Viewing System

At a pressure of the thumb on the ridges which appear at the rear of the folded hood cover (Fig. 35 No. 1) the front is raised a little and then a strong spring takes over and erects the whole of the hood on all four sides, so exposing the ruled ground-glass screen. A large focusing magnifier is stowed at the inside of the front flap (Fig. 36 No. 7) and this is erected by inserting the fingertip under the small chromium plate at No. 6. A light upward pressure flicks the large magnifier into a horizontal position over the centre of the screen. This is incorporated in the centre of a top flap which keeps out stray light and helps to give a very bright screen image under all conditions. A further downward pressure on this top flap clips it again into the stowed position.

Direct Vision Finder

With the magnifier erected, the centre of the front flap (Fig. 35 No. 12) collapses inwards at a light pressure of the finger, and on being pushed a little further, it clips into position at a 45-degree angle. At the same time, it pulls down the top flap to close a roof over what has become a new eye-level, direct-vision finder. The peep window for this is now located at the upper part of the back flap (Fig. 36 No. 9). Below this, another magnifier can be seen (No. 10) and on sighting through this the image can be focused at eye level on the centre of the field through a 45-degree angle mirror which had also been erected by the simple operation mentioned above. This mirror reflects to the eye the view seen on part of the ground-glass screen of the camera.

Light pressure on the top flap will release the mirror, close the D/V finder and return the screen magnifier to the horizontal position at a touch.

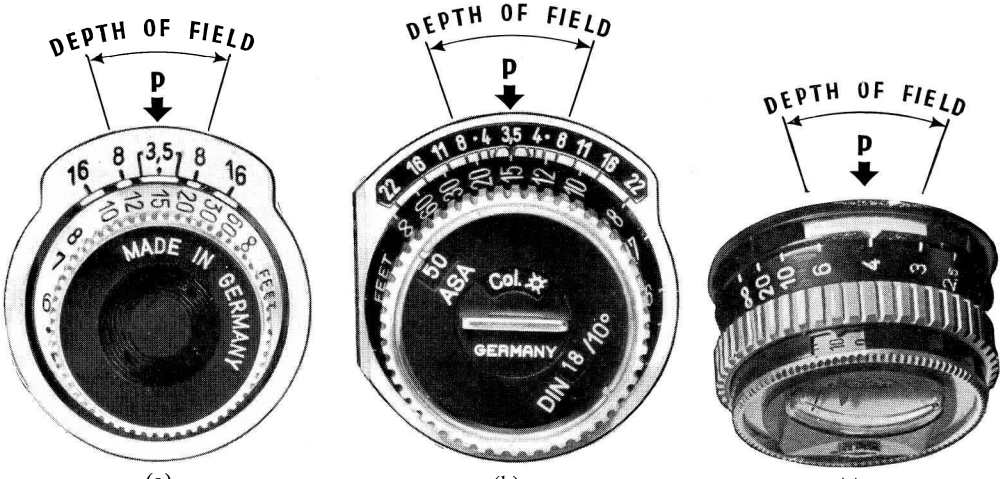
Focusing

As in the first Automat, focusing is effected by turning the knob at Fig. 36 No. 3 located on the left side of the camera body (when it is in the normal operating position). For this operation the left hand is, of course, used. This knob should be turned forward and back until the subject, when seen on the ground-glass screen through the focusing magnifier, appears as sharp as possible. Fine contrasty detail is always the easiest to focus upon.

Because of the wider aperture of the viewing lens than of the taking lens, depth of field (see Fig. 44) will be greater on the negative than it is on the screen and this, of course, always ensures needle sharp focusing.

Depth Scale

The focusing knob (Fig. 36 No. 3) is engraved in either feet or metres and it is rotated against a depth of focus scale (Figs. 36 and 43) from which the focal depth can be roughly read off at a glance.



(a) (b) (c)

Fig. 43

Focusing knobs and depth of focus scales on (a) the Rolleicord IV and earlier 'Flex and 'Cord models, (b) on the Rolleiflex Automat, 2·8C and D and Rolleicord V, (c) on the Exposure Meter Models.
Point P shows the actual point of focus, and depth of field at any aperture can be read off between any two like apertures.

It is only necessary to notice which measurements are included between the two like apertures shown at either side of the central position (see page 83).

Shutter Speeds

These are shown as figures which appear in the top peep window (Fig. 35 No. 14) situated above the viewing lens. Those nearest to the camera body are the shutter speeds and are indicated as fractions of a second, except the figure 'I' which represents an exposure of one second duration. The speeds available are 'B' for Bulb or Brief Time, 1 second, $\frac{1}{2}$, 1/5th, 1/10th, 1/25th, 1/50th, 1/100th, 1/250th, 1/500th second. These speeds are varied by turning the milled knob at the right or crank handle side of the camera towards the front of the lens panel (No. 17). Intermediate speeds can be judged and used between any of the marked values except between 1/10th and 1/25th second also between 1/250th and 1/500 second. A special warning is given in the case of the 1/500th second which cannot be engaged after the shutter has been cocked (see page 40). This shutter is only fitted with a Brief Time mechanism and for long time exposures a time-lock cable release must be screwed into the cable release socket at No. 9 and the lock engaged.

Lens Apertures

The left hand milled knob (No. 17) on the focusing side of the camera is used for

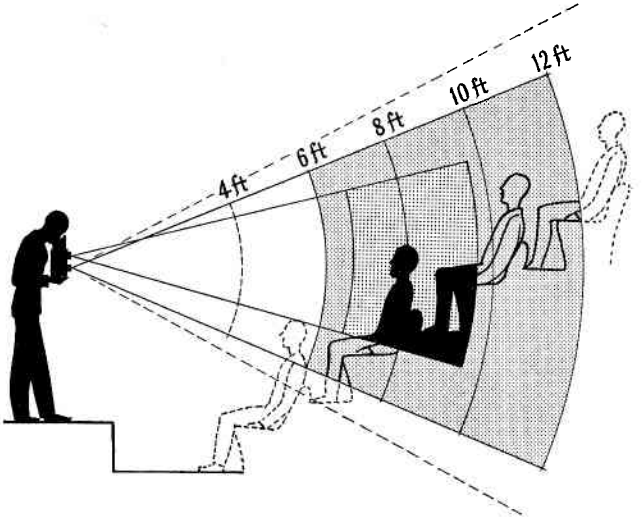


Fig. 44

This shows how the viewing lens has a much smaller depth of field than the taking lens. The solid area shows the depth of field as seen on the viewing screen, and the shaded area shows how the depth of field recorded on the film is much greater at any average working aperture.

setting the apertures which appear in the front part of the same peep window mentioned above. These are marked f/3·5, 4, 5·6, 8, 11, ⊙, 22. The aperture f/16 has been omitted because of lack of space for engraving but is indicated by a dot (·). Any intermediate position can be used and although any one of these apertures can be utilized as the occasion demands, wide aperture lenses like those fitted to the Automat give their finest definition between f/5·6 and f/11. Whichever aperture may be selected for use in taking the picture, the viewing lens always uses the widest aperture of which it is capable.

Loading the Camera: Opening the Back

Whenever possible choose a situation away from bright sunlight or studio lights but if this is not possible then provide some shade with the body and retain the double lens cap in position during this operation. Place the camera face down on a flat surface or on its head for this important procedure. Looking at the camera base (Fig. 47) turn the safety catch (No. 2) to the left in the direction of the arrow, then lift the catch No. 1. Swing up the back until it rests against the hinge or if on its head, swing it down until it rests on the flat surface. Make quite certain that the adjustable pressure plate is in the correct position and that the inscription $2\frac{1}{4}'' \times 2\frac{1}{4}''$ (6×6 cm.) can be seen (see page 58).

Inserting the Spool

Now that the back is open, turn the crank handle (Fig. 35 No. 5) in a clockwise direction until the winding key (Fig. 45 No. 2) is in a vertical position. Pull out the knob

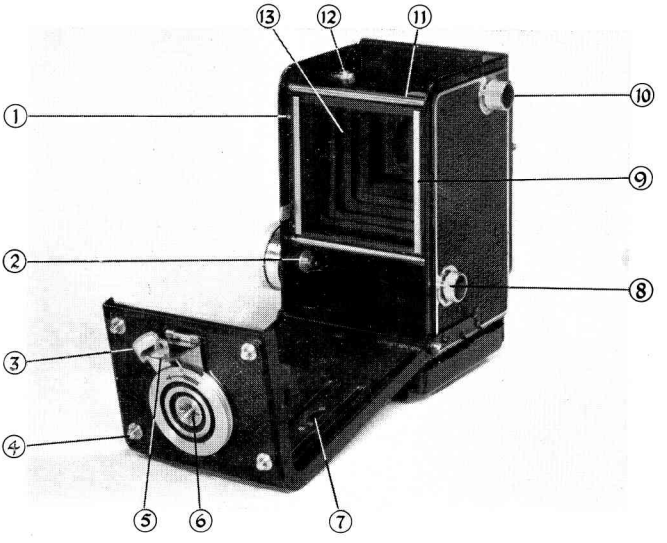


Fig. 45

Interior view, with the back of the Rolleicord IV in the open position; (1) Film loading indicator points; (2) Film wind key; (3) Base Lock; (4) Levelling feet; (5) Base catch; (6) Tripod bush; (7) Dual purpose adjustable pressure plate; (8) Take-up spool retaining knob; (9) Film gate; (10) Feed spool retaining knob and cine film rewind knob; (11) Pressure leaf spring; (12) Feed spool pivot; (13) Light baffles.

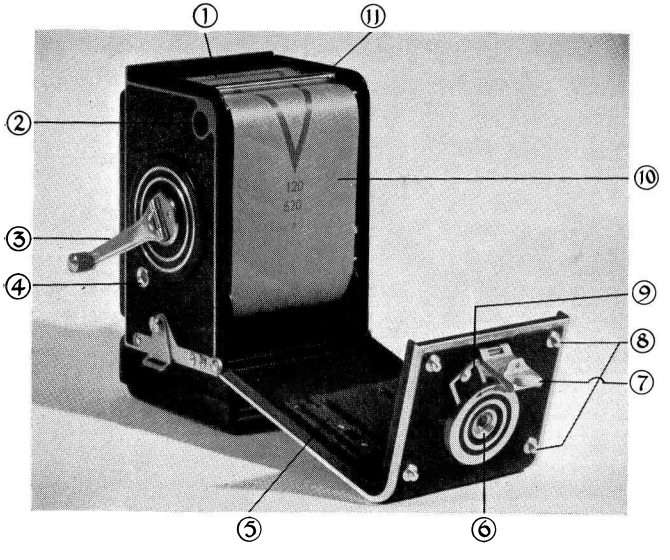


Fig. 46

Interior view of the Rolleiflex Automat II, with the back in the open position and film correctly threaded: (1) Feed spool; (2) Crank handle stowage; (3) Crank handle; (4) Film numbering peep window; (5) Dual purpose adjustable pressure plate; (6) Tripod bush; (7) Base clip; (8) Levelling feet; (9) Base lock; (10) Film backing paper threaded over gate; (11) Measuring roller. N.B. —Backing paper *must always* be threaded *under* this roller otherwise the automatic numbering mechanism will not function.

(No. 8) at the other end of the spool chamber and a half turn will hold it in the out position. Take an empty spool from a No. 120, 20 or B-2 film and insert it with the key-way vertical and to the right, so that it engages the winding key of the camera,

then let the spool fall comfortably into the take-up chamber, give the retaining knob (No. 8) another half turn until it drops back into position and engages the other end of the empty spool.

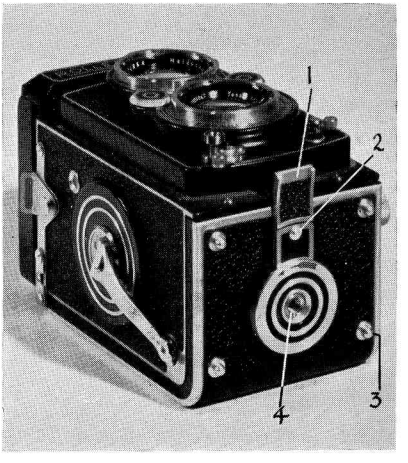


Fig. 47

Base view of camera: (1) Base clip; (2) Base lock, which is opened in the direction of the arrow; (3) Levelling feet; (4) Tripod bush.

Inserting the Film

The feed spool chamber is located at the opposite end of the open camera. Take a spool of film, size 120, 20 or B-2 with the seal still unbroken and insert it (key-way to the left this time) on the pivot inside the right hand corner of the feed spool chamber. Press it down against the leaf spring (Fig. 11) whilst pulling out the retaining knob at No. 10. Then allow this to return to its normal position, when it will engage the aperture at the other end of the spool. Now break the seal of the film, remove all loose gummed paper and pull out a short length of the backing paper. There is no danger of the film unwinding as it is firmly held by the leaf spring.

Threading the Film

Bring the paper leader *underneath* the roller (Fig. 46 No. 11) then over the film gate rollers and the film gate itself and insert the end in the wide slot of the empty take-up spool. Push it right through until it appears in the narrow slit on the other side of the spool and then turn the crank handle slowly until one complete revolution of the take-up spool has been made, at the same time centreing the backing paper so that it rides comfortably between the shoulders of the spool and is not riding up on one side and leaving a space at the other. Close attention should be given to this operation as it

is quite contrary to the loading of any other camera to which the photographer may have become accustomed as in these, the film is always led *over* all existing rollers. Unless this point is carefully followed the film will not stop automatically at the first exposure but instead it will be wound uselessly right through to the end and will be wasted.

Closing the Camera

Swing the camera back into the closed position, push home the clip Fig. 47 No. 1 and fasten the safety lock No. 2 by turning it to the right against the direction of the arrow and push it home. Now turn the camera again to its normal handling position and wind the crank handle in a clockwise direction until a definite stop is felt. Do not be deceived by the first gentle pressure as this is the point at which the feeler mechanism is encountering the double thickness of film and backing paper and brings the automatic mechanism into operation. This halts the film some three inches further on at No. 1, which is indicated in the peep window at Fig. 35 No. 4.

Shutter Setting

As soon as a definite stop is felt, reverse the crank handle in an anti-clockwise direction until a second stop is felt – this cocks the shutter and prepares the camera for the first exposure. You may now turn the crank handle over on its hinge and stow it in the space provided at Fig. 35 No. 6. The camera is now ready for action and the shutter speed knob (No. 17) should be turned to show an appropriate speed in the peep window (No. 14). (The fastest speed of 1/500th second must not be engaged at this stage, see below.) To make an exposure, press the shutter release at No. 7 after first removing the safety catch (No. 8) by swinging it downwards, and then repeat the forward and backward wind of the crank handle to a definite stop in each direction. This will bring a new frame of film into position in the gate, set the shutter for the next exposure, bring the No. 2 into the peep window at No. 4 and interlock the shutter against double or missed exposures. Now continue in this manner right through the roll of film until the twelfth exposure has been made when it will be found that the crank handle can be wound without a stop for several turns; this will take all the backing paper on to the take-up spool. A clicking sound of paper trailer against metal will indicate this.

The Top Speed of 1/500th Second

It has been mentioned above that as soon as the crank handle is wound and reversed, the shutter is cocked and once in this position the top speed cannot be engaged. Under no circumstances should any attempt be made to force the speed adjustment from

1/250th to 1/500th once the shutter has been set. To engage the fastest shutter speed, this must be moved into position in the peep window at No. 14 *before* the crank handle is wound and reversed. Similarly it cannot be disengaged and a slower speed brought into position except when the shutter is free and uncocked. If it is necessary to use the 1/500th and if, for example, the 1/100th second is already in position and the shutter cocked, then a single frame of film must be wasted by pressing the release, the speed dial re-adjusted to 1/500th and then the crank wound and reversed and the shutter reset for this speed.

Delayed Action

The delayed action release button (Fig. 35 No. 15) which allows 12 seconds delay before actually firing the shutter, permits the photographer himself to be included in the picture. This control is situated at the right hand top corner of the front panel and as the crank handle winds the film and cocks the shutter, so the delayed action mechanism is preset every time and is therefore always ready for action.

For use, place the camera on a tripod, or towards the front edge of a steady table. Adjust the shutter speed and diaphram setting to the prevailing light conditions and push the button (No. 15) towards the right, i.e. in the direction of the engraved arrow, and a burring sound will be heard as pinion wheels are actuated by a strong spring mechanism. The photographer should immediately take up his position as pre-arranged and pre-focused, and he has twelve seconds in which to reach his position. At the end of this time, the tell-tale click of the shutter will indicate that the exposure has been made.

Removing the Exposed Film

When the film has been wound off, open the camera back again as described on page 63, pull out the knob (Fig. 45 No. 8) at the same time steadying the roll with the finger, withdraw it first from the left side, and seal down the film with the adhesive paper provided. (Occasionally this sealing strip may be caught up behind the pressure plate.)

Flash Synchronization

The stud at Fig. 35 No. 19 takes the standard Compur co-axial plug which is fitted to the Rollei flash gun or is found on the majority of guns. The flash control button at No. 18 has two positions, 'X' and 'M'. The 'X' position is normally used for electronic flash, or for the short delay flash bulbs of the S.M. type, and these can be synchronized on all speeds up to 1/100th second. Electronic flash can be used on any speed. The 'M' position is used for the longer delay bulbs of the Philips' P.F. type, and synchronization can be obtained up to 1/500th second. Full details of flash synchronization are given in the chapter on Flash Photography.

Cine Film Equipment

On the front frame of the direct vision finder (the top of the camera), can be seen three locating studs (Fig. 35 No. 13). These accept the finder mask of the Cine Film equipment provided in the Rolleikin II outfit (see page 115). This model is also fitted with a dual purpose pressure plate in the back which makes it unnecessary to have a special back for use with cine film. By pressing on this ribbed pressure plate (Fig. 45 No. 7) both downwards and horizontally, the figures $1'' \times 1\frac{1}{2}''$ (24×35 mm.) are exposed. A further pressure on the pad in the reverse direction will again bring the figure $2\frac{1}{4}'' \times 2\frac{1}{4}''$ (6×6 cm.) into position and the film indicated can then be used.

The lower (feed spool) chamber film retaining knob (Fig. 36 No. 5) is now larger and cannot remain fixed in the 'out' position as in the Automat I. This is now a double action retaining knob both for standard roll film and for the Rolleikin equipment, and in the latter case it acts as a rewind knob. In this model, the screen mask for the $1'' \times 1\frac{1}{2}''$ (24×36 mm.) size is retained by a spring catch at No. 11 which controls two small size lugs which hold the mask in position over the screen.

1954/56 IMPROVED MODELS

The Automat II underwent various slight changes in 1954 which, in effect, are some of the more popular features of the Automat 2·8C described on page 71. The general design and operation of the camera remains exactly as described above, but it has several additional features.

Multiple Exposure Release

Although, as usual, the film wind is interlocked against double exposures, many workers demand the ability to make double or multiple exposures for use in photo-montage, etc. and this is provided for in this model. On the hub of the winding knob (Fig. 47b) a knurled wheel has been incorporated, which, on being turned forward in the direction of the arrow, allows a second exposure to be made on the same frame of film. To cock the shutter for the second exposure, the film wind crank is given a reverse turn only. The interlock mechanism will now operate normally unless the release wheel is again turned forward. This is also an invaluable feature in the event of a flash bulb failing to fire, when it is only necessary to release the interlock mechanism and re-cock the shutter in the same way.

Focusing Knob

As in the Automat 2·8C and following the success of the auxiliary focusing knob accessory, a new enlarged knob has now been incorporated (Fig. 42d No. 4) embodying the same easily read silver figures on a black ground, both on this and on the depth scale adjacent to it (No. 1). This knob also embodies the film type and speed

reminder panels as in the extension knob, but it is actuated by one single control. When this is turned anti-clockwise it allows the film type to be shown in the inner aperture at No. 4. This reads: Pan, Ortho, Daylight Colour, Artificial Light Colour. When it is turned clockwise it permits the film speed to be seen in the outer aperture in both ASA and DIN speed ratings. This second movement does not upset the first movement described above. For B.S. and European Scheiner speeds, add 10 to the DIN speed.

Neck Strap and Back Hinge Plate

This part of the camera has also been redesigned, and is now equipped to accommodate a neck strap with clips that permit easy removal and insertion into the special eyepieces provided (Fig. 42c No. 3). The special strap is supplied with the camera, and is firmly attached when the slip-locks on the strap ends are pushed down and they still allow the neck strap to ride back and forth in the space provided so that the camera always hangs in a level focusing position. To fasten the strap, hook the metal loop on the anchor button, pull locking slide down and push it into the strap holder slot as far as it will go. These new side plates end in the new type hinge which facilitates the removal of the camera back by simply turning the catch at No. 2 upwards and clockwise. With this fitting there is no danger of accidentally releasing the back panel. The film spool retaining knobs are automatically locked in position when the camera is closed so that they cannot be accidentally withdrawn, causing misalignment of the film.

Shutter Release and Guard

A new shutter release guard (Fig. 42c No. 9) has been devised which is enclosed within the front panel. It is only necessary to turn the chromium stud in a clockwise direction to lock the shutter release, which will ensure against accidental exposures. It can also be used to keep the shutter open for time exposures when set to 'B'. First depress the release half way, then turn the lock and press the release the rest of the way, when the blades will remain open until the lock is released.

The shutter release of this model has been specially balanced to open only after overcoming a slight but distinct resistance. The exact instant of exposure can, therefore, be gauged very accurately by feel. At the other side of the camera front, the flash plug with M and X positions (Fig. 12) has been redesigned and now incorporates a lock mechanism in the change-over lever. When in the vertical position midway between M and X, the lock is open, and turning it in either direction locks it.

Light Value Scale

This recent development in exposure control is engraved on the shutter speed setting wheel (No. 15). It actuates the speed and the aperture dials together so that an

increase in aperture is automatically compensated by a shorter exposure and vice versa. Speed settings, however, can be adjusted separately by holding the aperture wheel and turning the speed wheel. In the later versions of this model the speeds and apertures are permanently in mesh until the centre of the aperture wheel is depressed, when both become free. In 1956 this feature was again modified to allow permanent unmeshing when required. To release, it is only necessary to depress the central boss and then turn it out of register with the lines engraved upon the milled wheel (see Fig. 47a). To re-engage the Light Value Scale, the engraved lines should again be placed in register.

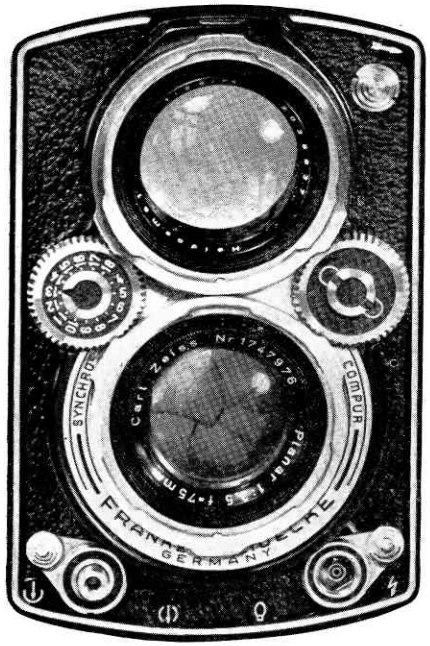


Fig. 47a

The front of the modern Automat showing light value scale engraved on speed adjusting wheel at left. The arrow in the centre is rotated by the aperture setting wheel at right. The centre of this wheel can be depressed to allow independent settings of speed and aperture. Turning it out of mesh with the engraved marks uncouples the light value interlinkage.

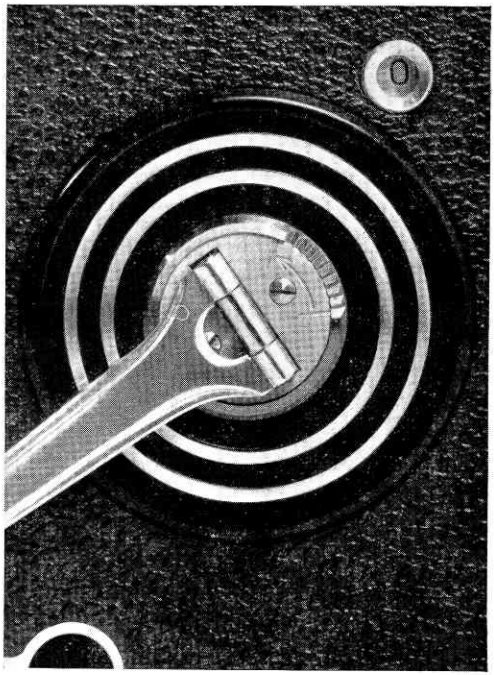


Fig. 47b

The Modern Rolleiflex film wind crank showing the optional double exposure release lock on the boss. The milled part is pushed in the direction of the arrow once for each extra exposure required on one frame of film.

Once set to the correct number, the speeds and apertures are altered together by turning the speed adjusting wheel. This is now equipped with click stops making it impossible to set intermediate positions between the marked shutter speeds. This is of special importance in colour photography where it is often necessary to repeat the same exposure to a high degree of accuracy.

New Compur Shutter

In order to correlate the light values, the shutter has been redesigned to give a range of speeds, each one of which is half the preceding speed and the following are now obtainable with this shutter, 1 second, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/125, 1/250 and 1/500th second. The slight differences between the 1/15th second and the correct 1/16th second and the 1/240 and 1/250th second, are so slight as to make no material difference in exposure, even with colour film.

Flash Plug

For use with the Rolleiflash or with the special connecting plug available, the lock (Fig. 42c No. 12) avoids any possibility of accidentally pulling it out. To open the lock and withdraw the plug, swing the lever (No. 13) to the central position. In either the M or X position, the plug can be inserted, but not withdrawn. For use of the M and X positions see page 67 and Chapter XIV.

Size and Weight

These models measure $5\frac{1}{2}''$ high, $3\frac{3}{4}''$ wide, $3\frac{3}{4}''$ deep overall (14·3 × 9·4 × 9·5 cms.) and weigh 2 lb. $2\frac{1}{2}$ oz. (1 kilogramme) without their ever-ready case.

THE ROLLEIFLEX AUTOMAT F/2·8 MODELS

About 1950 a new model appeared, fitted with an f/2·8 Zeiss Opton Tessar lens and later with Zeiss Jena Biometar and various other minor differences. The Tessar, however, was taken out of production after only a very short existence due to the extreme difficulty experienced in producing lenses of the necessary high quality. The Biometar, though a fine lens, was not generally available from the Jena works.

The bayonet lens mounts on these models are of larger diameter and special size II accessories are provided in lens hoods, filters etc. Those for the Tessar and Biometar, however, are of a different size to those for the f/2·8 Xenotar and Planar, which use size III. A few other minor alterations in design can be seen in the illustrations at Fig. 39 and 40 and these include the substitution of a lever in place of the usual delayed action release button. The camera is heavier than the standard model but its operation is exactly as for the Automat II described on pages 60 to 68.

Automat 2·8C and D

In 1953 the 2·8C fitted with f/2·8 Schneider Xenotar lens appeared and this model includes many new advantages and refinements. This Xenotar lens at last satisfied

the high standard set by the makers themselves and because of its new and interesting design (see Fig. 7a) it is worthy of special mention. The previous four-element f/2·8 Tessar type lens begins to sacrifice definition at the expense of the wide aperture in an objective of 80 mm. focal length covering a 6 × 6 cm. field. But the construction of this new objective of the Gauss type, using five elements and three air spaces gives a highly satisfactory performance even at wide open aperture. In 1954, the Carl Zeiss Planar of similar focal length and aperture, also of Gauss type construction, was introduced as an alternative (Fig. 7b).

The 2·8D, of similar design, appeared late in 1955 and is essentially the same as the 2·8C except that it includes the Light Value Scale 10 speed shutter described on pages 70 and 91, the optional linked or unmeshed Light Value Scale shutter and flash lock and shutter release lock as incorporated in the 1956 f/3·5 Automat (see page 71).

Operation

The general handling and operation of the model is exactly as for the Automat II and loading and unloading of the film is carried out in the same manner. The larger lens mounts require the use of the special Type III accessories. It is therefore only necessary to describe the new and additional features incorporated in the new models.

Camera Body

The interior of the camera body has been redesigned to prevent internal reflections and a series of light baffles are cast into the inside walls of the body.

The film spool retaining knobs are automatically locked in position when the camera is closed so that they cannot be accidentally withdrawn, causing misalignment of the film.

Multiple Exposure Release

Although like all automats, the film wind is interlocked against double exposures, many serious workers demand a camera on which double or multiple exposure montages can be made. On the hub of the winding knob (Fig. 47b), a knurled wheel has now been incorporated which, on being turned forward in the direction of the arrow allows a second exposure to be made on the same frame of film. To cock the shutter for the second exposure, the film wind crank is given a reverse turn only. The interlock mechanism will then operate normally unless the release wheel is again turned forward. This is an invaluable feature in the event of a flash bulb failing to fire, and can save a wasted frame when changing from 1/500th second to a slower speed by simply covering the lens and bringing the double exposure device into operation. This, of course, does not apply to the model D which has the new 10-speed shutter and in which there is complete freedom of movement between the 1/500th sec. and any other speed.

The flash control for X and M settings is at the upper left of the camera front (Fig. 41 No. 8) and the delayed action button replaced by a lever (No. 19).

Shutter and Diaphragm Setting Wheels

These milled wheels in the model C are equipped with a locking device or automatic arresting slide so that once set, they cannot be accidentally moved from their positions. To change the setting, it is merely necessary to turn the knurled wheel (No. 21) whilst depressing the arresting slide (No. 9) simultaneously. Once the finger is removed, this will fall back into a locked position opposite whichever setting has been chosen. This feature is not, of course, necessary in the Light Value Scale shutter of the model D.

Delayed Action

The delayed action lever (No. 19) on all f/2·8 models must be independently cocked each time it is used by turning it from a vertical to a horizontal position in a clockwise direction. The model D has a safety lock at the top of this lever. As soon as it has been cocked the shutter can be released for delayed action pictures.

Magnifying Eye Pieces

The screen magnifier on the top of the hood (Fig. 42 No. 8) and the eye level focusing magnifier (No. 10) are adjustable and can be accommodated to all eyes, but the users should not wear spectacles during operation, especially if these are equipped with negative lenses. It is merely necessary to pull the magnifying eye pieces forward or back, up or down, to suit individual eyesights.

Focusing Knob

Following the success of the auxiliary focusing knob, a new enlarged knob has been incorporated (Fig. 42 No. 2) embodying the same easily read silver figures on a black ground, on both this and the depth scale adjacent to it (No. 1). This knob also embodies the film type and speed reminder panels as in the extension knob, but it is actuated by one single control (Fig. 42 No. 4). When this is turned anti-clockwise it allows the film type to be shown in the inner aperture at No. 3 and when it is turned clockwise it allows the film speed to be shown in the outer aperture at No. 5 in both American and European speed ratings. This second movement does not upset the first movement described above.

Cine Film Exposure Counter

The take-up spool retaining knob (Fig. 42 No. 12) embodies the film exposure counter normally supplied with the Rolleikin II Outfit and this accessory is no longer needed and therefore ensures a quicker change-over to the cine film size.

Neck Strap and Back Hinge Plate

The camera is equipped to accommodate a neck strap with clips that permit easy removal and insertion into the special eye pieces provided (Fig. 41 No. 3). The special strap is supplied with the camera and is firmly attached when the slip-locks on the strap ends are pushed down and still allow the neck strap to ride back and forth in the space provided so that the camera always hangs in a level focusing position. To fasten the strap, hook the metal loop on the anchor button No. 3, pull locking slide down and push it into the strap holder slot as far as it will go. These new side plates end in the new type hinges which facilitate the removal of the camera back by simply turning the catch at No. 2 upwards and clockwise. With these fittings there is no danger of accidentally releasing the back panel.

Shutter Release Guard

The shutter release guard (Fig. 41 No. 10) on the model C is enclosed within the front panel. It is only necessary to turn the milled wheel in a clockwise direction to lock the shutter release, which will ensure against accidental exposures. It can also be used to keep the shutter open for time exposures when set to 'B'. The cable release socket threaded into the plunger can still, however, be used. On the model D this has been replaced by the standard f/3·5 type lock described on page 69.

Flash Plug

The flash plug connector of the model C locks into the camera once it is inserted into the socket at No. 13 by turning the small milled flange No. 14 upwards slightly while the plug is being inserted and then releasing it. It is then positively locked into position and will not accidentally pull out. To release flash socket press up the milled flange when it can easily be withdrawn. The model D incorporates the f/3·5 type flash plug and this is described on page 71.

Pressure Point Shutter Release

The shutter release of these models has been specially balanced to open only after overcoming a slight but distinct resistance. The exact instant of exposure can, therefore, be gauged very accurately by feel.

Accessories

All accessories for these models are of the extra large diameter bayonet now known as Type III, but a new Rolleinar close-up accessory has been designed for them. This is known as the Heidosmat Rolleinar for the upper or viewing lens and incorporates a built-in Rolleipar for parallax correction. These new close-up lenses are all hard coated for the elimination of reflections.

THE 1956 EXPOSURE METER MODELS 3·5 AND 2·8E

Late in 1956 the standard Automat f/3·5 model, as described on pages 68 to 71, and the 2·8D, described above, both equipped with the Light Value Scale, were modified further to include a built-in photo electric exposure meter (see Figs. 42k and l). For the first time, the f/3·5 model is now equipped with a five-element Gauss-type objective similar in all other respects to that fitted to the f/2·8 models. This is an f/3·5 Carl Zeiss Planar of extremely fine performance and combines all the advantages of a high performance, fully colour-corrected, lens of perfect covering power and correct light transmission for colour photography. There are also one or two other small improvements which are enumerated below. The same camera, however, is available with f/3·5 Xenotar five-element lens, but without exposure meter. All parts and necessary wiring are already in position so that the meter and photo-cell can be added at a moment's notice. The 2·8E is equipped with either the f/2·8 Planar or Xenotar just as the previous 2·8 models.

The exposure meter is calibrated in light values only, to correspond with the setting of the Light Value Scale, and this combination makes correct exposure with the Rolleiflex an extremely simple question. The use and operation of these cameras is exactly as described above for their predecessors, but with the following additions.

Built-in Exposure Meter

The photo-cell of this accessory is built into the nameplate on the camera front (Figs. 42i and k No. 18) and for normal outdoor operation is used in the closed position. For interiors or dull lighting conditions, a front interior baffle can be raised which gives a fifty-times more sensitive meter than with it closed. In some meters this is done by means of a "booster" cell, but in the Rolleiflex this is already very sensitive and is, in fact, masked down to one-fiftieth of its normal sensitivity for standard use out-of-doors.

To raise the baffle for indoor use, press down the lever on the front right edge of the nameplate (Figs. 42i and k No. 17) when a red dot will show. In this position all readings on the meter must be taken from the red scale. For use as an incident light meter, a white plastic diffuser fits over the photo-cell and is accommodated in the camera case when not in use.

Focusing Knob

A new focusing knob has now been designed which not only performs all the previous functions, but, in fact, now contains the meter portion of the photo-electric exposure meter. Apart from its normal use of focusing the camera and acting as a film type reminder panel, it contains a needle working against a scale on the front of it (Figs. 42j and l No. 4) and an extra scale calibrated in light values round its periphery. A

further extra scale in DIN and A.S.A. supplies the film speed to the meter and also acts as a reminder of the speed of film in use.

To use the meter, first set the film speed in A.S.A. or DIN (for Scheiner or B.S. add 10 to the DIN speed) by turning the outer milled edge to the limit of its free travel, then forward for a higher speed or back for a lower speed, and continue turning until the necessary film speed has been reached. Now point the camera at the subject to be photographed and turn the same milled edge round the front periphery until the red needle on the meter is opposite the datum line. This can be seen through the top transparent plastic housing. The light value indicated can now be read off on the black scale.

In dull lighting conditions or indoors, when it is necessary to remove the baffle by pressing the lever No 17 described above, the same operations are necessary, except in this case the light values will be read from the red scale on the meter.

Depth of Field Indicator

Previous models of the Rolleiflex have used a depth scale around the focusing scale, as shown in Figs. 43a and b. In these new models the depth scale has been omitted and in its place are a pair of black louvres which expose a small white central area almost like the camera iris itself. As the aperture setting wheel (No. 21) is altered to give a wider aperture, so these black covers move inwards towards the centre showing a smaller patch of white. The extent of this can now conveniently be read off against the distance scale marked on the focusing knob, thus giving the depth of field automatically at every aperture (see Fig. 43c).

Focusing Hood

This is unaltered in the f/3·5 models, but in the 2·8E the previous 2·8 hood with adjustable magnifiers has been discontinued in favour of the f/3·5 type magnifier with large light-excluding baffle.

Neckstrap

A new neckstrap has been designed and is fitted to these models only. This has a fork-type lock which, on being pushed into the eyelet and over the button, locks automatically on entry. To release the neckstrap, the two sides of the fork must be pressed together, and ensures against accidental release. This accessory has now been hinged just above the fork so that the camera can be allowed to swing in any direction without damaging the camera due to scratches, etc. This strap is also used as a case-strap, the new type case having none (see page 154).

Back Plate

A new plate now replaces the Light Value Scale chart on the back of the camera. This permits setting of the Light Value Scale shutter for longer exposures than

1 second which are not catered for in the Light Value Scale, but may be necessary when longer exposures are indicated by the exposure meter, when the "B" shutter setting is used.

Shutter Release Guard

This is exactly the same as the previous model, but a visual indication of when it is locked and when it is unlocked is now shown by the new symbols, ⌣↓ which shows that the shutter cannot be used and (↓) which shows that the shutter is free.

Flash Synchronization

This is exactly as the previous models, but new symbols have been used to indicate the "X" and "M" settings. The "X" setting is now visually shown by a flash or lightning mark, and the "M" setting is shown by a representation of a bulb.

Cine Film Re-wind Knob

This has been slightly modified in these models so as to form a larger operating surface (No. 7) and facilitate the winding of the cine film back into the cassette.

Fig. 48

Carrying the camera. Under no circumstances should your Rollei be permitted to swing uncontrolled from the shoulder, but should always be steadied by grasping the strap close to the case.

Care of Your Rolleiflex and Rolleicord

Your Rollei is a precision instrument with more than 300 separate moving parts in it, many of them unbelievably small and performing surprising functions. In spite of this

it is an exceedingly strong and robust camera capable of giving years of trouble-free service. Nevertheless it needs a certain modicum of care and attention but nothing more, to ensure continual functioning at a very high pitch of accuracy and efficiency.

Although the outer casing is of strong die-cast metal and it is normally carried in a heavy leather case, do not allow it to swing uncontrolled from the shoulder. Otherwise it may swing against a wall or gate as you turn a corner, or climb a stile; such a knock as may result with the full weight of the camera behind it, may be the cause of many troubles including the non-synchronization of taking and viewing lenses, if this blow should be at the front part of the instrument.

Always keep your Rollei in the case provided, as it is specially reinforced at the front and top – the most vulnerable parts and all controls project through the sides of the case, so that it is rarely necessary to remove it therefrom, except when changing films.

Care of the Lenses

Always keep the Rollei double lens cap in position over the lenses except when actually using the camera. Optical glass is really very soft, it tarnishes like silver and is easily attacked by weathering spots, caused by impurities in the atmosphere. These are more prevalent in the vicinity of towns and cities, but exist everywhere.

Remove any dust specks from the front surfaces of the two lenses occasionally and also from the back surface of the taking lens, with a very soft squirrel brush and only attempt more drastic cleaning if they are really marked by fingers or grease. In such a case the following procedure should be carried out: remove any dust with a squirrel brush, gently wipe over the surface with a clean piece of best quality lens cleaning tissue, such as 'Green's 105', supplied by Ilford Ltd. and others, then remove with the squirrel brush any tissue that may remain. Should you have any obstinate grease marks which still remain after this treatment, then proceed as above, but moisten a grit-free, well washed soft linen handkerchief with a good lens cleaning fluid, such as 'Opticol', gently wipe and dry off with the lens tissue. It is not advisable to use Xylene or similar solvents which may work down into the cemented components and attack the lens balsam.

Removing Dust, etc.

After a few rolls of film have been through the camera, open the back, take out the empty spool and carefully remove any dust or debris which may have accumulated; this may have come from film, backing paper or wooden cores. The corners of both spool chambers are always the worst offenders, but do not forget the back of the camera – the space behind the pressure plate, and the inner edges of the camera body.

In some models particularly the Rolleicords III, IV and V in which the film numbering is dependent on the measuring roller, it is unwise to make frequent dummy 'winding-on' motions with a take-up spool in position, as the toothed measuring wheel will grind enamel and even metal particles from the spool and deposit them in the spool chamber. These may find their way into the moving parts of the camera or on to the film, causing in the former case unnecessary wear or even jamming, and, in the latter case, spots or scratches on the film.

Never allow your camera to be sprayed by sea water and if this should happen, retire to a safe place and remove every vestige of salt water before it can attack metal, leather or soft optical glass. Sea water and even sea air of high salt content borne by a strong wind can attack the coating or 'bloom' on your lens.

Under no circumstances should oil be introduced on to any moving part and especially does this warning apply to the camera shutter. Should any fault develop do not attempt to repair it yourself, even if you are a handy man with a screwdriver. The tiny screws, spindles, and pinions in your Rollei can only be safely handled by the highly skilled, precision camera repairer who already knows his way about every part of your Rollei's anatomy. Moreover, burred screw-heads and deep scratches spoil the look of your camera and bring down its value, which it will always retain at a high level if kept in pristine condition.

Above all do not lend it to others who may not know how to use it, or be aware of all the tricks which you yourself have learnt and who, in any case, have not that pride of possession which only you, the Rollei owner, can possess.

1957 MODELS

ROLLEIFLEX 4 × 4

During 1957 a new model appeared called the Rolleiflex Automat 4 × 4 (Fig. 63a) which is very similar to the Sports model last produced in 1939 and illustrated on page 28 (Figs. 28 and 29). As the previous model, this new camera uses 127 (A-8) film on which 12 exposures, each $1\frac{5}{8} \times 1\frac{5}{8}$ (4 × 4 cm.) are taken. The essential differences are in the method of film winding and the focusing hood. The lens fitted is an f/3·5 Schneider Xenar of 60 mm. focal length in a Light Value Compur Rapid shutter with X.M. synchronization and delayed action built in. The camera is finished in two tones of grey.

Focusing Hood

This differs from other recent Rollei types in that it does not collapse into the body of the camera, but lies entirely over the focusing screen which, in this model, is of the plano convex type with matted under-side. The hood is of 'concertina' construction and folds inwards at both side and back. To erect the hood it is merely necessary to pull up the back portion as in other modern Rolleis already described. There is a direct vision aperture in the rear portion, and the front centre portion collapses for use with it as in the normal Rollei hood. A magnifier is built into the front portion and is erected at the first gentle push of the collapsing centre panel. When this is pushed in a little further, it locks in the horizontal position leaving clear the open frame finder. To return the hood to screen focusing, it is only necessary to press lightly on the right-hand side panel, when the collapsible front will return to the vertical position.

Focusing

This is effected by turning the large milled knob at the left side of the camera as in the modern standard model Rolleiflex, and both the knob and the depth of field scale are similar to that fitted to the Rolleicord V with film speed reminder panel built into the vertical face.

Shutter

The shutter fitted to this model is the standard 10-speed Light Value Compur Rapid shutter, but the light value and the aperture are adjusted by pressing and turning the metal release on the left-hand side of the shutter housing when seen from the normal viewing position. To alter the shutter speed, the outer milled ring of the shutter is turned in either direction until the required speed comes into position, whilst holding the above mentioned metal release in the free (depressed) position. The speeds and apertures in actual use are indicated against a small U-shaped piece of metal on the left side of the shutter housing. The shutter speed and aperture are always in mesh as in all light value shutters, except when the release is depressed.

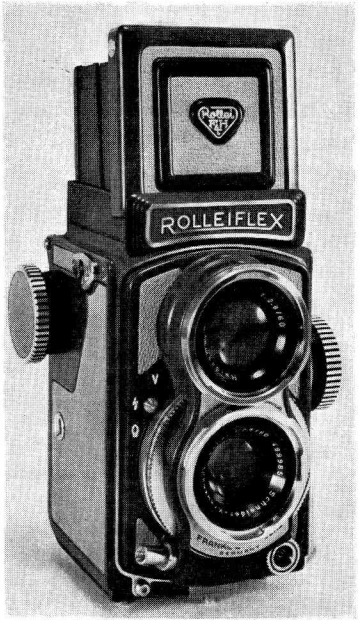


Fig. 63a

1957 Rolleiflex Automat 4 × 4.

Fig. 63b

1957 Rolleicord Va, showing removable numbering and spacing panel with counting mechanism.

Loading the Camera

The back is opened by the base lock in the same way as all other modern Rolleiflex and Rolleicord cameras and is shown clearly in Fig. 47. The back is now swung up and an empty spool placed in the take-up chamber. To do this the film wind knob on the right-hand side of the camera is pulled out, when the spool holder will immediately spring up into the loading position. The empty spool is now inserted in the grooves and the winding knob again pulled out whilst the spool and holder are pressed back. The winding knob is then allowed to spring home.

At the feed spool position, a red arrow will be seen showing the direction of film travel and before a film is inserted the finger should be allowed to press firmly on this arrow when the spool holder will spring out into the loading position. Now insert a roll of 127 or A-8 film and press firmly on the spool to return it and the film holder into the ready position. The film leader is now led over the rollers (N.B. not threaded through them) into the take-up spool in the usual way.

In this model the feeler mechanism is built into the side of the film gate and it is now only necessary to close the back, lock it and wind on the film until No. 1 comes automatically into the numbering window on the right-hand side of the camera under the film wind knob.

The film wind and shutter setting mechanism is fully automatic and fool-proof as in all standard Rolleiflex Automat cameras already described and the shutter is cocked as the film is wound on to the next exposure. Double exposure is impossible with this model.

Shutter Release

This is situated at the right-hand base of the camera front and is inclined at an angle for the forefinger. The shutter cannot be released when the focusing hood is closed and, therefore, no shutter release guard is necessary.

Flash Plug and Delayed Action

The flash socket is situated in the usual position at the left-hand base of the camera front and the flash plug is inserted in the usual way by pressing it in, when it immediately becomes locked. To detach the flash cable it is only necessary to turn the external milled wheel around it and pull out the flash plug. 'X' or 'M' synchronization (see Chapter XIV) is available by adjusting the chrome stud situated between the two lenses on the right-hand side, to the necessary sign. For delayed action this same button is pressed up to the 'V' position and the shutter released in the usual way, when approximately 12 seconds delay will be given.

Neckstrap and Camera Case

The Ever-Ready case for this camera is not fitted with a special strap as this is used for both the camera and the case as in the recent Automats described on

page 76. The Ever-Ready case, however, is of a new format and both front and rear portions collapse allowing the camera to be held only by the central base portion. To detach the neckstrap from the camera, the half round piece of metal below the side fixing should be depressed and the neckstrap end button slid out and downwards. To insert, it is only necessary to push the button upwards into position when it is immediately locked.

ROLLEICORD VA

This new version of the Rolleicord (Fig. 63b) appeared in July 1957 and is almost identical in every respect to the Rolleicord V described on page 59. The only difference in this model is the position of the focusing knob which is now on the left-hand side of the camera instead of the right, when looking at it from the normal taking position. Its place on the right-hand side of the camera has been taken by an interchangeable panel with numbering device. This panel is normally fitted with a 12 exposure numbering device and gives the standard 12 exposures on 120 (B-2) film. Accessories, however, are now available which permit 16 pictures $1\frac{5}{8} \times 2\frac{1}{8}$ in. ($4 \times 5{\cdot}5$ cm.) and $1\frac{5}{8} \times 1\frac{5}{8}$ in. (4×4 cm.) to be taken; or 24 pictures $1\frac{1}{8} \times 1\frac{5}{8}$ in. (28×40 mm.) and $1 \times 1\frac{1}{2}$ in. (24×36 mm.) in a horizontal format, thus for the first time it is possible with a standard Rollei camera and without using the 35 mm. cine film attachment, to obtain photographs of a suitable size for projection in standard 2×2 in. (5×5 cm.) projectors.

The Small Picture Accessories

These form two new accessory outfits in each of which are included a numbering mechanism panel with fixing screw, two screen masks, two direct vision hood masks, and two film gate masks. As already mentioned, the 16 picture accessory outfit, known by the code word 'COSUF', has both $1\frac{5}{8} \times 2\frac{1}{8}$ in. ($4 \times 5{\cdot}5$ cm.) and $1\frac{5}{8} \times 1\frac{5}{8}$ in. (4×4 cm.) masks, either of which are suitable for fitting into the American Super Slides or the Cenei 'C' type slides which give a very large picture area in a 2×2 in. (5×5 cm.) transparency (see page 376). The 24 picture accessory, code word 'COBAN' includes a numbering mechanism panel with fixing screw and two sets of masks $1\frac{1}{8} \times 1\frac{5}{8}$ in. (28×40 mm.) and $1 \times 1\frac{1}{2}$ in. (24×36 mm.).

Installation of Small Picture Accessories

The small picture accessory can only be installed before a film is loaded, and it is only necessary to unscrew the milled knob in the centre of the panel shown in Fig. 63b, remove the counter mechanism plate completely and replace it by a new counter mechanism plate of the required type. The screw must then be tightened and the camera is ready for use in the new size as soon as the gate and finder marks are inserted. It should be noted that the extra gate masks, size $1\frac{5}{8} \times 2\frac{1}{8}$ in. ($4 \times 5{\cdot}5$ cm.) and $1\frac{1}{8} \times 1\frac{5}{8}$ in. (28×40) are supplied with small cut-outs which are used for centreing in the various types of slide mounts at present on the market.