A battery is not supplied, and flash leads are extra. Extension units, consisting of a reflector, bulb-holder and clamp are available, price £2 1s. 8d. each.



LIGHTING SECTION



Flash picture taken with
HP3 roll film

Bulb	Cap	Price		Pan F film
		s.	d.	
<i>Class M</i>				
PF.1	Capless	8		45
No. 1	Capless	8		45
PF.14	ASCC	1 0		56
No. 5	ASCC	1 1		64
PF.25	ASCC	1 1		72
PF.38	ES	1 6		100
No. 22	ES	1 8		125
PF.60	ES	1 8		140
<i>Class S</i>				
PF.100	ES	2 6		180
<i>Class FP</i>				
PF.24	ASCC	1 5		45
PF.45	ES	1 10		56

For prices of blue bulbs used with

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ILFORD ACCESSORIES

FLASHBULBS

Ilford Limited can supply all the various PHILIPS "PHOTOFLUX," G.E.C. and B.T.H. flashbulbs through your dealer.

PHILIPS CAPLESS BULB ADAPTER

Price: 1s. 6d.

An adapter made by Philips can be supplied to hold capless bulbs in flash equipment accommodating bulbs with ASCC caps.

BULBS FOR BLACK AND WHITE WORK INDOORS

The exposure guide numbers given below for Ilford Films are recommended for "open flash" or for synchro-flash with a shutter speed which uses all the light of the bulb (usually 1/25th sec.).

N.B.—Guide numbers for the Class FP bulbs in the table below are for use with focal-plane shutters at 1/50th sec. only.

Selo- chrome film	FP3 film	HP3 film	HPS film
90	100	180	250
90	100	180	250
112	125	225	320
125	140	250	360
140	160	280	400
200	225	400	560
250	280	500	720
280	320	560	800
360	400	720	1,000
90	100	180	250
112	125	225	320

Ilford Colour Film, see page 35.

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ILFORD MATERIALS

LIGHTING SECTION

ARTIFICIAL LIGHT EXPOSURES WITH ILFORD COLOUR FILMS

Colour photographs can be taken indoors by artificial light on either Type A or Type D Ilford Colour Film, provided that the appropriate light source and filter (where necessary) are used.

USING FLASHBULBS

Both films, A and D, may be used for flashbulb exposures. Colour Film A should be used with *clear* flashbulbs and an Ilford Filter No. 171 over the camera lens. Colour Film D may be used with blue-tinted flashbulbs without a filter.

In the tables on the right are suggested guide numbers for both films with the two different types of flashbulbs.

USING PHOTOFLOODS

With photoflood lamps, Colour Film A should be used without a filter over the camera lens. A table of exposure recommendations is included with each film, and meter settings are as follows:—

Ilford Meter —25°

Weston Meter—12.

USING ELECTRONIC FLASH

Ilford Colour Film D is recommended, using Ilford "Q" Filter No. 805 over the camera lens. Suggested guide numbers are as follows:—

35-joule outfit—10

50-joule outfit—12

100-joule outfit—20

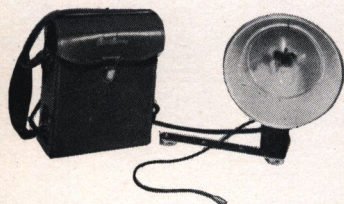
150-joule outfit—25

200-joule outfit—28

FLASHBULB GUIDE NUMBERS

For open-flash, or synchro-flash at 1/25th second, using a shallow matt reflector.

Clear bulbs	Ilford Colour Film A with No. 171 filter	Price
<i>Class M</i>		<i>s. d.</i>
PF.1	18	8
No. 1	18	8
PF.14	22	1 0
No. 5	32	1 1
PF.25	28	1 1
PF.38	40	1 6
PF.60	56	1 8
No. 22	56	1 8
<i>Class S</i>		
PF.100	72	2 5
<i>Class FP</i>		
PF.24	28	1 5
PF.45	45	1 10
Blue bulbs	Ilford Colour Film D without filter	Price
<i>Class M</i>		<i>s. d.</i>
PF.1/97	14	10
No. 1B	14	10
PF.25/97	25	1 3
No. 5B	25	1 3
PF.60/97	45	1 10
No. 22B	45	1 10
<i>Class S</i>		
PF.100/97	50	2 9
<i>Class FP</i>		
PF.24/97	22	1 7
PF.45/97	32	2 0



**ELECTRONIC FLASH
PHOTOGRAPHY**

With electronic flash guns, the flash duration is usually at least 1/1000th of a second which allows high-speed action subjects to be taken. The models described below are of different powers represented in terms of joules.

COURTENAY "CUB"

Price without battery £15 15s. 0d.

Has an output of 35 joules, provided by a 240-volt dry battery which gives some 1,500 flashes. The weight is 4 lbs., and overall measurements 7×5×2 in. Recharging between flashes takes only 6-8 seconds, and a neon indicator shows when the tube is ready for firing.



COURTENAY "LITEPAK"

Price without battery £21 6s. 4d.

A larger outfit, with an output of either 100 joules or 50 joules according to requirements, operated from a 480-volt battery which will give some 1,500 flashes. Provision is made for using two flash heads, which fire at similar level and in synchronisation. A neon indicator shows when the tube is ready for firing.



COURTENAY "COURIER" MARK II

Prices with Powalite head £30 9s. 0d.

with Maxlite head £41 19s. 9d.

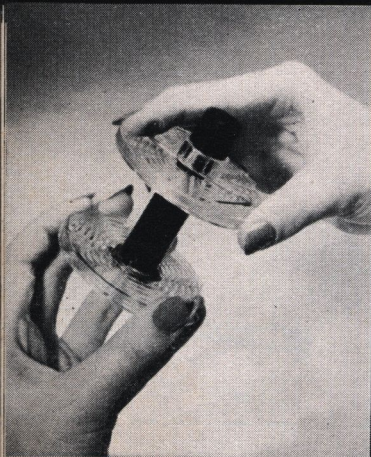
This unit is similar in many respects to the "Litepak," but has an adjustable output of 50, 100 or 150 joules. It is operated from a 480-volt battery giving approximately 2,000 flashes. Provision is made for firing two flash heads together, and either "Powalite" or "Maxlite" heads can be supplied.

Complete information on Courtenay electronic flash guns will be supplied on request.

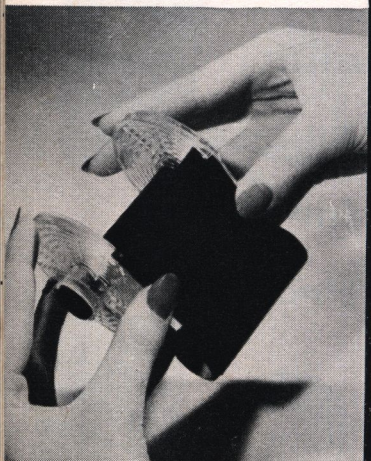
I L F O R D



**Materials
and
Accessories
for
Processing**



Loading a roll film tank
(a) Adjusting the spool to the size
of the film



Loading a roll film tank
(b) Introducing the film

THE HOME DARKROOM

For easy and comfortable working at home it is an advantage to be able to use a small spare room as a permanent darkroom, or even to build a cupboard darkroom under the stairs. But if conditions do not allow this, then some other room in the house can be quickly converted. For example, the kitchen or the bathroom are ideal, with the added advantage that running water is available for washing purposes.

Wherever you decide to work, it is absolutely essential that the room be completely light-proof. The blacking-out of windows is quite simply done by making frames the size of the window area and covering them with some opaque material. They can be held in position by small turn-buttons. It cannot be too strongly emphasised that the room should be absolutely dark, for even a very small amount of weak daylight will fog a roll film. Make a test by placing the black-out screen in position and then turn off the room light. Wait a few minutes for your eyes to become accustomed to the darkness, and then note any chinks of light from around the door, or from wall ventilators, etc. Draught excluder material will usually make the door-surround quite light-proof.

Regarding the layout of the home darkroom, this matter is extensively covered in Chapter 7 of the Ilford Manual of Photography. Of course, much will depend on particular conditions, but generally speaking the room should be divided into two sections—wet and dry. One bench or table should be kept solely for the handling of dry materials—for loading films into a tank, or for cutting and handling printing

ILFORD MATERIALS

papers. All operations involving the use of solutions should be done as far from the "dry" bench as is conveniently possible so that splashing cannot occur. In the kitchen or the bathroom it is a good plan to do all processing near the sink or over the bath. Incidentally, although running water is an advantage, it is by no means essential, for the washing of films and prints can always be done away from the darkroom.

DEVELOPMENT OF FILMS AND PLATES

In the early days of photography, development was a highly skilled occupation. Each photographer prepared his own, often secret, solutions, and every effort had to be made to produce a negative that would provide a good print. It must be remembered that in those days only one sort of printing paper was available and therefore the negative had to be specially made to suit that paper.

Today, because of the great advances made in photographic emulsions and developers, development is a simple, straightforward process. By following the processing instructions issued by Ilford Limited, perfect negatives can be produced with Ilford Films even by beginners in photography.

The process is easily understood. When a film is exposed in the camera, the emulsion is *affected* by light, but no visible change occurs. Different parts of the film are affected in proportion to the different amounts of light action. When this exposed film is placed in a "developer," the developer acts on those grains of silver bromide that have been affected by light, and converts them into black metallic silver. Hence the black

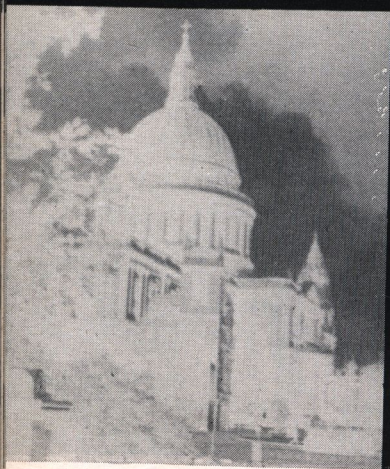
PROCESSING SECTION



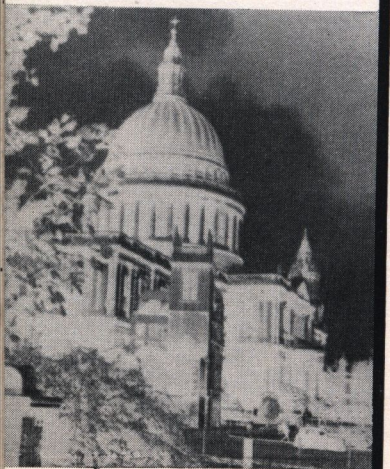
Loading a roll film tank
(c) Easing the film into the spool with the thumbs



Loading a roll film tank
(d) Feeding the film into the spool by pushing the free end



Under-developed negative



Slightly under-developed negative

appearance of a negative. Where there was a lot of light action, as for example in the case of a lady wearing a white dress, there will be a lot of blackness, and where there was little or no light action (in the shadows of the subject) there will be almost clear film. The tones in the original subject are thus recorded in a reversed or "negative" form, and these tones, when reversed again in printing, give a correct or "positive" rendering. After the film has been developed, it must then be "fixed" to remove those grains in the emulsion which were *not* affected by light.

If both the exposure and the development times have been correct, then the range of different "brightnesses" in the original subject will be reproduced almost exactly as a range of different "blacknesses," or densities, on the negative.

There is, therefore, a correct amount of development for a particular film. The amount of development is dependent upon :—

(a) the sort of developer used ; (b) the time for which it is allowed to act ; and (c) the temperature of the solution.

Too little development will produce a thinner, or less-black negative, on which the different tones are *under*-spaced. Too much development produces a very black or "dense" negative on which the tones are *over*-spaced. This spacing of tones is called the "contrast" of a negative, and thus we say that an under-developed negative has low contrast, and an over-developed negative has high contrast. Later, on pages 58, 59 and 60, it will be explained how printing papers are supplied in different "contrast grades" to compensate for these variations of negative quality.

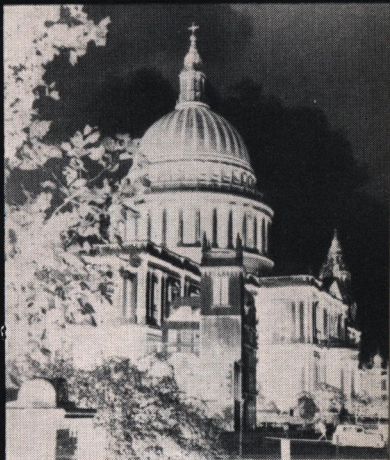
It will, perhaps, now be realised that the production of a good negative is dependent upon the two factors, exposure and development. The amount of exposure decides the density and the amount of development decides the contrast. When exposure and development are correct, then a good negative rendering of the tones in the original subject is obtained, which will in turn result in a good print.

METHODS OF DEVELOPING

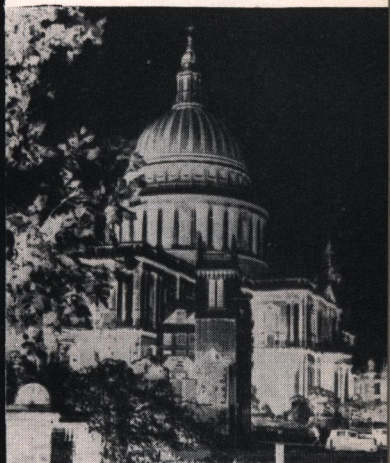
Roll films and plates can be developed either in a dish or in one of the developing tanks described on pages 48 and 49. If the dish method is used, then for Selochrome films and plates and, in fact, for any "orthochromatic" material, the darkroom should be illuminated **ONLY** by the light from an Ilford "Iso" Safelight, No. 906. All panchromatic materials, such as Pan F, FP3, HP3 and HPS should for safety, be developed in absolute darkness. Developing tanks must be loaded in darkness, but when the lid is replaced, all developing and fixing operations can be carried out in the light of an ordinary room.

TIME AND TEMPERATURE

Both dish and tank development can safely be done by the "time and temperature" method. The chosen developer is made up to the recommended strength, the temperature is brought to 68° F. (20° C.) and then the film or plate is developed for the recommended time. A thermometer and a timing clock are therefore essential items of equipment, and these are described on pages 47, 51 and 52.



Correctly developed negative



Over-developed negative

DEVELOPMENT TIMES

Development times at 68°F. (20°C.) for tank development with intermittent agitation.

Ilford material	PQ Universal (1+19)	PFP (1+3)	ID-11 ID-48	Microphen
	mins.	mins.	mins.	mins.
<i>Roll films</i>				
Selochrome	8½	6½	9	10
FP3	7½	5½	8½	10
HP3	9	7	10	10
HPS	9	7	10	10
<i>35 mm. miniature films</i>				
Pan F	—	—	*	7
FP3	—	—	8½	10
HP3	—	—	10	10
HPS	—	—	14	15
<i>Flat films</i>				
Selochrome	7	5	7½	10
Hyperchromatic	14	10	14	15
FP3	9	7	10	10
HP3	8½	6½	9	10
HPS	12	9	14	15
<i>Plates</i>				
Selochrome	6	4½	6½	10
R.10 Soft Gradation Panchromatic	9	7	10	12
FP4	8	6	9	10
HP3	6½	6½	9	10
HPS	12	9	—	15

*6½ minutes in ID-11, 7½ minutes in ID-48.

For dish development with continuous agitation, using the developers at the recommended dish strengths, give one-half of the time quoted for PFP and PQ Universal and four-fifths of the time quoted for ID-11, ID-48 and Microphen.

ILFORD MATERIALS

ILFORD DEVELOPERS

Many Ilford developers contain Phenidone (regd.), a unique developing agent discovered in the Ilford laboratories, having great advantages over some of the conventional types of developing agents. Full instructions are packed with each developer. The following developers are recommended for amateur use:—

ILFORD PFP

An Ilford developer containing Phenidone which can be used for plates, roll films and papers too. Supplied in powder form to make 40 oz. and 1 gallon of working strength solution.

ILFORD PQ UNIVERSAL

Another "universal" developer for roll films, plates and papers, but supplied in concentrated liquid form in bottles of 8 oz. and 20 oz. It should be diluted to 20 times its volume for the tank development of films and plates.

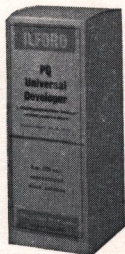
ILFORD ID-11

A fine-grain developer for roll films, plates and 35 mm. films. Recommended when big enlargements are to be made, and no loss of emulsion speed can be tolerated. Supplied in powder form to make 20 oz. and 80 oz. of working strength solution.

ILFORD MICROPHEN

For 35 mm. films, roll films and plates. Gives fine grain comparable with that produced by ID-11, but when Microphen is to be used for development, most Ilford emulsions can be exposed at a speed rating approximately 50 per cent. higher than that stated on the packing. Supplied in powder form to make 600 c.c. (21 oz.) and 2.5 litres (88 oz.) of working strength solution.

PROCESSING SECTION





ILFORD ID-48

A special, extra fine grain developer, recommended when a high degree of enlargement is required. With this developer, an increase of 50 per cent. over normal camera exposure is advised. Supplied in powder form to make 20 oz. and 80 oz. of working strength solution.

FIXING SOLUTIONS

ILFORD IF-2

An acid fixing solution suitable for all negative materials. Supplied in powder form to make 2, 4 or 8 litres of working strength solution.

HYPAM FIXER AND HARDENER

A new, rapid, highly concentrated liquid fixer, plates and films being fixed in from 1 to 2 min. Supplied in 10 oz. bottles. In hot weather Hypam Hardener may be added to Hypam Fixer in the proportion of 1 oz. to every 40 oz. of prepared fixer. Supplied in 8 oz. bottles.

PFP Developer
Contact Paper Strength

PQ Universal Developer
Concentrated Solution

ID-11 Developer
Working Strength

Microphen Developer
Working Strength

ID-48 Developer
Working Strength

IF-2 Fixer
Working strength

Hypam Fixer, Concentrated Solution
Hypam Hardener

Packing

Price

Packing	Price
10 oz.	s. d. 1 0
40 oz.	2 6
8 oz. bottle	3 3
20 oz. bottle	5 0
20 oz. bottle	2 0
80 oz. bottle	4 6
600 c.c.	3 6
2.5 litres	6 0
20 oz.	2 0
80 oz.	4 6
2 litres	2 3
4 litres	3 3
8 litres	6 0
10 oz. bottle	4 3
8 oz. bottle	2 9

ILFORD ACCESSORIES

ILFORD SAFELIGHTS

Prices: 5 x 7 in. 7s. 0d.

8 x 10 in. 11s. 6d.

10 x 12 in. 16s. 6d.

The processing of many of the photographic materials mentioned in this book can safely be watched in light of a suitable colour. Ilford Safelights consist of a sheet of glass coated with dyed gelatin, bound with a diffusing screen.

Material

Contact Paper and Contact Lantern Plates
Bromide, Plastika and Multigrade Papers
Special Lantern Plates and all non-colour-sensitive materials

Selochrome and all other orthochromatic materials

Fast panchromatic materials. (It is advised that all panchromatic materials be developed in absolute darkness, but a few *seconds*' inspection time is permissible by the light of this safelight.)

PHILIPS SAFELIGHT LAMPS

Price 7s. 11d. each

A range of coloured bulbs, having bayonet caps, designed to transmit safe light by which Ilford materials may be processed. It is most important that the correct *voltage* bulb be used, and for negative emulsions they should be used only for brief inspection periods.

Type No.	Colour
PF.723	Yellow
PF.701	Light Red
PF.732	Yellow/Green
PF.704	Dark Red
PF.744	Green

Colour	No.	Name
Orange	910	VS.2
Light Brown	902	S
Dark Brown	904	F
Dark Red	906	ISO
Green-Blue	908	GB

For use with	Volts	Watts
Contact Paper	Supplied in voltages 200, 210, 220, 230, 240 & 250.	15
Bromide, Plastika & Multigrade Papers		40
Bromide Papers only		15
Orthochromatic materials		15
Panchromatic materials		25

ILFORD DARKROOM LAMPS

For ease and comfort of working, the home darkroom should be illuminated by as much SAFE light as the materials will allow. Tests should be made with the different safelights and materials used to ensure that normal processing can be carried out for the full recommended time without any trace of fog appearing. Bulbs and safelight screens are supplied as extras.

LAMP No. 2

Price £2 7s. 6d.

This lamp may be used either standing on a bench or table, fixed to the wall, or suspended from the ceiling. It holds safelights size 8×10 in., which are quickly and easily interchangeable, and is designed for use with either a 15- or a 25-watt bulb. Supplied with flex and bulb-holder.

LAMP No. 8

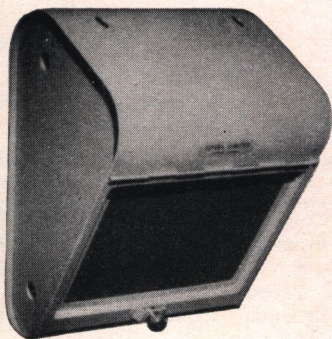
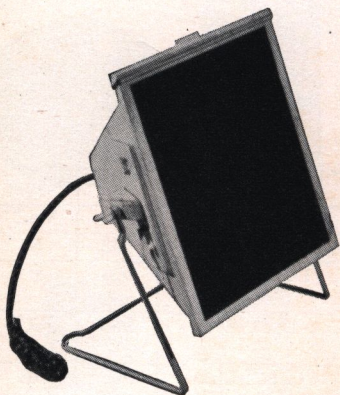
Price £3 5s. 0d.

A lamp for wall fixing in either of two positions, to give local or general illumination. It can also be laid flat to provide (without the safelight) a retouching desk or transparency viewer. Holds an 8×10 in. safelight, and is for use with a 15- or a 25-watt bulb. Supplied with flex and bulb-holder.

JUNIOR DARKROOM LAMP

Price £1 14s. 6d.

Exactly the same shape and design as the No. 8 lamp described above, but using a safelight size 5×7 in. Especially useful in the very small home darkroom. A 15- or 25-watt bulb is recommended. Supplied with flex and bulb-holder.



ILFORD ACCESSORIES

INTERVAL TIMERS

Prices: Plain £2 17s. 6d.
Luminous £3 11s. 0d.

A spring-wound timer for both developing and printing processes, which can be set to provide a bell alarm signal after any period up to two hours. The face has two concentric dials, the outer one indicating from 1 to 10 minutes with 15-second markings, and the inner dial from 10 to 120 minutes with 10-minute markings. The hands are set to the time interval required, and then a pull-down spring lever starts the movement.

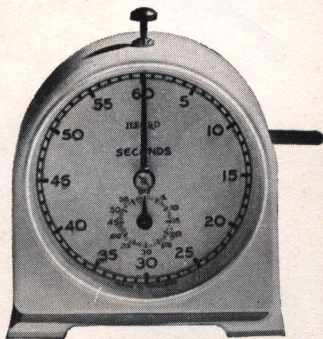
Two models are supplied. One is plain, and the other has luminous hands, figures and markings.



SECONDS TIMER

Price £2 15s. 0d.

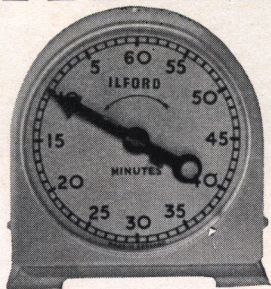
The large seconds hand, making one full revolution per minute, makes this timer especially suitable for exposing and developing prints; the smaller hand can be used for negative work, indicating minutes up to one hour. It is spring-wound, and a stop-and-start lever is fitted at one side. On the top is a plunger which returns both hands to zero for the commencement of timing. The dial is 3½ in. diameter. Finished in cream cellulose.

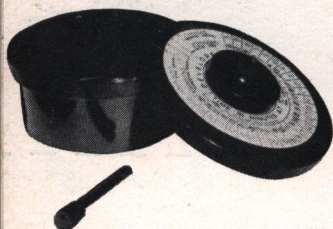
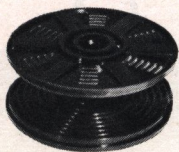


MINUTE ALARM TIMER

Price £2 15s. 0d.

This model is particularly suitable for timing negative development, and will provide a bell alarm signal after any period up to one hour. The pointer hand is rotated anti-clockwise to the time interval required; this action winds the movement and, on release, the timing period starts. The dial diameter is 4 in., and the clock is finished in cream cellulose.





DEVELOPING TANKS

These tanks are known as "daylight" developing tanks because, having loaded them *in darkness*, all subsequent operations of developing, fixing and washing may be carried out in white light.

JOHNSONS' 35 mm. DEVELOPING TANK

Price £1 12s. 6d.

Holds a full length of 35 mm. film and consists of an outer light-tight container and an inner spiral-groove film holder. In darkness, the film is inserted in the grooves, and gently pushed until it is all held around the centre core. The holder is then placed in the tank and the lid replaced. Now, in daylight, first the developer, then rinsing water, and then fixer are poured into the tank according to the instructions supplied. After fixing, the film can be washed in the tank, or removed and washed separately.

POLLY-MIN AND POLLY-MAX TANKS

Prices:

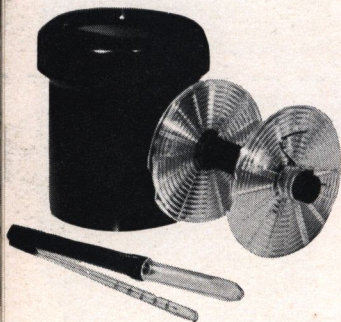
Polly-Min £1 5s. 0d. Thermometer 5s. 0d.
Polly-Max £1 12s. 6d. Washer 7s. 6d.

These are film developing tanks made from plastics material, in which the film is held in a spiral groove.

The Polly-Min can be adjusted to take either 120 or 620 roll films, 127 roll films, or a 20-exposure length of 35 mm. film.

The Polly-Max is also adjustable to take 6 ft. of 16 mm. film, one 36-exposure length (or two 20-exposure lengths) of 35 mm. film, two 127, 120 or 620 roll films or one 116 roll film.

For both models a thermometer and a device for washing the films in the tank after development are available.



ILFORD ACCESSORIES

ENVOY PLATE DEVELOPING TANKS

The Envoy plate developing tanks are made from moulded black plastics material. Each tank holds four plates, in grooves, and a loading jig is available to simplify this action in darkness. When the plates are loaded, and the lid of the tank replaced, all subsequent operations may be carried out in white light, in the same way as for the film tanks described opposite.

Size for Plates	Size for Flat Films	Solution required
2½ × 3½ in.	2¼ × 3¼ in.	5 oz.
3¼ × 4¼ in.	3¼ × 4¼ in.	7 oz.
9 × 12 cm.	9 × 12 cm.	10 oz.

PRICES

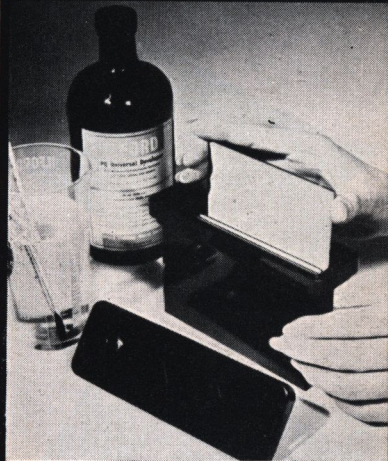
Tank	Loading jig	Developing Sheaths for flat films
£ s. d.	s. d.	s. d.
16 6	5 6	2 5
18 0	5 6	2 5
1 3 0	5 6	3 0

PLATE DRAINING RACK

Price 5s. 0d.

A rack made from hardwood, which holds 12 plates up to and including size 4¾ × 6½ in. Plates are held in grooves at an angle, so that water drains evenly from one corner. When not in use, the rack folds flat for storage.

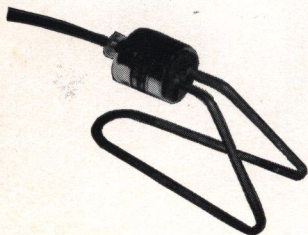
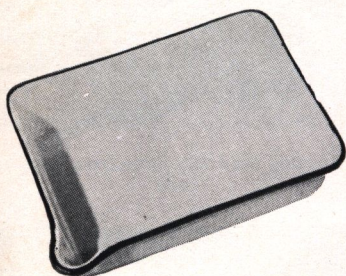
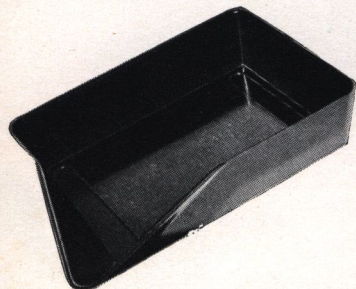
PROCESSING SECTION



Loading the Envoy Plate Developing Tank



Developing, fixing and washing is done with the lid replaced



DEVELOPING DISHES

Good quality developing dishes, with reasonably careful use, will last for a long time. The Ilford range includes dishes made from Black Plastics and Enamelled Steel. All of them are impervious to the action of photographic solutions and will stand very hard wear. Sizes and prices are as follows :—

Size, inches	Black Plastics	Enamelled Steel	
		With lip	Without lip
	<i>s. d.</i>	<i>£ s. d.</i>	<i>£ s. d.</i>
3¼ × 4¼	3 3	—	6 0
4¾ × 6½	4 6	9 0	7 0
6½ × 8½	7 0	12 0	8 6
8 × 10	—	15 0	11 0
10 × 12	13 0	1 1 0	15 0
12 × 15	—	1 10 0	1 0 0
16 × 20	—	2 10 0	1 18 0

DISH IMMERSION HEATER

Price £4 17s. 6d.

An immersion heater for raising solution temperatures in any dish size 6½ × 8½ in. or larger. The element (250-watt loading) is totally enclosed and is located in the base, allowing it to be used in a solution depth of only ¾ in. The stem is of lead-plated stainless steel and the terminal cover is splash proof.

ILFORD ACCESSORIES

PROCESSING SECTION

THERMOMETERS

Pocket Thermometer—Useful when processing may also have to be done away from the normal darkroom. The tube is filled with blue spirit, and fits inside a nickel-plated case having a pocket clip. Calibrations 40° to 90° F. Length 5½ in.

Price 6s. 6d.

Photo Dish Thermometer—A mercury-filled thermometer for general darkroom use. The bold calibrations can easily be seen, and a separate support is available for holding and protecting the thermometer in the corner of a large dish. Calibrations 40° to 80° F and 5° to 25° C. Length 8½ in.

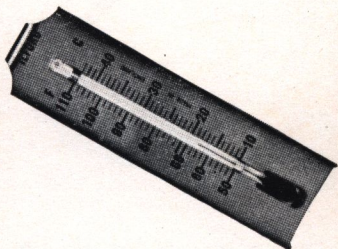
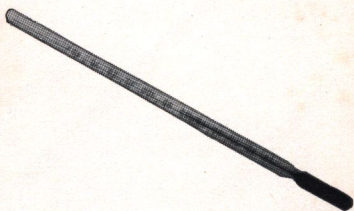
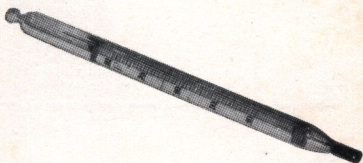
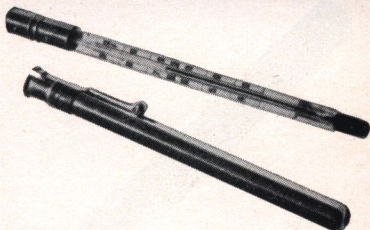
*Prices: Thermometer 8s. 0d.
Support 4s. 6d.*

General Purpose Thermometer—Suitable for use in dishes, and also in the developing tanks described on pages 48 and 49. The blue spirit filling makes for easy reading both in and out of the darkroom. A Fahrenheit model is available from 30° to 140°, or a Centigrade model from 0° to 60°. Length 6 in.

Price 5s. 6d.

Photo Tank Thermometer—Ideal for use in dishes, this blue spirit filled tube is attached to a U-shaped stainless steel support. The support also prevents breakage should a heavy object be accidentally stood or dropped upon it. Calibrations 50° to 110° F and 10° to 40° C. Overall size 5½ × 1¼ × ¼ in.

Price 6s. 6d.



THERMOMETERS

Dial Type Thermometer

Price £1 7s. 6d.

An all-metal pocket thermometer which is virtually unbreakable, and suitable for both developing tank and dish use. The lower part of the narrow stem contains a sensitive element which transmits temperature variations to a pointer on a dial at the top, which is calibrated from 30° to 100° F, and from 0° to 40° C. The outer case is of ebonite, fitted with a pocket clip, and the dial is cellulose-covered for protection. Length 3 $\frac{3}{8}$ in.

Stirring Rod Thermometer

Price 7s. 0d.

Besides indicating solution temperature, this can also be used as a stirring rod to ensure thoroughly mixed solutions. Suitable for both dish and developing tank use. It is mercury-filled, and supplied calibrated in Fahrenheit from 20° to 180°. Length 9 in.

Wide Scale Thermometer

Price 17s. 6d.

A mercury-filled thermometer for use when great accuracy in solution temperatures is required, such as in colour processing. A wide scale allows readings of the order of $\frac{1}{4}$ ° to be made. Calibrated 50° to 80° F. Length 7 $\frac{1}{2}$ in.

Photographic Stirring Rods

Price 1s. 6d.

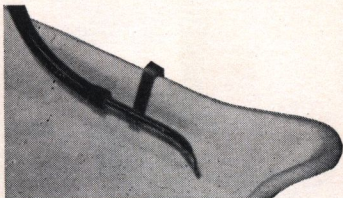
These rods are made from hard vulcanised rubber, in two colours, red and black. The length is 12 in.

ILFORD ACCESSORIES**WASHING AND DRYING
ACCESSORIES**

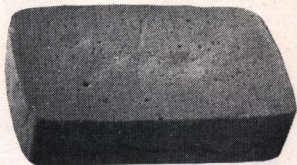
After developing and fixing, films and plates must be washed to remove all traces of the fixing bath with its dissolved silver compounds, otherwise the negatives will become stained and will ultimately fade. For absolute permanence it is recommended that films and plates be washed in running water for one hour.

**WATER CIRCULATING
ATTACHMENT***Price 4s. 0d.*

This attachment converts a dish, or an ordinary sink bowl into an efficient washer for negatives and prints. A chromium-plated brass tube is flattened at one end to provide a jet, and ridged at the other end for connecting to a rubber tube from the water supply. A clip is provided for fixing to the side of the dish or bowl. With brisk water circulation, and complete changing of the water five or six times during the hour, thorough washing is ensured.

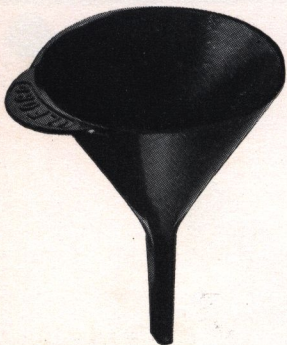
**PHOTOGRAPHIC SPONGE***Price 2s. 6d.*

A synthetic sponge of extremely fine texture which can be used to remove surplus water from films, plates and prints before they are placed to dry. This will ensure faster drying and will eliminate the risk of uneven drying marks.

**UNIVERSAL FILM CLIP***Price 9s. 6d. per box of 6*

These clips provide a convenient method of hanging films, and enlarged prints on a line. The clip is detachable for cleaning, and is double-ended so that some mark of recognition can be attached while the film is drying. Made from stainless steel.





STORAGE BOTTLE

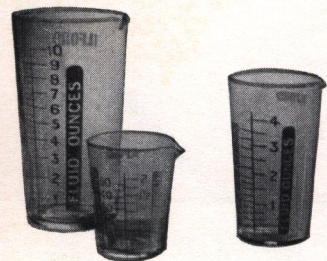
Price 3s. 6d. each

As already referred to when describing our developers and fixers, many of these can be made up to a concentrated stock solution, and diluted as required. For this purpose we supply white glass Winchester's with glass stoppers, each holding 90 oz. of solution.

PLASTIC FUNNEL

Price 2s. 8d.

Very handy for pouring solutions into bottles and developing tanks. This funnel has a tapering stem, and a capacity of 8½ oz.



MEASURES

Clearly marked measures are a great help in preparing developers and fixers, because it is essential for consistent work that solutions should always be of the same strength. Two types are supplied—cylindrical and tumbler-shaped in glass. Sizes and prices are as follows:—

Size	Cylindrical	Tumbler
	s. d.	s. d.
2 oz.	4 0	1 9
4 oz.	4 9	2 6
8 oz.	5 6	—
10 oz.	6 6	3 6
20 oz.	8 0	5 6
40 oz.	13 6	—



PROTECTIVE CLOTHING

*Prices: Rubber Gloves 4s. 5d. per pr.
Darkroom Apron 13s. 11d.*

For those who are subject to finger-stains, and skin disorders from photographic chemicals, rubber gloves can be supplied in sizes small, medium and large.

Another useful accessory is the Ilford Darkroom Apron, size 27×36 in., and made from black, washable PVC plastics material. It will avoid chemical stains on clothing.

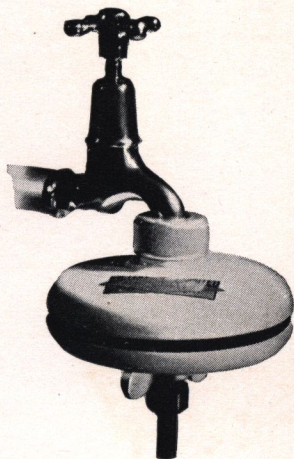
ILFORD ACCESSORIES**STERALIC WATER FILTERS**

In some districts impurities in the water supply can cause a great deal of trouble with photographic materials. Scratches from solid particles and stains or deposits are frequently experienced. To eliminate these faults, we can supply water filters, in two types, as follows:—

STERALIC STANDARD FILTER*Price £4 0s. 0d.*

Designed to fit a standard $\frac{1}{2}$ -in. tap and an extension nozzle may be fitted to take a flexible tube. This filter unit employs a filter paper disc which removes all suspended matter, undissolved solids, iron, rust, etc., whilst giving an ample flow. The filter papers are easily renewable and of negligible cost.

This Standard Filter is finished in glossy cream cellulose and polished duralumin. Inlet and outlet adapters for connection to rubber hoses are available price 5s. 0d. and 3s. 9d. respectively.

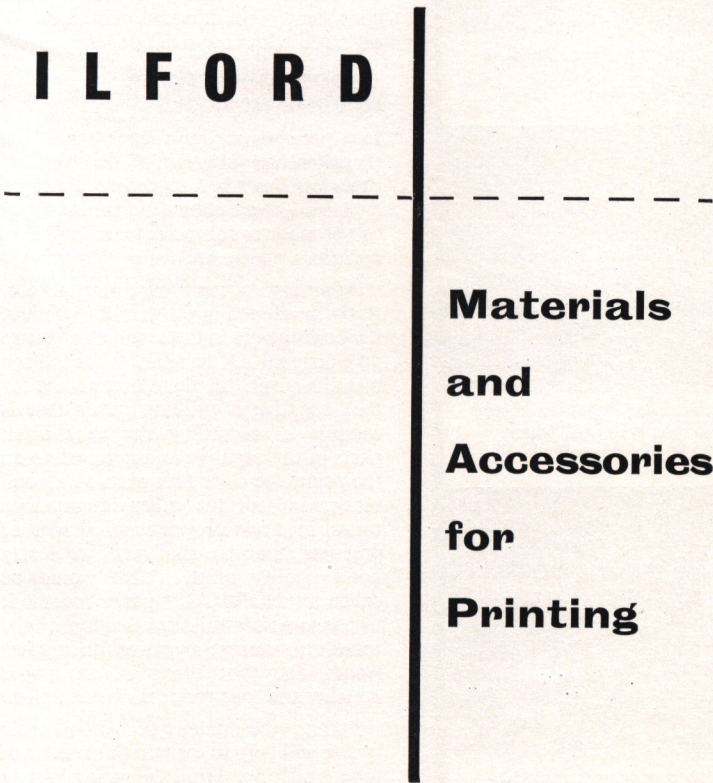
**STERALIC WATERMASTER FILTER***Price £1 12s. 6d.***Cloth Filters (20)***Price 3s. 6d.***Carbon Filter Cartridge***Price 2s. 6d.***Softener Cartridge***Price 2s. 9d.*

The Watermaster Filter has been designed primarily for the amateur photographer and is suitable for even the smallest darkroom. It fits straight on to the tap and can be removed easily after use. When initially supplied a cloth filter is fitted which removes suspended matter, iron, rust, etc. As an alternative, there is the "Keanall" carbon cartridge which not only removes all suspended matter, but will also remove excess chlorine, other dissolved gases, colour and odour.

Also, a Softener Cartridge is available, which, after use, may be regenerated by soaking in a concentrated salt solution.



I L F O R D



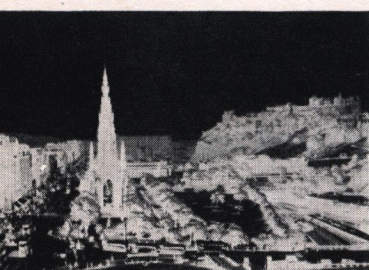
**Materials
and
Accessories
for
Printing**



Under-developed negatives should be printed on HARD paper (see opposite)



Correctly developed negatives should be printed on NORMAL paper (see opposite)



Over-developed negatives should be printed on SOFT paper (see opposite)

**CONTACT PRINTING
AND ENLARGING**

For those who have never made any prints before, let us say that good printing can be done by following instructions and always taking great care. All the various factors involved may at first make the job seem difficult, but it can truthfully be stated that consistently good results will soon be obtained with continued practice.

**CHOOSING THE PAPER
FOR THE NEGATIVE**

In a previous section (pages 40 and 41), the effect of variation of development time was described, and here it can be explained how a choice of printing paper can be made to compensate for imperfect negatives.

Assuming correct exposure, a correctly developed negative will reproduce the brightnesses in the original subject as proportional "densities" of black metallic silver. If, therefore, we use for that negative a printing paper that is capable of recording the very black parts of the negative as a good white on the print, the clear film parts as a good black, and all the other intermediate tones in their proportional shades of greyness, then we shall produce a very good quality print. This would be called a "NORMAL" paper because it will give a faithful reproduction of the tones on a normal negative, or in other words, the tone range of the paper matches the tone range of the negative.

Perhaps the analogy of a coiled chair spring will help to explain this matter of tone rendering. Hold the spring loosely in your hand, and it will be of a certain length, with the coils evenly spaced, as are the tones on a good negative.

Now press the two ends of the spring together. The distance between each coil will be less, as also will be the distance between the two ends of the spring. This can be likened to the *UNDER-DEVELOPED* negative, on which the difference between tones is less than normal.

Similarly, by pulling the two ends of the spring apart, the distances between the coils and the two ends will be increased. Here is the *OVER-DEVELOPED* negative showing exaggerated tone differences.

If these two negatives are printed on a *NORMAL* paper, the under-developed negative will give a print that is muddy and "flat" in appearance, and the print from the over-developed negative will be "hard" and lacking in highlight detail (sometimes called a "soot and white-wash" result).

The method used to compensate for these imperfect negatives is a very simple one. For the "short-spring" (or under-developed) negative a "long-spring" paper should be used to balance, and bring back to normal, the rendering of tones. This is called a "HARD" paper, and it should always be used for printing thin, under-developed negatives.

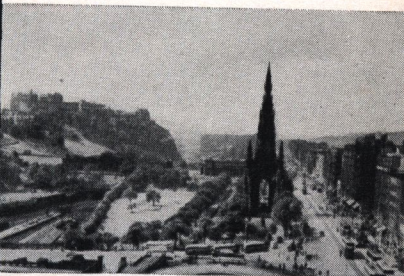
For the "long-spring" negative (over-developed) there is a "short-spring" paper known as "SOFT," which in the same way will reduce the exaggerated tone rendering back to normal.



Print from under-developed negative on HARD paper



Print from correctly-developed negative on NORMAL paper



Print from over-developed negative on SOFT paper



The effect of paper contrast
Negative printed on SOFT paper



The effect of paper contrast
Negative printed on NORMAL paper



The effect of paper contrast
Negative printed on HARD paper
(All from the same negative)

ILFORD MULTIGRADE PAPER

For amateur use, we very strongly recommend Multigrade paper, for as its name implies, any desired contrast grade can be produced. With Multigrade, you need only keep in stock just one packet of paper, instead of the different contrast grades mentioned on pages 58 and 59.

Contrast control is obtained by varying the *colour* of the printing light. Exposed to the normal unfiltered white light of the enlarger, Multigrade produces a very soft result, and is thus suitable for very hard negatives. Then, three filters—pale yellow, medium yellow and deep yellow—are available which, used over the enlarging lens, produce prints of increasing contrast. Thus, a single packet of Multigrade, with the three yellow filters, provides the equivalent of four well-spaced contrast grades.

Otherwise, the technique for Multigrade is exactly the same as for our Bromide and Plastika papers—1½-2 mins. development at 68° F. in PQ Universal developer. Ilford Safelight No. 902 should be used for darkroom illumination and Ilford Filter No. 205 (red) for the enlarger cap.

Ilford Multigrade is supplied on both single-weight and double-weight bases with a Glossy surface, and on double-weight base with a Velvet Stipple surface. Sizes, packings and prices are detailed on page 63.

Multigrade Filters, and a device for holding them over the enlarger lens are described on page 69. An 8-page booklet giving complete information on the use of Multigrade is available on request.

ILFORD MATERIALS

PRINTING SECTION

PRINTING WITH ILFORD PAPERS

Contact Paper is used for making prints the same size as the negative. A sheet of paper is placed in contact with the negative in a printing frame (see page 64) and then exposed to a white light. Ilford Contact Paper should be used in the light of the No. 910 "VS2" Safelight and should be developed in PFP Developer for from 45-60 secs. at 68° F.

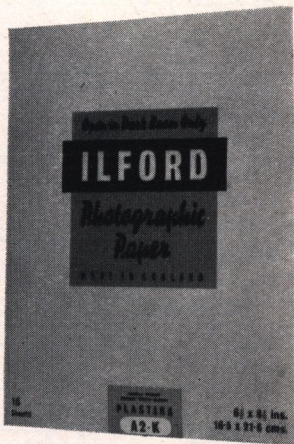
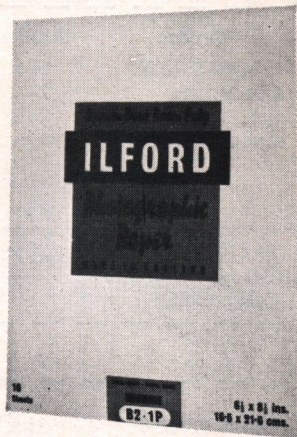
Bromide Paper is of much higher speed than Contact and is primarily intended for making enlargements. Bromide prints have a neutral-black image colour and development should be for 1½-2 mins. at 68° F. in PQ Universal developer. The Ilford Safelight No. 902 "S" should be used for darkroom illumination.

Plastika Paper produces prints of a very pleasing warm-black image colour, and is used in the same way as Bromide, in the light of the No. 902 Safelight. It is particularly suitable for amateur work because of its very great latitude in exposure and development, which considerably avoids waste of paper. The recommended development time is 1½-2 mins. at 68° F., but it will be found that variation of this time, either way, is permissible without loss of print quality.

GRADES AND SURFACES

All of these papers are made in a variety of contrast grades and in a range of different surfaces, as detailed on pages 62 and 63.

Prices are given for sizes up to 8×10 in. For prices of larger sizes please ask your dealer.



PRINTING SECTION

62

ILFORD MATERIALS

CONTACT PAPER

Surface	Size Inches
GLOSSY S.W.	17/8 x 2 3/4
Gradations	2 1/2 x 2 1/2
1, 2, 3, 4	2 1/2 x 3 1/2
Code: C-IP	2 3/4 x 4 1/2
	3 1/2 x 4 1/2
	3 1/2 x 5 1/2
	4 3/4 x 6 1/2

SATIN S.W.	2 1/2 x 3 1/2
Gradations 1, 2, 3	
Code: C-25P	

GLOSSY S.W.	3 1/2 x 4 1/2
Gradations 1, 2, 3, 4, 5	3 1/2 x 5 1/2
Code: B-IP	4 3/4 x 6 1/2
	6 1/2 x 8 1/2

GLOSSY D.W.	3 1/2 x 5 1/2
Gradations 1, 2, 3, 4, 5	4 3/4 x 6 1/2
Code: B-IK	6 1/2 x 8 1/2

MATT D.W.	6 1/2 x 8 1/2
Gradations 2, 3	
Code: B-5K	

SEMI MATT S.W.	4 3/4 x 6 1/2
Gradations 2, 3	6 1/2 x 8 1/2
Code: B-24P	

SEMI MATT D.W.	4 3/4 x 6 1/2
Gradations 2, 3	6 1/2 x 8 1/2
Code: B-24K	

VELVET	4 3/4 x 6 1/2
STIPPLE S.W.	6 1/2 x 8 1/2
Gradations 2, 3	
Code: B-26P	

VELVET	3 1/2 x 4 1/2
STIPPLE D.W.	3 1/2 x 5 1/2
Gradations 1, 2, 3, 4	4 3/4 x 6 1/2
Code: B-26K	6 1/2 x 8 1/2

25 Sheets

s. d.

2 1

2 1

2 9

—

—

—

—

2 9

100 Sheets

s. d.

5 7

6 3

7 8

10 5

12 6

14 11

22 11

7 8

BROMIDE PAPER

3 10

4 6

6 11

11 6

5 3

7 8

13 2

13 2

12 6

14 11

22 11

39 3

17 5

26 5

45 10

45 10

22 11

39 3

26 5

45 10

6 11

11 6

22 11

39 3

4 6

5 3

7 8

13 2

14 7

17 5

26 5

45 10

ILFORD MATERIALS

PRINTING
SECTION

MULTIGRADE PAPER

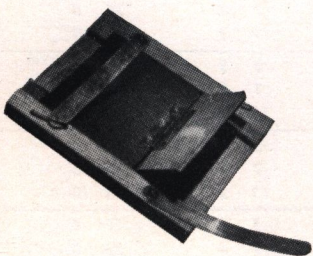
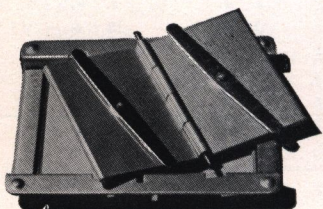
Surface	Size Inches
GLOSSY S.W.	$3\frac{1}{2} \times 4\frac{1}{2}$
	$3\frac{1}{2} \times 5\frac{1}{2}$
Code: MG.IP	$4\frac{3}{4} \times 6\frac{1}{2}$
	$6\frac{1}{2} \times 8\frac{1}{2}$
GLOSSY D.W.	$3\frac{1}{2} \times 4\frac{1}{2}$
	$3\frac{1}{2} \times 5\frac{1}{2}$
Code: MG.IK	$4\frac{3}{4} \times 6\frac{1}{2}$
	$6\frac{1}{2} \times 8\frac{1}{2}$
VELVET STIPPLE D.W.	$3\frac{1}{2} \times 4\frac{1}{2}$
	$3\frac{1}{2} \times 5\frac{1}{2}$
Code: MG.26K	$4\frac{3}{4} \times 6\frac{1}{2}$
	$6\frac{1}{2} \times 8\frac{1}{2}$

PLASTIKA PAPER

GLOSSY S.W.	$3\frac{1}{2} \times 5\frac{1}{2}$
Gradations 1, 2, 3,	$4\frac{3}{4} \times 6\frac{1}{2}$
Code: A-	$6\frac{1}{2} \times 8\frac{1}{2}$
GLOSSY D.W.	$3\frac{1}{2} \times 5\frac{1}{2}$
Gradations 1, 2, 3	$4\frac{3}{4} \times 6\frac{1}{2}$
Code: A-K	$6\frac{1}{2} \times 8\frac{1}{2}$
WHITE SEMI MATT D.W.	$3\frac{1}{2} \times 5\frac{1}{2}$
Gradations 1, 2, 3	$4\frac{3}{4} \times 6\frac{1}{2}$
Code: D-K	$6\frac{1}{2} \times 8\frac{1}{2}$
WHITE STIPPLE D.W.	$3\frac{1}{2} \times 5\frac{1}{2}$
Gradations 1, 2, 3	$4\frac{3}{4} \times 6\frac{1}{2}$
Code: E-K	$6\frac{1}{2} \times 8\frac{1}{2}$
GRAINED HALF MATT D.W.	$3\frac{1}{2} \times 5\frac{1}{2}$
Gradations 1, 2, 3	$4\frac{3}{4} \times 6\frac{1}{2}$
Code: F-K	$6\frac{1}{2} \times 8\frac{1}{2}$
WHITE RAYON D.W.	$3\frac{1}{2} \times 5\frac{1}{2}$
Gradations 1, 2, 3	$4\frac{3}{4} \times 6\frac{1}{2}$
Code: G-K	$6\frac{1}{2} \times 8\frac{1}{2}$
CREAM GRAINED HALF MATT D.W.	$3\frac{1}{2} \times 5\frac{1}{2}$
Gradations 1, 2, 3	$4\frac{3}{4} \times 6\frac{1}{2}$
Code: T-K	$6\frac{1}{2} \times 8\frac{1}{2}$

25 Sheets		100 Sheets	
s.	d.	s.	d.
3	10	12	6
4	6	14	11
6	11	22	11
11	6	39	3
4	6	14	7
5	3	17	5
7	8	26	5
13	2	45	10
4	6	14	7
5	3	17	5
7	8	26	5
13	2	45	10

4	6	14	11
6	11	22	11
11	6	39	3
5	3	17	5
7	8	26	5
13	2	45	10
5	3	17	5
7	8	26	5
13	2	45	10
5	3	17	5
7	8	26	5
13	2	45	10
5	3	17	5
7	8	26	5
13	2	45	10
5	3	17	5
7	8	26	5
13	2	45	10



WOODEN PRINTING FRAME

CONTACT PRINTING

Much of the equipment for this work has already been described on previous pages. A complete list would be :—

Darkroom Lamp and Safelight, Dishes, Timing Clock, Thermometer, Measure, Paper, Developer and Fixer, and one of the Printing Frames described below.

METAL PRINTING FRAME

Price 4s. 9d.

An all-metal printing frame for negatives up to size $2\frac{1}{2} \times 3\frac{1}{2}$ in. The back plate is covered with a pressure pad of wool felt, and the strong spring clips ensure perfect contact of paper and negative.

WOODEN PRINTING FRAMES

These wooden frames have a pressure pad covered with baize and strong spring metal clips. Sizes for amateur use and prices are as follows :—

$2\frac{1}{2} \times 2\frac{1}{2}$ in. 5s. 3d. $2\frac{3}{4} \times 4\frac{1}{2}$ in. 6s. 6d.
 $2\frac{1}{2} \times 3\frac{1}{2}$ in. 5s. 3d. $3\frac{1}{4} \times 4\frac{1}{4}$ in. 7s. 0d.

PRINTING FRAME MASKS

Prices: Pkt. of 3 - 1s. 3d. Pkt. of 5 - 1s. 10d.

Red celluloid masks for providing a clean-cut white border on the print. Supplied in packets of three masks of one size, in sizes $1\frac{3}{4} \times 2\frac{5}{16}$ in., $2\frac{1}{4}$ in. sq., $2\frac{1}{2} \times 3\frac{1}{2}$ in., and $3\frac{1}{4} \times 4\frac{1}{4}$ in. Also supplied in packets of five assorted sizes.

ENVOY PRINTING FRAMES

Prices: $2\frac{1}{2} \times 3\frac{1}{2}$ in. - 3s. 6d.
 $3\frac{1}{4} \times 5\frac{1}{2}$ in. - 13s. 9d.

Frames for both contact printing and enlarging. They have heavy bases and a spring-loaded pressure platen. For contact printing a sandwich of glass, negative and paper is inserted above the platen, but for enlarging the glass should be removed.

ILFORD ACCESSORIES

PRINTING SECTION

EQUIPMENT FOR ENLARGING

The enlargers briefly described in these pages are, we believe, the finest examples of their type and price now on the market, and are backed by the reputation of Ilford Limited.

ENVOY UNIVERSAL ENLARGER

Price, without lens, £17 19s. 4d.

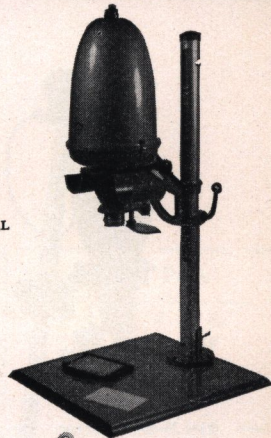
An enlarger which can be used for all negatives from 35 mm. size up to $2\frac{1}{2} \times 3\frac{1}{2}$ in., which makes it ideal for the amateur who uses more than one negative size. The baseboard is of laminated wood, the enlarger head is counterbalanced for easy movement, and the column is 30 in. high. A range of condensers which are easily and quickly interchanged is available at extra cost. Lenses are described on page 67.

M.P.P. ENLARGERS

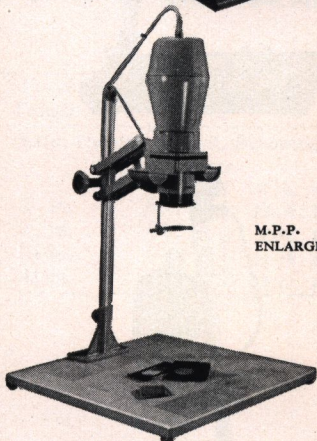
A range of precision-made enlargers for negatives from 35 mm. to $2\frac{1}{2} \times 3\frac{1}{2}$ in. To convert 35 mm. models for $2\frac{1}{4} \times 2\frac{1}{4}$ in. negatives, and vice versa, it is only necessary to purchase an appropriate negative carrier and condenser set.

Features include a counterbalanced head, a double condenser and a heat filter. Critical focusing is obtained by a helical screw lens mount, and the baseboards are steel-reinforced.

ENVOY
UNIVERSAL



M.P.P.
ENLARGER



Model No.

Negative Size

IE	35 mm.
IG	35 mm.
IP	35 mm.
ID	$2\frac{1}{4}$ in. sq.
IR	$2\frac{1}{4}$ in. sq.
IN	$2\frac{1}{4}$ in. sq.
3	$2\frac{1}{2} \times 3\frac{1}{2}$ in.

Baseboard Size

Price

	£	s.	d.
16 x 18 in.	28	0	0
24 x 24 in.	30	9	0
24 x 24 in.	32	4	0
16 x 18 in.	28	0	0
24 x 24 in.	30	9	0
24 x 24 in.	32	4	0
24 x 24 in.	35	0	0

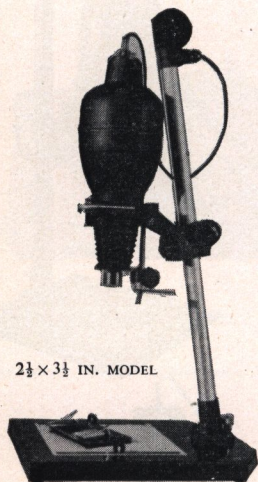
ENVOY ENLARGERS

These are precision-made enlargers with a wide range of accessories for individual requirements.

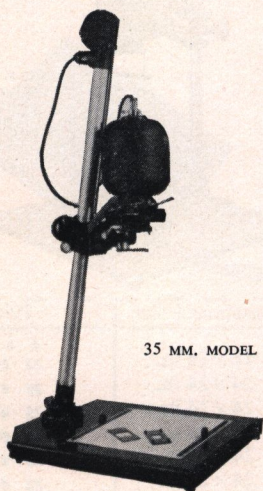
2½ × 3½ in. Model. The counterbalanced enlarger head slides smoothly on a 40-in. column, fixed to a baseboard size 18 × 24 in. in which there is an inserted metal plate with magnetically held paper holding strips, or cork board to choice. For horizontal projection the head may be fixed at right-angles to the column. Supplied with a 5-in. double condenser and a glass-type negative carrier, but glassless carriers can be supplied as extras.

35 mm. Model. Similar to the model described above, but having a spring-loaded condenser, and a negative carrier which holds the film by the perforated edges only.

Both of these models can also be used for copying, and two reflectors on flexible arms are available which may be fixed in place of the projector head. Either model can be converted to the other by changing the head.



2½ × 3½ IN. MODEL



35 MM. MODEL

Basic Model	2½ × 3½ in.	35 mm.
Price	£ s. d. 45 14 0	£ s. d. 36 18 11
Head only	25 10 1	16 15 0
Copying Attachment	5 18 9	5 18 9

Lenses are listed on page 67, and enlarging bulbs on page 69.

ILFORD ACCESSORIES

PRINTING SECTION

ENLARGING LENSES

The lenses listed below can be supplied by Ilford Limited. From these a selection can be made for the enlargers listed on the previous pages. Other lenses can be supplied. Details on request.

DALLMEYER (Bloomed)

Focal Length	Aperture	Price
De Luxe		£ s. d.
2 in.	f/3.5	11 9 4
2 in.	f/4.5	9 0 8
3 in.	f/4.5	10 15 5
4 in.	f/4.5	12 3 3

Focal Length	Aperture	Price
Popular		£ s. d.
2 in.	f/4.5	7 19 10
3 in.	f/4.5	9 0 8
4 in.	f/4.5	10 1 7

WRAY SUPAR ANASTIGMAT

Focal Length	Aperture	Price
Standard Iris Mount		
		£ s. d.
2 in.	f/3.5	9 14 7
2 in.	f/4.5	6 15 6
3¼ in.	f/4.5	8 11 8
4¼ in.	f/4.5	9 18 1

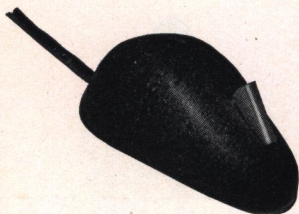
Focal Length	Aperture	Price
Satin chrome Mount, Bloomed, Clicking Iris		
		£ s. d.
2 in.	f/3.5	13 4 1
2 in.	f/4.5	9 18 1
3¼ in.	f/4.5	11 19 9
4¼ in.	f/4.5	13 11 1

ROSS RESOLUX (Bloomed)

5 cm.	f/3.5	12 10 2
9 cm.	f/4	15 3 9
11 cm.	f/4	17 4 0

TAYLOR-HOBSON ENTAL (Bloomed)

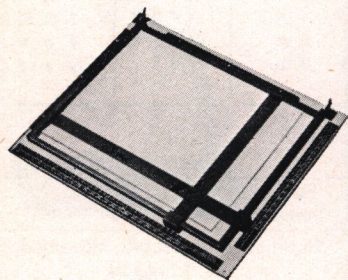
50 mm.	f/3.5	17 9 7
108 mm.	f/4.5	24 9 1



FOOT SWITCH

Price £1 16s. 0d.

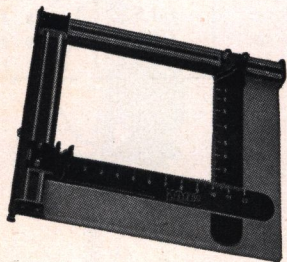
When exposing paper on the enlarging board it is very often necessary to use the hands for local shading, and it is an advantage to be able to switch the enlarger on and off by means of a foot switch. This model is suitable for "at home" use and is easily connected to the supply. Supplied with 5 ft. of twin-core cable, and finished in black crackle cellulose.



ADJUSTABLE PAPER HOLDER

Price £4 6s. 11d.

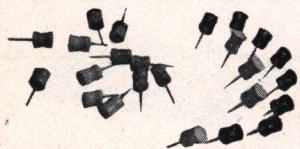
For use on the baseboard of the enlarger to hold the paper perfectly flat and to provide a clean white border. The base is of heavy metal, finished in eggshell white cellulose for easy focusing. The sliding bars are so positioned that when setting is made according to the outside paper size, a $\frac{1}{4}$ in. wide border is given all round. For paper sizes up to 8x10 in.



BLACK PRINCE MASKING FRAMES

Substantially made masking frames in a range of four sizes up to size 16x20 in. The metal masking bands are 2 in. wide, and the paper-positioning guides may be adjusted to give borders up to $1\frac{1}{2}$ in. wide. Prices:—

8x10 in.	£7 19s. 10d.
10x12 in.	£10 2s. 11d.
12x16 in.	£11 16s. 4d.
16x20 in.	£14 4s. 11d.



PRINT PINS

Price 2s. 1d. per doz.

Coloured, large-headed pins which may be used as an alternative method of holding paper flat on the enlarging board.

ILFORD ACCESSORIES

PRINTING SECTION

ENLARGING BULBS

Ordinary pearl bulbs are not suitable for enlargers, but these internally silica-sprayed coiled coil, gas-filled bulbs provide a well-diffused light with very low absorption. Supplied as follows:—

40-watt 2s. 5d.	100-watt 2s. 11d.
60-watt 2s. 5d.	150-watt 3s. 9d.

PHILIPS PHOTOCRESCENTA LAMPS

Prices 75-watt 4s. 3½d.
150-watt 5s. 5½d.

These high intensity Philips lamps are ideal for very dense negatives to shorten exposure times. "Two-ply" glass ensures perfect diffusion.

TEST STRIP HOLDER

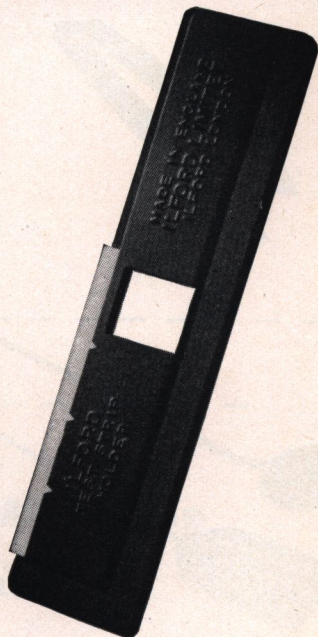
Price 2s. 5d.

This little "test strip" device consists of a metal sheath, with a small square aperture. The aperture is positioned to the portion of the image for which exposure information is required and the first exposure given; the strip of paper is then moved along to arranged distances so that different exposures can be given.

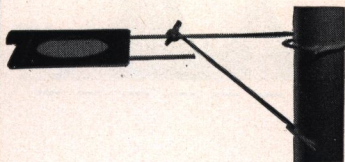
MULTIGRADE FILTERS AND SUPPORT

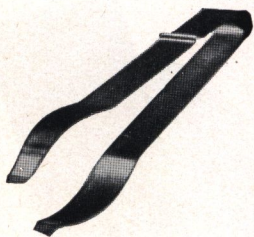
Filters, per set, 9s. 0d.
Support, 2s. 7d.

The filters for Multigrade referred to on page 60 are available in the form of gelatin film mounted in suitable "holding" cards so that the filters need not be finger-marked. Supplied individually, or in sets of three filters of different density. A wire support device for fitting to the enlarger column is available, with arms for holding the filter beneath the enlarger lens.



TEST STRIP HOLDER

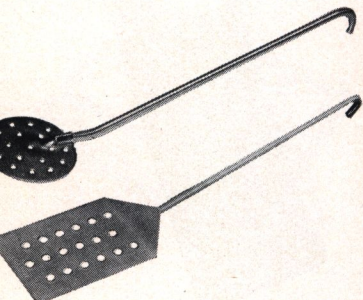




PRINT FORCEPS

The great advantage of using print forceps during development is that the hands are kept dry and do not become contaminated with chemicals, with the possible danger of finger-marks on the print. Three types are supplied:—

No. 1, length 5 in.... 2s. 6d. each
 No. 2, length 3½ in.... 1s. 9d. each
 Kayfro, length 6 in....supplied in sets
 of 3, stamped H, W & D... price 9s. 0d.
 All are made of stainless steel.



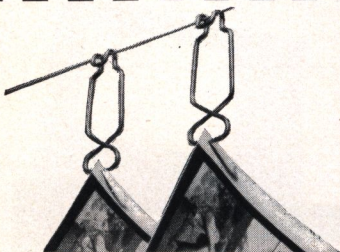
PRINT PADDLES

For use chiefly in the fixing solution to ensure complete covering of the print and for occasional agitation. These paddles, like the forceps above, avoid contaminating the hands.

No. 1, length 9¾ in.,
 2¼ in. diameter blade ... 3s. 0d.

No. 2, length 11½ in.,
 2½ × 3½ in. blade ... 7s. 6d.

Made from stainless steel, with a hooked handle to clip on the side of a dish.



PRINT CLIPS

Price 6s. 9d. per doz.

Stainless steel wire clips for hanging prints on a drying line (also suitable for roll films). The point and socket grip holds firmly, and at right-angles to the line, so that many may be dried in a small space.

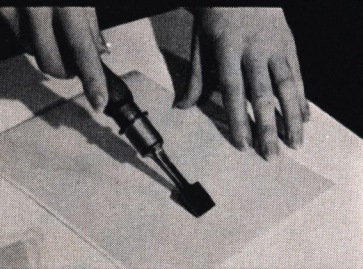
FOTONIC PHOTOGRAPHIC PAPER BOOK

Price 4s. 6d.

Highly absorbent paper for drying prints. Booklets of 12 pages size 9 × 12 in.

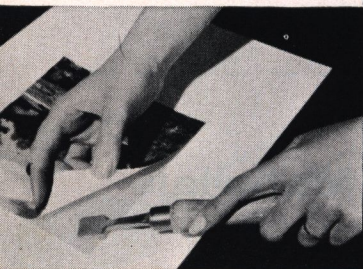
I L F O R D

**Materials
and
Accessories
for
Print
Finishing**



Dry Mounting

(a) Applying the tissue to the back of the print



Dry Mounting

(b) 'Touching down' the print to the mount with a heated fixing iron



Dry Mounting

(c) An electrically-heated dry mounting iron is used for attaching the print to the mount

PRINT FINISHING

Having made a good quality print it should now be shown to the greatest possible advantage, and whatever its ultimate use—i.e., in an album, or a frame, or as a picture on the wall—there are usually several small "finishing touches" to be made.

For example, prints made on our Glossy paper surfaces do appear glossy when dried, but they will look even more attractive if they are "glazed." The process is quite simple. When they are thoroughly washed, the wet prints are squeegeed to a chromium-plated sheet, and the sheet is then placed on the hot-plate of our Amateur Glazer. In only a few minutes the prints are dry and come away from the chromium plated sheet with a very high glaze.

Then, a clean, accurately cut border provides a neat frame for the picture, and this is most difficult to achieve with a knife or scissors. It is easier, and more certain with a print trimmer. Mounting, too, is more cleanly and satisfactorily done by the "dry-mounting" tissue method.

Finally, black and white spots caused through dust spoil the appearance of any print. Spotting and "knifing" in most cases takes only a few minutes, but it makes all the difference between a first-class print and one that illustrates careless working.

As with all processes of photography, "practice makes perfect," so, particularly with retouching, practise on some old prints until you can produce a well-finished picture every time.

ILFORD ACCESSORIES**AMATEUR GLAZER**

Prices: Glazer . . . £5 12s. 6d.
Glazing Sheet . . . 17s. 6d.

This machine uses a glazing sheet size 10×14 in., which will accommodate comfortably 10 2½×3½ in. prints or two whole-plate enlargements at a time. The glazing sheet is first cleaned and swabbed with some of the glazing solution mentioned below, and the wet, glossy prints are laid face downwards upon it, and squeegeed to exclude all air-bells. The glazing sheet is then placed on the machine, and a cloth cover is tightened down.

The machine itself has sheet metal sides and a duralumin top-plate. Heat is provided by a mat-type heater element of 300 watts. Within a few minutes, the cloth can be lifted, and as they are dry, the prints will crack off with a perfect mirror glaze. This machine is for use on 200-250 volts AC/DC supply.

JUNIOR ROLLER SQUEEGEE

Price 6 in. 5s. 7d.

For squeegeeing prints on the glazing sheets described above, and also suitable for mounting prints with paste or rubber solution. The roller is a rubber-covered wooden core, 6 in. wide, mounted on a varnished wooden handle.

JAYNAY ROLLER SQUEEGEES

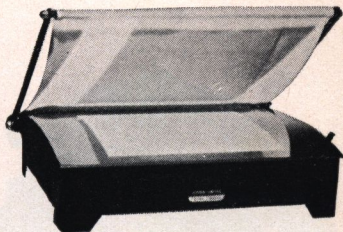
Prices: 4 in. 4s. 9d.
6 in. 9s. 0d.
8 in. 13s. 0d.

Roller squeegees of red rubber fitted with a varnished wooden handle. Supplied in sizes 4, 6 and 8 in. wide.

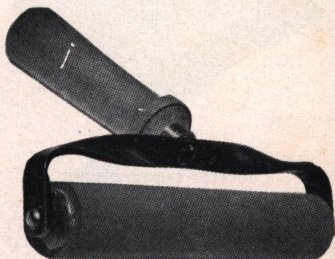
"BANGO" GLAZING SOLUTION

Prices: 6 oz. bottles 2s. 0d.
20 oz. bottles 5s. 0d.

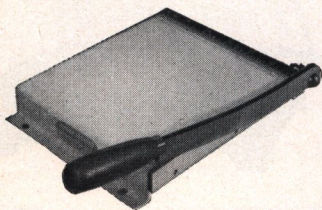
A concentrated solution for use on the glazing sheets described above.



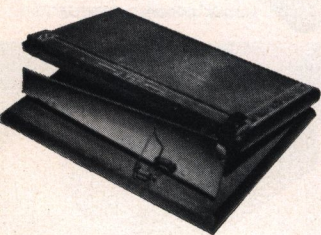
JUNIOR ROLLER SQUEEGEE



JAYNAY ROLLER SQUEEGEE



JUNIOR PRINT TRIMMER



MERRETT TRIMMING DESK

A good print trimmer can be regarded as an investment, for it will last almost indefinitely and can have many uses in photography.

ILFORD JUNIOR PRINT TRIMMERS

The base is of white enamelled steel, and the plastics ruler has white figures on a black ground. Rubber feet are fitted, but, alternatively, it can be screwed to a bench.

ILFORD DECKLED-EDGE TRIMMERS

Strongly made metal base trimmers with a cutting blade which gives an attractive deckled-edge cut. Adjustable for squareness. Hammered aluminium finish.

MERRETT TRIMMING DESKS

Desk-pattern trimmers with a push-down cutting action. Blades of hardened crucible steel, mahogany finished, and the measuring rule is adjustable for squareness.

SIZES AND PRICES

Size	Ilford Junior	Ilford Deckled-edge Trimmer	Merrett Desks
	£ s. d.	£ s. d.	£ s. d.
6 in.	1 4 0	1 9 6	—
7 in.	—	—	—
8 in.	—	—	3 0 0
9 in.	1 12 6	1 17 6	—
11 in.	1 17 6	2 5 0	4 2 6
13 in.	—	—	5 0 0
16 in.	—	—	6 5 0

PEN NIB TRIMMERS

Price, per box of 20, 4s. 3d.

Small, hardened steel blades, sharpened on both sides, which will cut prints, films and thin mounts. A small holder is supplied in each box, or they can be used in an ordinary pen-holder.

ILFORD ACCESSORIES

PRINT FINISHING SECTION

MOUNTING THE PRINT

By far the easiest, cleanest, and most efficient method of fixing prints to mounts and in albums is that which uses dry mounting tissue. This tissue is coated on both sides with shellac, and is interposed between the print and the mount. By applying the right amount of heat (usually about 160°-180°F) the shellac melts and sets again, providing a strong adhesive.

ADEMCO DRY MOUNTING IRON

Price £4 17s. 6d.

To attach the corners of the print to a mount a fixing iron is supplied. When the print is in position on the mount, heat is applied with this thermostatically controlled electric iron. The size of the base is 4×6 in., and this model is for use on voltage range 200/240, AC/DC.

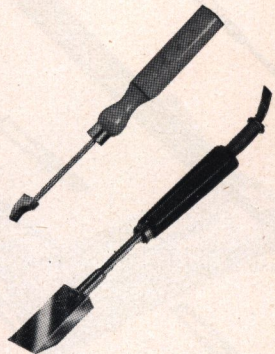
This iron will mount enlargements by applying heat successively over different portions of the print until the whole surface is covered.



ADEMCO FIXING IRONS

Prices: Electric £2 5s. 0d.
Gas 10s. 0d.

These irons are for applying the tissue to the print, and for "touching down" on the mount. The gas model is heated in an ordinary gas burner, and the electric model is supplied in voltage ranges 100/110 and 200/250.



DRY MOUNTING TISSUE

For use with the equipment described above. Supplied in all sizes up to 20×24 in. Prices per box of 100 sheets:—

	s.	d.		£	s.	d.
2½×3½ in.	1	6	8×10 in.	10	6	
3¼×4¼ in.	2	3	10×12 in.	15	9	
4¾×6½ in.	4	3	12×15 in.	1	4	0
6½×8½ in.	7	9	16×20 in.	2	2	0

PRINT FINISHING
SECTION

SPOTTING BRUSHES

Supplied in sizes from 00 to 6, and in two qualities, squirrel and sable.

Prices :—

	Squirrel	Sable
	s. d.	s. d.
00	9	1 5
0	10	1 6
1	10½	1 7
2	11	1 8
3	1 0	2 3
4	—	3 0
5	—	4 6
6	—	6 6

RETOUCHING PENCIL HOLDER

Prices : Holder 6s. 10d. Leads, per box, 3s. 0d.

A retouching pencil holder which holds special leads 5 in. long. Leads are supplied in all degrees of hardness from 2B through to 6H.

RETOUCHING KNIFE

Prices : Handle 5s. 0d. Blades 3s. 0d.

A stainless steel holder on which are fitted blades of finest surgical steel. Three different shapes of blade are supplied in packets of six, known as 10, 10A and 11 for different requirements.

SPOTTING AND RETOUCHING
COLOURS

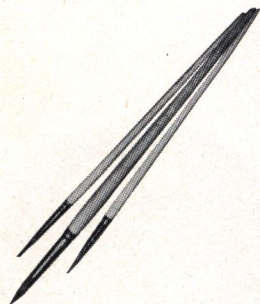
Price 12s. 6d. per set

Three spotting brushes and eight pans of water colour paint. An accurate match can be made of the image colours on all photographic papers.

GLOSSY RETOUCHING COLOURS

Price 7s. 6d. per set

This outfit consists of three spotting brushes and three tubes of colour which dry with a glossy sheen in shades blue-black, brown-black and sepia.



RETOUCHING
PENCIL HOLDER



RETOUCHING KNIFE
AND BLADES

10A

11

ILFORD ACCESSORIES

PRINT FINISHING SECTION

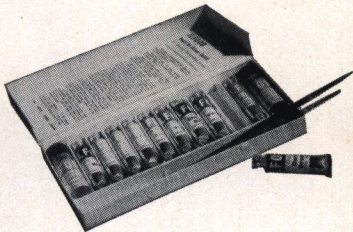
COLOURING PRINTS

Today, it is possible to have colour prints made from colour transparencies (see page 11), but there are many workers who enjoy the thrill of colouring their own prints. For colouring, the black and white print should be a little lighter in depth than normal so that the colour will ultimately make up the correct depth of tone. Generally speaking, the paper surfaces recommended are Semi Matt and Velvet Stipple Bromide, White Stipple and Grained Half Matt Plastika, and Velvet Stipple Multi-grade.

PHOTO OIL COLOUR OUTFIT

Price 13s. 6d.

Photo Oil Colours provide a simple and extremely effective method of colouring prints, and with a little practice very realistic results can be obtained. The outfit contains nine tubes of transparent oil paint, together with two brushes, turps, gold size and reducing medium.



WINSOR AND NEWTON PHOTO OIL COLOURS

Prices: No. 2 15s. 6d. No. 3 19s. 6d.

This outfit contains 11 tubes of oil paint and everything necessary for applying them, preparing the print surface and mixing the colours. The two outfits are similar in their contents, but No. 2 is supplied in a cardboard box and No. 3 in an enamel case.

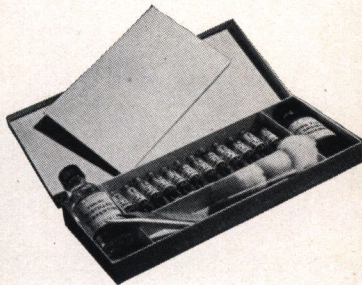


PHOTO TINTING SHEETS

Price 2s. 6d. per folder

Absorbent paper sheets impregnated with dyes which are soluble in water, and thus if mistakes occur, the dye can be removed by washing the print in running water. The sheets measure $2\frac{1}{2} \times 4\frac{1}{2}$ in., and are in folders of 10 colours.



An unretouched negative showing scratches and other blemishes



The same negative spotted and retouched to prevent blemishes from appearing in the print

**FOR TREATMENT OF THE
NEGATIVE**

Even when the greatest possible care is taken, negatives become scratched and marked. A deep scratch, for example, will print as a black mark, and if an enlargement is made, it can become a very difficult matter to "knife" away on the print. It is often easier to paint-in the mark on the negative, so that it appears as a *white* mark on the print, which can then be toned down with a spotting brush or pencil.

ILFORD RETOUCHING MEDIUM

Price 2s. 6d. per 2 oz. bottle

With this medium, the surface of the negative will more easily accept the retouching pencil, dye or paint which is used for retouching. It is not affected by negative varnish, and can be removed with turpentine.

MARTIN'S RETOUCHING DYES

Price 2s. 0d. per bottle

Retouching dyes in black, brown and grey, which can also be used for spotting prints.

LIQUID OPAQUE

Price 1s. 0d. per bottle

A red-brown opaque liquid for masking-out some particular area of a negative. Can easily be removed afterwards by washing the negative.

MICROSCRIBE

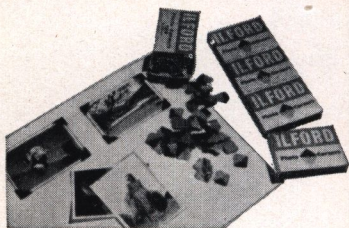
Price 4s. 0d. per bottle

A smoothly flowing white ink for titling glass or film negatives, or for titling photographs in albums. It can be applied with pen or brush, and is supplied in a wide-mouthed screw-cap bottle.

I L F O R D

**Sundry
Equipment**

SUNDRY EQUIPMENT



80

ILFORD ACCESSORIES

PHOTO CORNERS

Prices Transparent 9d. per box
Other colours 8d. " " "

Small, adhesive corners for holding prints in albums. Supplied in boxes of 100 corners in the following colours:— No. 1, Transparent; No. 2, Black; No. 3, Brown; No. 4, Sepia; No. 5, Light Sepia; No. 6, Ivory; No. 7, White; No. 8, Grey; No. 9, Gold and No. 10, Silver.

POPPET STICK-A-PEN

Prices: Pen 6s. 11d.
Refill bottle 2s. 7d.

This little device dispenses small quantities of rubber adhesive and provides a simple and clean method of mounting prints in albums. Just a push-down movement at each corner of the print, and the print can be pressed into position. The size is approximately the same as an average fountain pen, and it is made from blue Polythene. Adhesive for refilling the pen is supplied in 2 oz. bottles.

WHITE TITLING PENCIL

Price 7d. each

Provides a clean and speedy way of titling prints in albums with coloured or black sheets. The lead sharpens to a fine point and the writing will not smear if wetted.

PASSE-PARTOUT

Price 7d. per roll

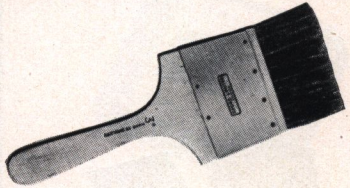
An inexpensive and neat method of framing photographs is provided by this coloured binding. A piece of glass is obtained to the same size as the print or mount, and the two are bound at the edges. Supplied in rolls 1 in. wide in ten colours.



POPPET STICK-A-PEN

ILFORD ACCESSORIES**DUSTING BRUSH***Price 12s. 0d.*

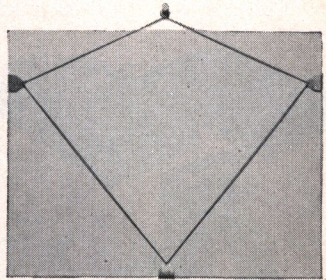
In every practical branch of photography dust can be troublesome and annoying. The best and easiest way to remove it is with this soft brush, 3 in. wide. Use it on enlarging equipment, sensitised paper, and help to avoid the waste of time caused by spotting and finishing.

**GODDARD'S ANTI-STATIC POLISHING CLOTH***Price 3s. 0d*

For cleaning and polishing lenses, enlarger condensers, negative carriers, lantern slide glasses and such similar articles where normal polishing methods produce a static charge with consequent attraction of dust. Size 12 x 17 in.

EXHIBITION PRINT HANGER*Price 3s. 0d.*

A wire frame device for holding exhibition prints up to 22 in. wide. The print is held on three sides by metal clips, which will also accommodate a sheet of covering glass if required. When not in use, the sides are folded to occupy very little space. This is a useful accessory for the exhibition worker who likes to hang his prints at home for a few days to ensure that composition and print quality are as desired, or for photographic societies and clubs for temporary displays.

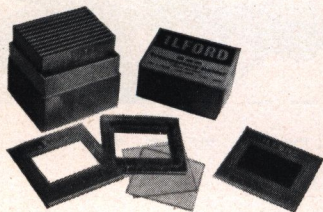
**NEGATIVE ENVELOPES**

$2\frac{1}{2} \times 3\frac{1}{2}$ in. 3s. 0d. 4 x 5 in. 5s. 0d.

$3\frac{1}{4} \times 4\frac{1}{4}$ in. 3s. 3d. $4\frac{3}{4} \times 6\frac{1}{2}$ in. 5s. 0d.

To avoid rubbing marks and abrasions every good negative should be placed individually in an envelope. These envelopes are semi-transparent and supplied in packets of 100.

SUNDRY EQUIPMENT



TRANSPARENCY HOLDERS

Price 9s. 0d. per doz.

With these light-weight holders the 35 mm. film is held by two pieces of thin glass in a rebated frame, and this slides into an aluminium cover which encloses the frame on three sides. Supplied in boxes of 1 doz. holders complete with glasses and titling strips.

COVER GLASSES

For binding lantern slides ($3\frac{1}{4}$ in. square) and 35 mm. transparencies for use in a 35 mm. projector (2 in. square). Supplied as follows:—

3 $\frac{1}{4}$ in. Square

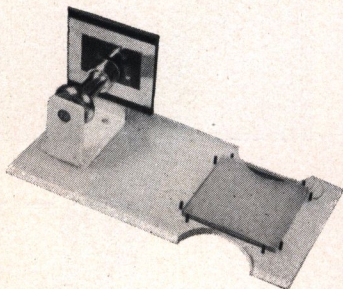
Standard thickness 3s. 6d. for 24

Thin 9s. 0d. for 36

2 in. Square

Standard 2s. 0d. for 24

Thin 3s. 9d. for 36



SLIDE BINDING MATERIALS

Spot Binders. Gummed paper for standard $3\frac{1}{4}$ in. square slides in boxes sufficient for 150 slides. Three black, and one white title strip are provided for each slide. Price 2s. 6d. per box

Full Length Binders. Strips of black gummed paper, size $13\frac{1}{2} \times \frac{3}{8}$ in. for binding a standard slide with one length of paper. Price 2s. 6d. per box

Rolls. Black gummed paper in rolls, size 100 ft. $\times \frac{1}{2}$ in.

MINIATURE SLIDE BINDER

Price 15s. 0d.

For binding miniature slides, this device has a translucent base which can be used over a lighted aperture, and a frame of metal pins in which the glasses, mask and film are positioned. The assembly is then held in a spring-loaded plunger while the edges are bound. Masks are described on page 84.

ILFORD ACCESSORIES

TRANSPARENCY VIEWER

Price 10s. 6d.

A pocket-size viewer for 2×2 in. transparencies. Light is supplied from two Ever-Ready No. 8 or Drydex 2.T.10 batteries. Insertion of the slide automatically switches on the viewer. Finished in black crackle cellulose. (Batteries not supplied.)

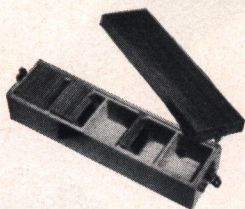
SUNDRY EQUIPMENT



MINIATURE SLIDE TRANSIT BOX

Price £1 0s. 0d.

For transporting and/or storing 65 miniature transparencies in metal holders. The box is of wood, finished in golden varnish and divided into five compartments. The lid is completely detachable, and held in the closed position by catches at both ends.



UNIVERSAL MINIATURE SLIDE CABINET

Price 12s. 6d.

A light-weight, maroon coloured plastics storage box for miniature transparencies. The inside has eight small compartments, each of which will hold 12 slides in metal holders, or 28 slides in very thin card-mounts. The lid is detachable, and held in place by a recessed knurled screw.

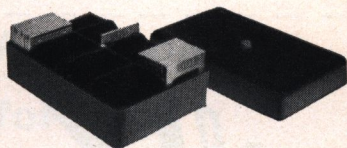
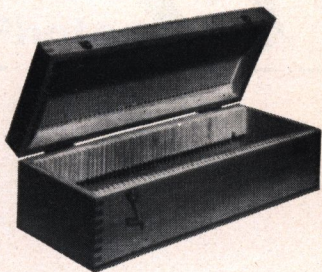
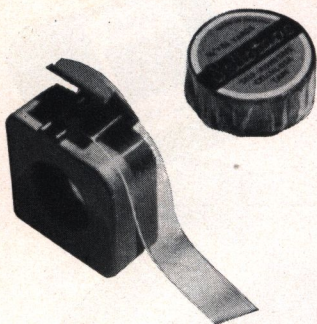


PLATE STORAGE BOXES

$3\frac{1}{4}$ in. square	£1 7s. 6d
$3\frac{1}{4} \times 4\frac{1}{2}$ in.	£1 7s. 6d.
$4\frac{3}{4} \times 6\frac{1}{2}$ in.	£1 8s. 0d

Well-finished wooden boxes with brass hinges and safety catches. Each box holds 50 negatives in vertical grooves which are numbered, and there is an index sheet inside the lid for quick reference.



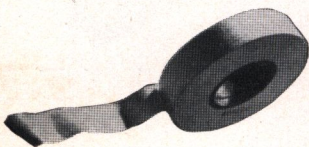


SELLOTAPE AND DISPENSER

*Prices: Refill 1s. 4½d.
With Dispenser 2s. 11½d.*

Sellotape is waterproof and transparent and sticks firmly to almost any type of surface. It has many uses in the home darkroom for making temporary repairs, sealing paper boxes, sealing packages of photographs, etc. Supplied in rolls $\frac{5}{8}$ in. wide and 8½ yds. long.

For easy use a pocket dispenser is available, from which a length of Sellotape can be withdrawn and broken off against serrated jaws.



ADHESIVE LINEN TAPE

Price 12s. 6d. per roll

A general-purpose tape with a base of white cotton cloth which serves many useful purposes in the home darkroom. Supplied in rolls 1 in. wide and 50 yds. in length.



SWANN-MORTON HANDI-TOOL

*Prices:
Handi-tool and 4 different blades 5s. 0d.
Blades, per ¼ doz. 3s. 0d.*

A small metal knife handle which will hold one of four interchangeable blades of different shapes. The blades may be swivelled back into the handle for carrying. May be used for print and negative retouching, trimming and mounting.

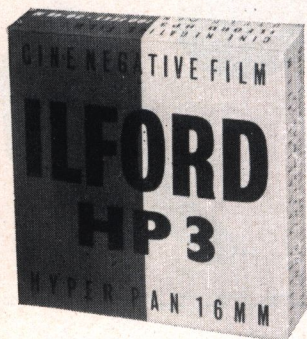
MINIATURE LANTERN SLIDE MASKS

Price 5s. 0d. per box of 100

Thin aluminium sheet masks for use when binding up miniature transparencies to make 2 × 2 in. slides with the materials described on page 82. The size of the mask opening is 23 × 34 mm.

I L F O R D

**Materials
and
Accessories
for
Cine
Photography**



ILFORD 16 mm. CINE FILMS

For the amateur cine worker, Ilford Limited supply two panchromatic negative films—HP3 and Pan F—in the 16 mm. size only. They are available on spools, in 50 ft. and 100 ft. lengths, perforated on both edges and wound emulsion in.

HP3 16 mm. NEGATIVE

A panchromatic film of very high speed, and with remarkably fine grain. While primarily intended for cinematography in artificial light, HP3 is also very useful for outdoor work in poor daylight, as in winter or late evening. It is not normally recommended for use in bright sunlight because its high speed leads to over-exposure unless neutral density filters are used over the camera lens. Coated on 5/1,000 in. safety base, permanently grey-dyed for anti-halation purposes and footage-numbered at the edge.

PAN F 16 mm. NEGATIVE

A medium-speed panchromatic film with extremely fine grain, suitable for all cine subjects in good daylight. The speed permits convenient stop settings with most cameras to suit normal outdoor subjects and lighting conditions. Coated on 5/1,000 in. safety base, permanently grey-dyed for anti-halation purposes, and footage-numbered at the edge.

SPEED RATINGS

Film	Ilford Group	
	Daylight	Tungsten
HP3	G	F
Pan F	C	B

B.S.I., Ilford Meter Scheiner		A.S.A., Weston and G.E. Meters	
Daylight	Tungsten	Daylight	Tungsten
34°	33°	200	160
23°	21°	16	10

Prices, both films :—

50 ft. £1 3s. 5d. 100 ft. £1 19s. 7d.

ILFORD ACCESSORIES

CINE
SECTION**WESTON MASTER II CINE
EXPOSURE METER**

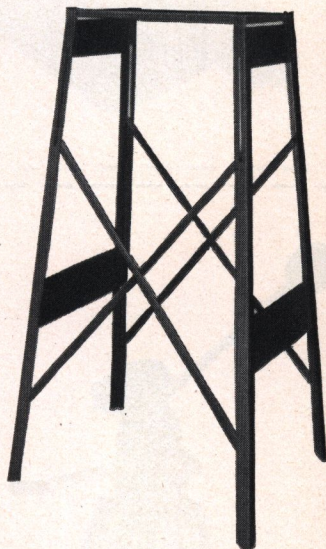
Prices: Meter £10 18s. 3d.
Leather Case £ 1 5s. 0d.
Invercone Attachment £ 1 6s. 5d.

This meter is fundamentally the same as that described on page 19, but is specially calibrated for cine photography. Alternative methods of exposure determination are fully explained in the instruction booklet. **Invercone Attachment.** An accessory which enables incident light readings to be made. A leaflet giving full details of the method of operation is supplied.

**PREMIER PROJECTOR STAND
(Standard Model)**

Price £5 15s. 0d.

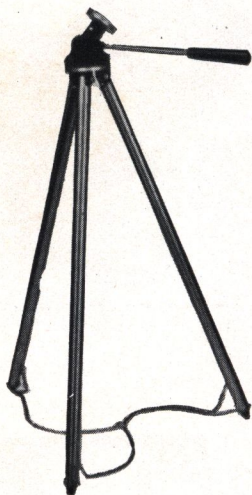
An absolutely rigid projector stand which will fold flat for storage and transport. It has an angle-iron frame with supporting side bars held positioned by wing-nuts, and the top measures 13 x 21 in. The height is 48 in. Finished in grey crackle enamel.



CINE TRIPOD

Price £16 13s. 7d.

An extremely rigid tripod designed especially for the cine worker. The legs are of chromium-plated brass, in three telescopic sections extending to a maximum height of 64 in. They may be locked at any height by half a turn relative to the tube above. The pan and tilt head, fitted with an English screw thread, is built into the top plate of the tripod and cannot be detached. For extra steadiness an adjustable stabilising chain is fitted. The lower sections are fitted with spikes, covered with removable rubber caps.



PAN AND TILT HEAD

Price £5 14s. 8d.

A separate pan and tilt head, described fully on page 22, which is similar to that fitted to the tripod described above. Particularly suitable for use with the heavy-weight tripods described on page 20. Finished in black crackle enamel and satin chrome.

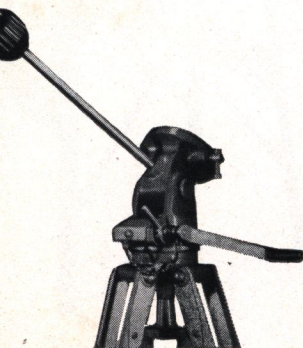
MPP TRIPOD

Prices: Tripod £6 6s. 0d.

Pan and Tilt Head £7 14s. 0d.

A heavy-weight tripod very suitable for all types of cine cameras. Fully erected, the head is 57 in. high, and it may be collapsed to 34 in. for storage and transport. The upper limbs are of wood and the lower, tubular legs are adjustable for height. These tubular legs are reversible to provide either a rubber or a spike support.

A separate pan and tilt head unit is available, on which slow panning for cine work is controllable by a winder, and tilting is controlled by an arm and locking handle.



ILFORD ACCESSORIES

16 mm. FILM JOINERS

Prices: Universal £4 17s. 6d.
De Luxe £6 6s. 0d.

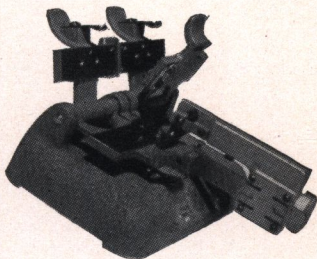
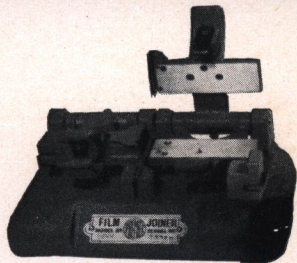
Precision-made splicers for 16 mm. and 8 mm. sound and silent films. The De Luxe model gives a $\frac{3}{32}$ in. overlap, but a $\frac{1}{16}$ in. overlap model is available to special order. The Universal model is also suitable for 9.5 mm. films giving a $\frac{3}{32}$ in. overlap. If required, a model for 16 mm. films only can be supplied to special order.

AUTOMATIC FILM SCRAPER

Price £6 6s. 0d.

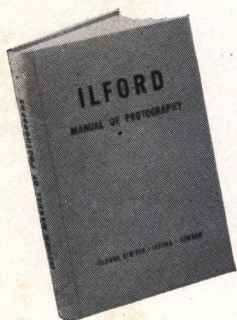
A fitment for the De Luxe Joiner described above. The blade is set to remove only the emulsion and substratum from the film. The price includes fitment by the maker.

CINE SECTION



I L F O R D

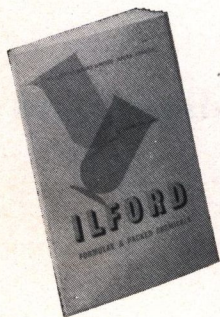
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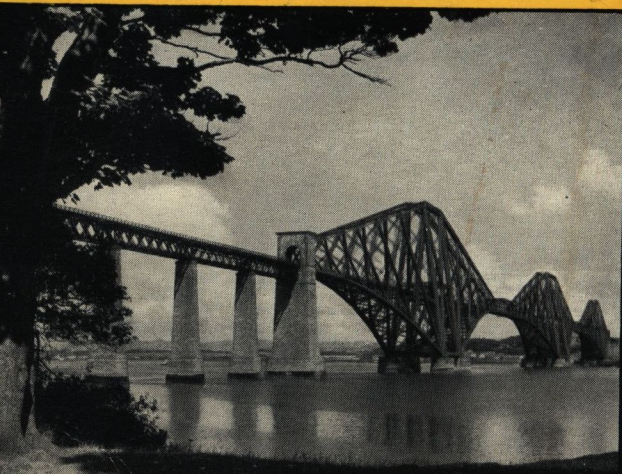


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