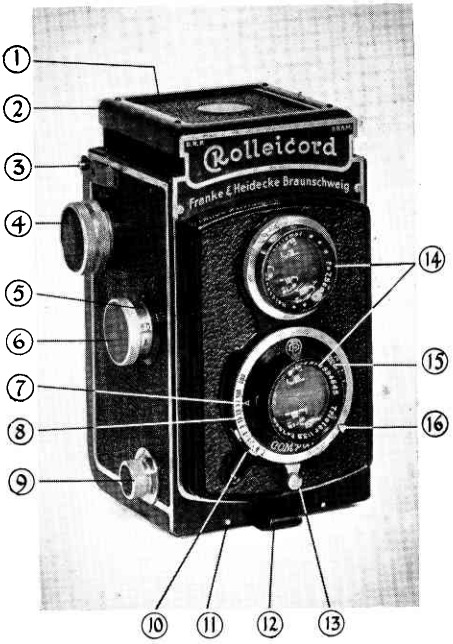


Fig. 14

Rolleicord Model I, front view: (1) Collapsing panel of eye level finder; (2) Focusing hood closed; (3) Back hinge; (4) Film wind knob; (5) Focusing scale; (6) Focusing knob; (7) Speed indicating arrow; (8) Shutter speed dial; (9) Feed spool retaining knob; (10) Cable release socket; (11) Locating studs; (12) Base clip; (13) Double action shutter setting and release lever; (14) Push on lens mounts; (15) Aperture scale; (16) Iris adjusting lever.

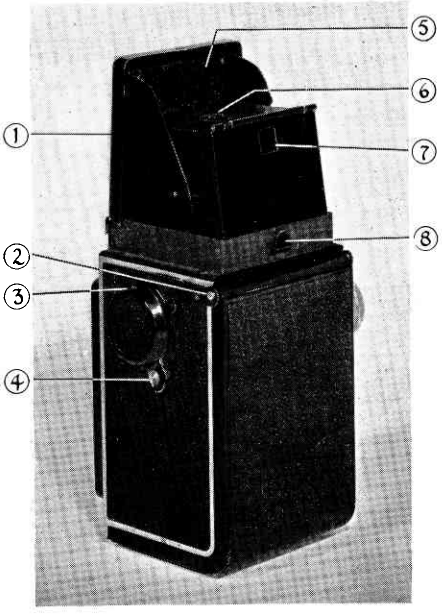


Fig. 15

Rolleicord Model I, back view: (1) Focusing hood; (2) Back hinge; (3) Film numbering peep window; (4) Film numbering trip; (5) Direct vision finder collapsing panel; (6) Screen magnifier; (7) Direct vision finder peep window; (8) Hood retaining catch.

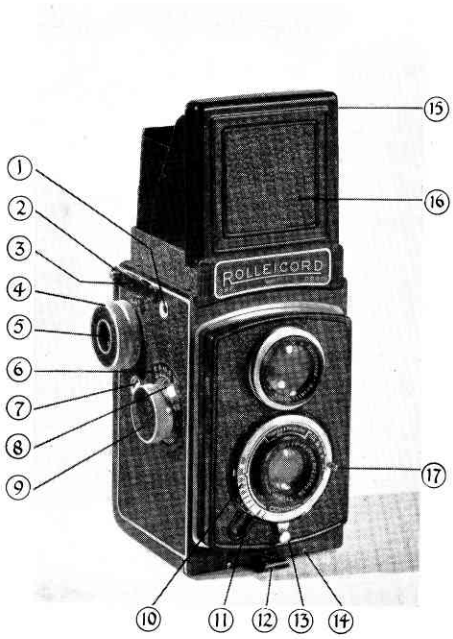


Fig. 16

Rolleicord IA, front view: (1) Film numbering peep window; (2) Back hinge; (3) Neck strap, loop and anchor; (4) Film wind knob; (5) Frame stop release; (6) Depth of field scale; (7) Film starter trip; (8) Focusing scale; (9) Focusing knob; (10) Shutter speed dial; (11) Cable release socket; (12) Base clip; (13) Double action shutter set and release button; (14) Locating studs; (15) Focusing hood; (16) Collapsing finder plate; (17) Iris adjusting lever.

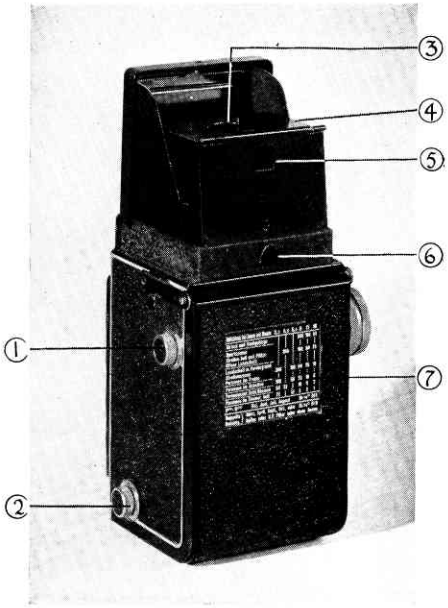


Fig. 17

Rolleicord IA, back view: (1) Take-up spool retaining knob; (2) Feed spool retaining knob; (3) Screen magnifier; (4) Hood flap; (5) Direct vision finder peep window; (6) Focusing hood retaining catch; (7) Exposure chart.

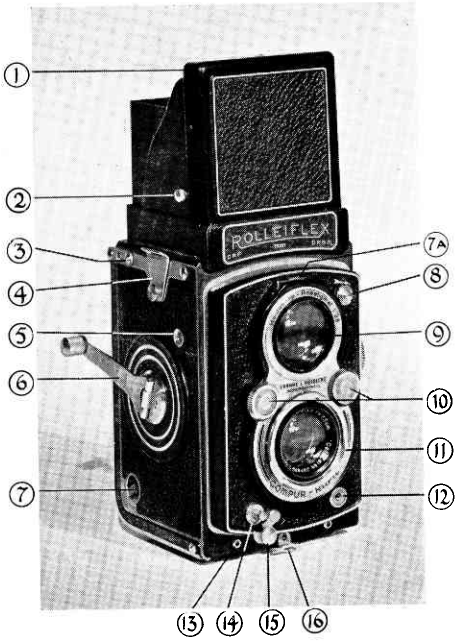


Fig. 18

Rolleiflex Automat Single Bayonet Model, front view: (1) Focusing hood; (2) Eye level finder mirror setting lever; (3) Back release catch; (4) Neck strap eye and anchor; (5) Film numbering peep window; (6) Crank handle; (7) Crank handle stowage; (7A) Shutter speed and lens aperture peep window; (8) Delayed action release button; (9) Push-on lens mount; (10) Shutter speed and lens aperture setting wheels; (11) Bayonet lens mount; (12) Cable release socket; (13) Locating studs; (14) Shutter release; (15) Shutter release guard; (16) Base clip.

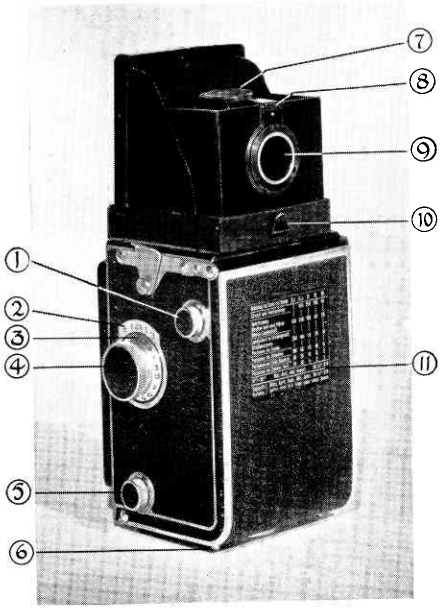


Fig. 19

Rolleiflex Automat Single Bayonet Model, back view: (1) Take-up spool retaining knob; (2) Depth of field scale; (3) Focusing scale; (4) Focusing knob; (5) Feed spool retaining knob; (6) Levelling feet; (7) Screen magnifier; (8) Magnifier erecting lever; (9) Eye level focusing magnifier; (10) Hood retaining catch; (11) Exposure chart.

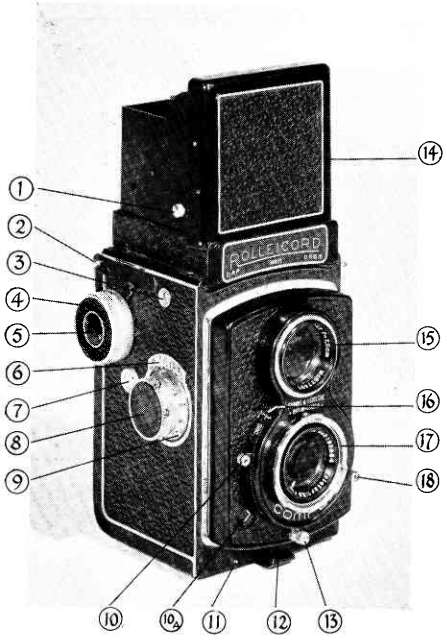


Fig. 20

Rolleicord II, front view: (1) Eye level finder mirror setting lever; (2) Back hinge; (3) Film numbering peep window; (4) Film wind knob; (5) Frame stop release; (6) Depth of field scale; (7) Film starter trip; (8) Focusing knob; (9) Focusing scale; (10) Shutter speed setting lever; (10A) Cable release socket; (11) Locating studs; (12) Base clip; (13) Double action shutter setting and release lever; (14) Focusing hood; (15) Push-on lens mount; (16) Shutter speed peep window; (17) Bayonet lens mount; (18) Lens aperture setting lever.

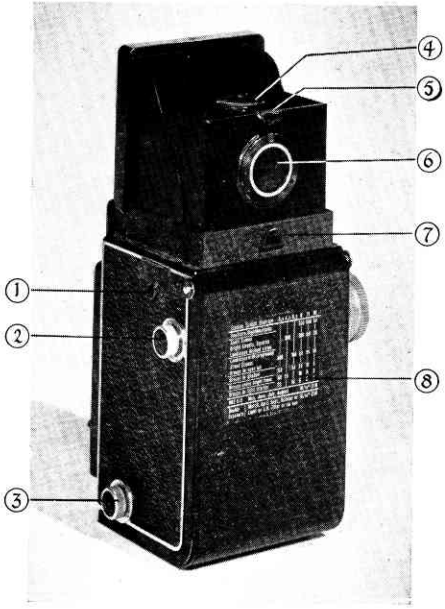


Fig. 21

Rolleicord II, back view: (1) Neck strap eye and anchor; (2) Take-up spool retaining knob; (3) Feed spool retaining knob; (4) Screen Magnifier; (5) Magnifier erecting lever; (6) Eye level focusing magnifier; (7) Hood retaining catch; (8) Exposure chart.

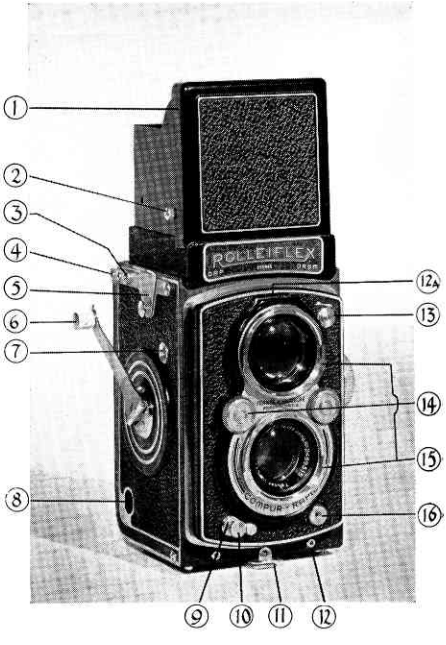


Fig. 22

Rolleiflex Automat Double Bayonet Model, front view: (1) Focusing hood; (2) Eye level mirror setting lever; (3) Back release catch; (4) Back hinge; (5) Neck strap eye and anchor; (6) Crank handle; (7) Film numbering peep window; (8) Crank handle stowage; (9) Shutter release; (10) Shutter release guard; (11) Base clip; (12) Locating studs; (12A) Shutter speed and lens aperture peep window; (13) Delayed action release button; (14) Lens aperture and shutter speed setting wheels; (15) Double bayonet lens and mounts; (16) Cable release socket.

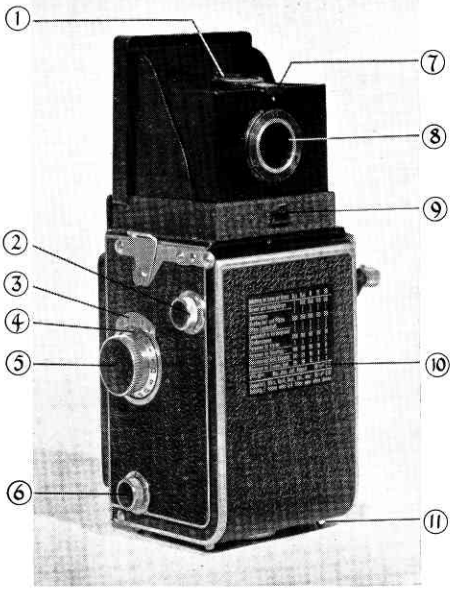


Fig. 23

Rolleiflex Automat Double Bayonet Model, back view: (1) Focusing magnifier; (2) Take-up spool retaining knob; (3) Depth of field scale; (4) Focusing scale; (5) Focusing knob; (6) Feed spool retaining knob; (7) Screen magnifier erecting lever; (8) Eye level focusing magnifier; (9) Hood retaining catch; (10) Exposure chart; (11) Levelling feet.

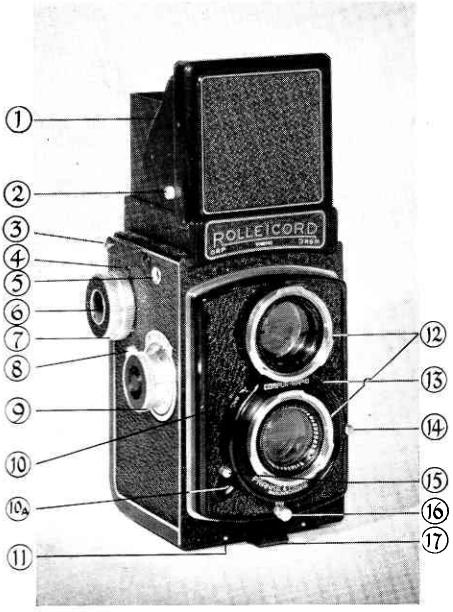


Fig. 24

Rolleicord IIA, front view: (1) Focusing hood; (2) Eye level mirror setting lever; (3) Back hinge; (4) Neck strap eye and anchor; (5) Film numbering peep window; (6) Frame stop release; (7) Film wind knob; (8) Film starter trip; (9) Focusing knob; (10) Shutter speed peep window; (10A) Cable release socket (not always fitted). (11) Locating studs; (12) Double bayonet lens mount; (13) Lens aperture peep window; (14) Lens aperture adjusting lever; (15) Shutter speed adjusting lever; (16) Double action shutter set and release lever; (17) Base clip.

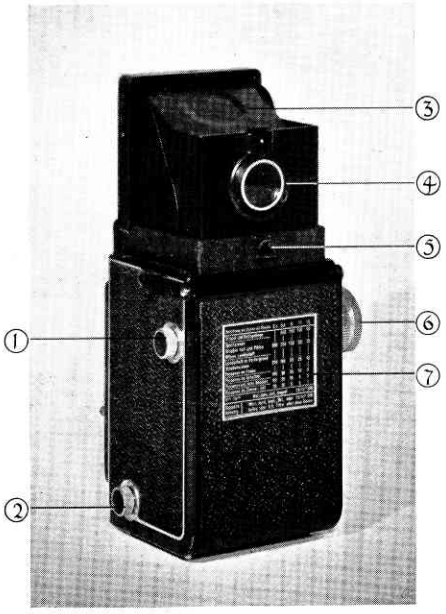
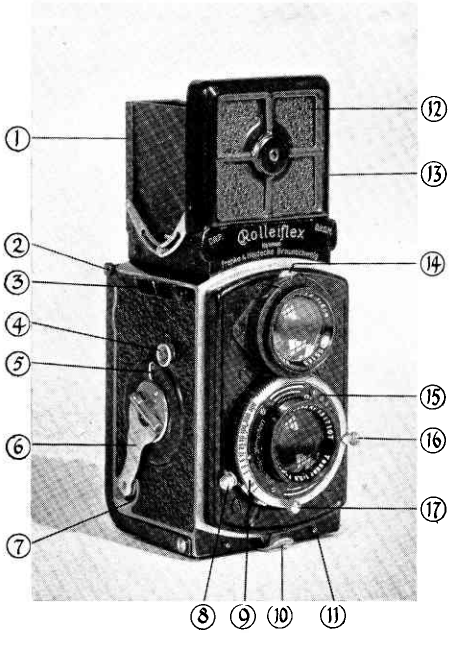


Fig. 25

Rolleicord IIA, back view: (1) Take-up spool retaining knob; (2) Feed spool retaining knob; (3) Eye level focusing hood cover; (4) Eye level focusing magnifier; (5) Hood retaining catch; (6) Focusing knob; (7) Exposure chart.

Fig. 26

Baby Rolleiflex 4 × 4 cm., front view: (1) Focusing hood; (2) Back hinge; (3) Neck strap eye; (4) Film numbering trip lever; (5) Film numbering peep window; (6) Crank handle; (7) Crank handle stowage; (8) Double action shutter set and release lever; (9) Shutter speed scale: (10) Base clip; (11) Locating studs; (12) Collapsing frame of diopter finder; (13) Frame finder; (14) Shutter speed and lens aperture peep window; (15) Aperture scale; (16) Lens aperture adjusting lever; (17) Shutter speed adjusting lever.



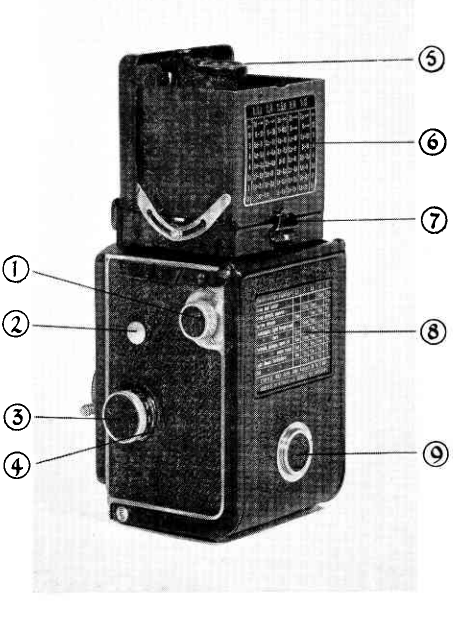


Fig. 27

Baby Rolleiflex 4 × 4 cm., back view: (1) Take-up spool retaining knob; (2) Neck strap anchor; (3) Focusing knob; (4) Focusing scale; (5) Screen magnifier; (6) Depth of field scale; (7) Double purpose hood catch; (8) Exposure chart; (9) Film number peep window with cover.

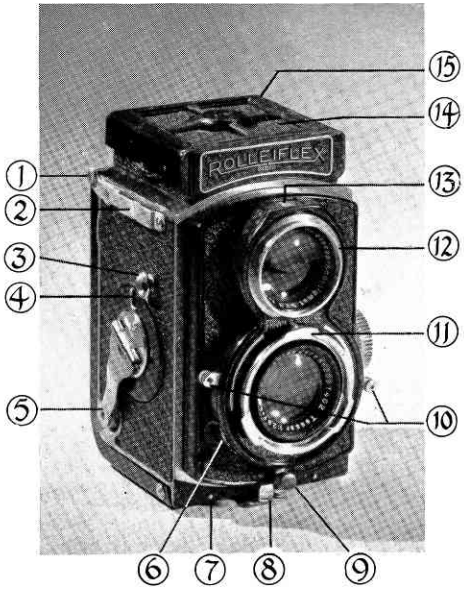


Fig. 28

Sports Rolleiflex 4 × 4 cm., front view: (1) Back hinge; (2) Neck strap eye; (3) Film numbering trip lever and neck strap anchor; (4) Film numbering peep window; (5) Crank handle; (6) Cable release socket; (7) Locating studs; (8) Base clip; (9) Double action shutter set and release lever; (10) Shutter speed and lens aperture setting levers; (11) Bayonet lens mount; (12) Push-on lens mount; (13) Shutter speed and lens aperture peep window; (14) Collapsing panel of diopter finder; (15) Focusing hood.

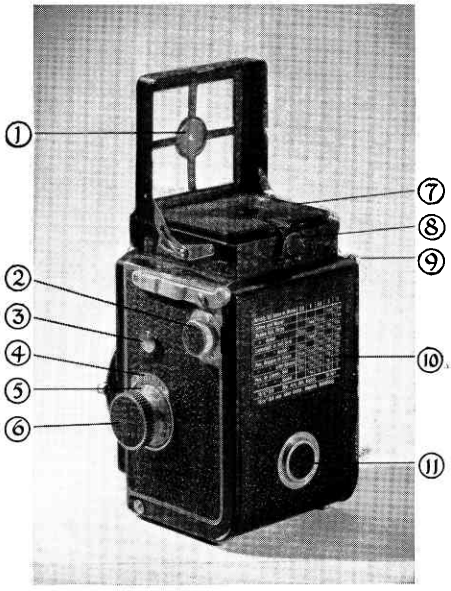
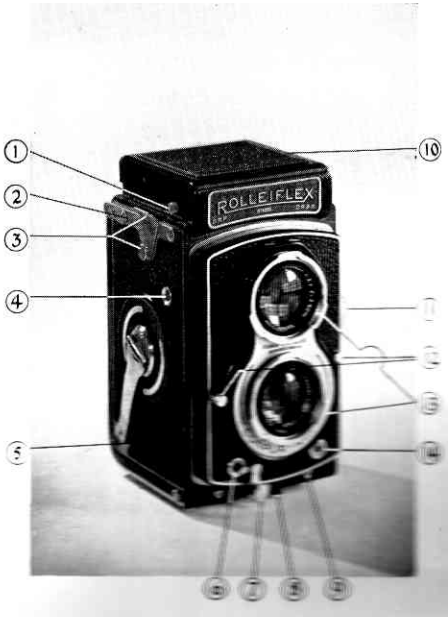


Fig. 29

Sports Rolleiflex 4 × 4 cm., back view: (1) Diopter finder mirror; (2) Take-up spool retaining knob; (3) Neck strap anchor; (4) Depth of field scale; (5) Focusing scale; (6) Focusing knob; (7) Collapsing hood panel; (8) Double purpose hood catch; (9) Back hinge; (10) Exposure chart; (11) Film number peep window with cover.

Fig. 30

Rolleiflex New Standard, film wind view: (1) Eye level mirror setting lever; (2) Back retaining catch and hinge; (3) Neck strap eye and anchor; (4) Film numbering peep window; (5) Crank handle in stowed position; (6) Shutter release; (7) Shutter release guard; (8) Base clip; (9) Locating studs; (10) Focusing hood closed; (11) Focusing knob; (12) Shutter speed and aperture control levers; (13) Double bayonet lens mounts; (14) Cable release socket.



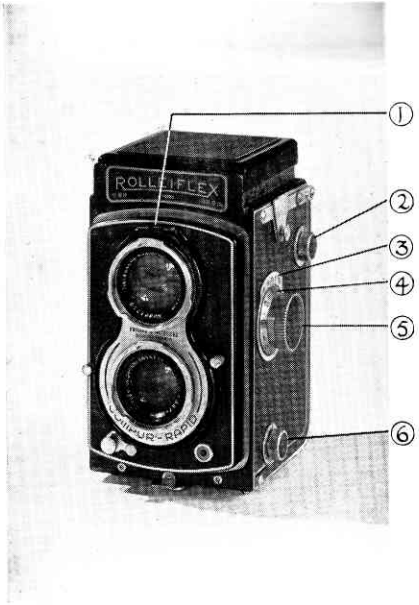


Fig. 31

Rolleiflex New Standard, focusing side view: (1) Shutter speed and lens aperture peep window; (2) Take-up spool retaining knob; (3) Depth of field scale; (4) Focusing scale; (5) Focusing knob; (6) Feed spool retaining knob.

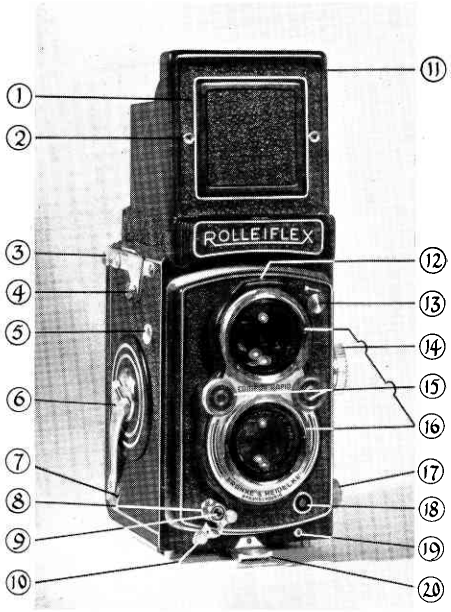


Fig. 32

Intermediate Model Rolleiflex Automat, front view: (1) Direct vision finder collapsing panel; (2) Cine film finder mask studs; (3) Back hinge and release catch; (4) Neck strap eye and anchor; (5) Film numbering peep window; (6) Crank handle; (7) Crank handle stowage; (8) Shutter release; (9) Cable release socket; (10) Shutter release guard; (11) Focusing hood; (12) Shutter speed and lens aperture peep window; (13) Delayed action release; (14) Focusing knob; (15) Aperture and speed setting wheels; (16) Double bayonet lens mount; (17) Feed spool retaining knob; (18) Flash socket; (19) Locating studs; (20) Base clip.

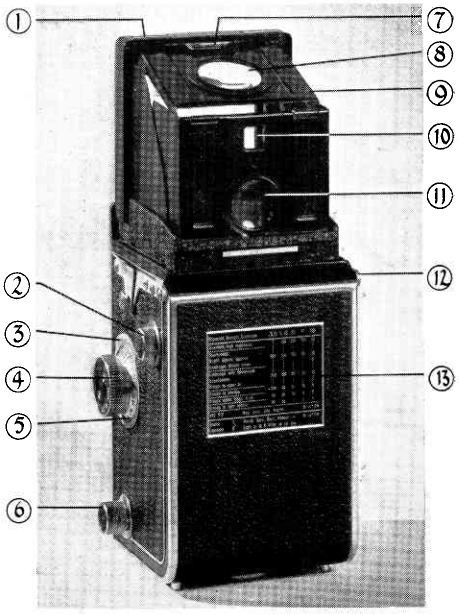


Fig. 33

Intermediate Model Rolleiflex Automat, back view: (1) Hood erecting thumb marks; (2) Take-up spool retaining knob; (3) Depth of field scale; (4) Focusing knob; (5) Focusing scale; (6) Feed spool retaining knob and cine film rewind knob; (7) Screen magnifier erection stud; (8) Screen magnifier; (9) Light deflector plate; (10) Eye level finder peep window; (11) Eye level focusing magnifier; (12) Back hinge; (13) Exposure chart.

The 'Lever Wind' Models of the Rolleiflex

This chapter would not be complete without some descriptions of the principal parts of the most popular of the early models and by far the largest number of any individual type still in regular use is the 'Lever Wind' with its various lens apertures. These were produced from about 1933 to 1937 and all retained a standard form; apart from very minor alterations the only difference lay in the aperture of the taking and viewing lenses. The first ones were fitted with the f/4·5 Tessar, then followed the f/3·8 Tessar, and the final models were fitted with the f/3·5 Tessar, all of 3″ (75 mm. focal length). The shutter also reached the highest speed of 1/500th second in a Compur Rapid shutter.

Viewing System

These models were all fitted with the usual Rollei screen and hood which springs into a vertical position on all four sides as soon as the retaining catch at the back of the camera top (Fig. 11 No. 10) is released. Against the inside of the front flap lies a focusing magnifier (No. 8) which, on being raised by the finger, or nail, under the projection provided, springs into a horizontal position over the centre of the screen. These screens were the first to be etched with the characteristic vertical and horizontal lines and some were also fitted with a levelling bubble on the underside and in one corner of the screen.

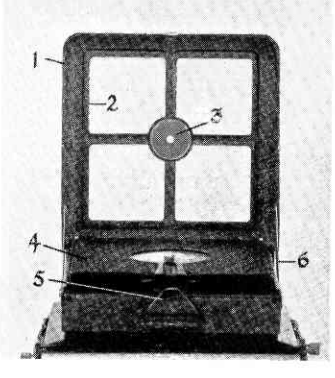


Fig. 34

The Diopter finder fitted to Lever Wind, Baby and Sports Models: (1) Outer hood frame; (2) Confines of picture; (3) Pierced concave mirror; (4) Collapsing flap; (5) Double purpose hood catch; (6) Hood struts.

The above-mentioned retaining catch (Fig. 34 No. 5) was in reality a double catch, half of it being capable of holding down the solid part of the hood's lid (No. 4). This can be folded down separately from the outside frame, leaving revealed the skeleton top with cross-members and, as seen from the back, a small concave mirror with tiny central aperture built into the point of inter-section of these cross-members.

(Fig. 34.) This frame and mirror was actually a direct vision finder, known generally as the 'Diopter Finder'. Its method of use is quite unique in the photographic field and is as follows: With the camera steadied against the face the eye is brought into position where it can see itself reflected and enlarged in the concave mirror. When the pupil of the eye can be seen in the very centre of the mirror and in register with the tiny central hole, then the entire scene viewed through and confined by the outer framework, is the picture which will be recorded on the negative.

Loading and Unloading

This model is loaded in the conventional manner, threading the film from spool chamber to winding chamber, closing the camera back, then cranking the handle back and forth until Figure 1 appears in the red window in the base of the camera. This peep window is then closed and not opened again until the next film is being loaded. (N.B. Some of the earlier models of this camera were also fitted with an extra red window at the back-centre of the camera under the exposure chart (as Fig. 27 No. 9). This was used with the old 117, 17, or B-1 film which only contained six exposures. These early models were not fitted with the sliding cover for the red window in the base but had screw-in covers.)

As soon as the 'No. 1' appears the small button (Fig. 10 No. 4) on the right-hand side of the camera (when looked at from the back) above the film wind crank handle, is depressed to bring the counter (No. 5) to '1'. Then after each exposure the crank handle is turned forward until a stop is felt, and then back to another stop, which brings a fresh frame into position in the gate and shows the next number in the window at No. 5. This procedure is followed until the figure 12 disappears after the final exposure and then the film is wound off by further forward and backward movements of the crank handle. To remove the spool, the film retaining knob (Fig. 11 No. 4) is pulled out and a half turn retains it in the 'out' position, allowing the spool to be withdrawn. To remove the empty spool from the feed spool chamber, press on the small lever at the side inside the base.

Shutter Operation

This model was the first to use the setting or cocking system on the same lever as the shutter release – another speciality of the Rollei cameras. This innovation was soon to be incorporated in the various models of the Rolleicords. (None of these, however, was fitted with a shutter interlocked with the film wind until the first Automat in 1937.) To load this shutter, the one main lever (Fig. 10 No. 12) is pulled to the right with one fingertip (when holding the camera in the normal operating position) and then the direction of the finger is gently reversed to the left to release it. For the T and B settings the shutter lever was simply pushed to the left once for 'Bulb' and twice for 'Time'.

These models were the first to be fitted with aperture and speed dials on the top of the viewing lens (Fig. 10 No. 9) in such a position that they could be clearly seen from the normal operating position whilst the photographer watches the focusing screen. These are altered by side levers (No. 11), the left lever for the apertures, the right for shutter speeds. From the front of the camera these positions would, of course, appear reversed.

Accessories

Before 1937, and whilst these models were in production, all types of the Rolleiflex and Rolleicord, except the original model, used a standard 28·5 mm. diameter lens mount for both viewing and taking systems, regardless of the aperture of the lens. All filters, close-up lenses, and other accessories were of this size and used the simple push-on close-fit method of attachment. The lens shade or hood of this period had a small lever grip which prevented it from being turned on its mount – an essential with a square opening, and this is considered the most efficient for the shape of the negative.

During this period special Rollei filters, Duto soft focus lenses, close-up lenses and an adjustable iris diaphragm for the viewing lens, were introduced. All these can still be used on subsequent models, including the present-day types except recent f/2·8 Models which are, of course, designed for the larger bayonet fitting accessories. This means that a photographer changing his camera from the old model to a new, does not find it necessary to change his accessories unless he feels so inclined.

Rolleicord, 'Metal Plated', Models I and IA

The original Rolleicord (Figs. 12 and 13) known generally as the 'Metal Plated' model was first introduced in 1933 and it was followed a year later by a very similar model, but covered in grained leather and known as the Rolleicord I. These cameras had the usual hood and screen but were fitted with a simple direct vision finder, which was revealed when the central part of the front hood was pushed in, and this clipped into position at the back of the hood (see Fig. 12). A screen magnifier for critical focusing was hinged to the back of the hood and swung upwards and over and clipped into a horizontal position. These models were fitted with the Rolleiflex type of shutter set and release as mentioned on page 32.

About 1935 came the Model IA with the first semi-automatic measuring system of film winding which was continued for many years, in fact well into the post-war period. In these, the film is wound to 'No. 1' in the red window and thereafter comes to a definite stop for each frame. Apart from this introduction, this model really had very little more to offer than the previously mentioned Model I. Viewing was identical to Models I and Metal Plated both in direct vision and screen focusing. The main difference of this model was the innovation of the above mentioned automatic film wind.

Loading

All these models are loaded with great simplicity and only differ very slightly from each other; in all models the film is placed in the spool chamber and backing paper-leader taken over the rollers into the empty spool in the film wind chamber. After closing the back, the red window in the base of the camera is watched while the film wind knob is being turned until No. 1 comes into position. At this stage, the sequence of operation is divided according to type. Models I and 'Metal Plated' are clicked to 'I' by a downward pressure on the button (Fig. 15 No. 4) and then an engraved figure 'I' appears on the rotating numbering disc which shows in the aperture (No. 3). Thereafter winding to the number for each picture is carried out at this position and no further reference made to the red window, but there is no frame stop. Models IA and II and later models up to the introduction of the present Rolleicord III need two operations to bring No. 1 into position in the new film numbering aperture now placed on the other side of camera (Fig. 16 No. 1). First the button at (No. 7) must be pressed down and then the centre portion of the film wind knob (No. 5) must be pushed in. These operations are carried out together when the automatic numbering device comes into operation and the frame number shows in the window at (No. 1). After the first exposure the central portion of the film wind knob *only* is depressed in order to allow the next frame to be wound into position but the finger is removed as soon as winding has commenced. This winds to a definite stop and there is no need to look at the counter or the red window.

The shutter is now cocked and released as mentioned on page 32 and the remainder of the exposures on the film are carried out in like manner until No. 12 is reached. After the 12th exposure has been taken (in all models) the film can be wound off without any interference from the stop mechanism or the counter mechanism which in both models returns to zero.

Shutter Operation

Metal Plated and No. I Models were fitted with the normal Compur shutter and all of them appeared with one double action setting and release lever for the various shutter speeds but the 'T' or 'B' setting needed no cocking, as for the Rolleiflex Lever Wind Models and described on page 32. Lens aperture and speed dials were in the usual place on the front of the exposed ring of the Compur shutter.

Rolleicord II

This model appeared first in 1937 as a partner to the first bayonet fitting Rolleiflex – the first Automat – and was similar in all respects to the Rolleicord IA described above with the addition of a shutter cover plate and setting levers as in the Lever Rolleiflexes described on page 31, and the new focusing hood of the Automat, described below.

The peep windows showing speeds and apertures were not, however, on the top of the viewing lens as in the Rolleiflex but on the upper sides of the shutter-cover bulge around the taking lens (Fig. 20 No. 16). These scales were, of course, visible from the focusing position above the hood, as in the Rolleiflex models. The main difference, however, was the provision for bayonet type filters, lens hoods and other accessories on the taking lens. A second version of this camera, popularly known as the IIA, appeared in 1939 and the only difference is that the bayonet fitting has here been extended to both viewing and taking lenses; in some models the 'B' setting must be cocked in the same manner as the other shutter speeds, by the normal pull of the setting lever to the right. Some of the later models included a Compur rapid shutter containing the 1/500th second speed, and exchanging the 1/300th for 1/250th second. In this model too the 'B' or Bulb must also be cocked. The 'T' or Time setting has, however, been completely eliminated. Many of these later type shutters at present in use have no accommodation for a cable release and the usual socket is not supplied.

Rolleiflex Automat

This model, which also appeared in 1937, was the culmination of many years of intensive research and was considered in its time as the biggest step forward in camera design of the half-century and it is still the basis of present day Automats although various small differences have appeared periodically since then. Many thousands of these cameras are in use to-day by both amateur and professional photographers all over the world. A great deal of highly successful fashion, illustrative and industrial photography is done with these instruments as well as a very large slice of the world's pictorial work, and a much fuller description is therefore called for than has so far been given so that the new users of these almost indestructible cameras may learn how to use them and get their full measure of reward and pleasure. The writer used one of these models for many years and a large number of the pictorial and commercial illustrations in this volume have been made with this particular model.

Because of its similarity to the 1939 model, with the double bayonet as the only difference, these two cameras are treated as one. They were produced throughout the war years and as and when various commodities became short due to the sacrifices of war, so temporary alterations were made, but all these were of a minor nature and apart from the introduction of internal flash contacts, it was essentially the same camera until 1950, after which date major changes began to be made. Naturally after thirteen years of great popularity, there are, and will be many thousands of these cameras in constant use for years to come and no excuse need therefore be made for the succeeding pages of detailed instructions.

General Description

The camera follows closely the trend of all Rolleis and is a further modification of the

previously discussed 'Lever' models. Speed and aperture settings continue to appear above the finder lens but instead of being operated by levers they are now operated by milled-edge rotating knobs. The hood has no direct vision system but instead there is an eye-level viewing and focusing system, through a 45 degree angle mirror which reflects the screen and its image to the eye.

A new and more secure safety catch was added to the base, and feed spool chamber pivots have been incorporated. The greatest advance, however, was in the film winding and shutter setting mechanism. The camera in fact becomes completely automatic and quite true to its name as, after loading, the film is wound to No. 1 and stops automatically, whilst each succeeding crank of the handle, winds the film, cocks the shutter and counts the frames. A delayed action device has also been built in and is located at the top right of the panel when looking at the front of the camera (Fig. 18 No. 8). Around the taking lens, which is of standard 28·5 mm. diameter, is fitted a strong metal framework formed into a bayonet mount. This is made to accept various accessories both inside and outside it by an easy fitting and quick locking device. After some two years of great popularity this bayonet fitting was extended to the viewing lens also and in this form the Automat continued in production for a further period of eleven years, which of course accounts for the large number of these cameras at present in use.

Viewing System

The focusing screen is exposed by pressing down on the release-catch (Fig. 19 No. 10) when the spring mechanism allows the hood to erect itself and shade the screen on all four sides. The focusing magnifier is now located on the inner back wall of the hood and is brought into the horizontal position by pressing downwards and outwards on the milled edge (No. 8).

To use the eye-level focusing finder, stow the magnifier again by pressing on it lightly when it will spring back against the inside of the hood; then press upwards with the forefinger on the chrome plated lever (Fig. 18 No. 2) located at the right hand side of the hood as seen from the operating position (or left hand as seen from camera front). This will clip into position a 45° angle mirror hidden in the front part of the hood, at the same time a cover plate comes into position above both screen and mirror to exclude extraneous light and give a bright image. To sight the subject, look through the magnifying eye-piece situated at the rear of the hood (Fig. 19 No. 9). The image will now be seen inverted but it can be viewed and focused almost as well as on the screen itself.

Focusing

In this model, the view finder lens is of the very wide aperture of f/2·8 and is a simple triplet giving the sharpest definition in the centre of the field which is of course, directly

under the focusing magnifier. Focusing is effected by turning the knob (Fig. 19 No. 4) located on the left hand side of the camera body when in the normal operating position, with the left hand. This is turned forward and back until the main subject matter appears as sharply defined as possible. It is always best to choose some fine detail with plenty of contrast to facilitate this, such examples as the eyelashes in a portrait, the material pattern in clothing on a figure, the brickwork of a building, or the branches of a bush in a landscape, may be chosen. Because of the wider aperture of the viewing lens than of the taking lens, depth of field (see Fig. 44) is greater on the negative than it is on the screen, and this ensures needle-sharp focusing on every occasion. At this stage it is sufficient to say that all the photographer need remember in actual practice is that depth of focus increases as the aperture is stopped down and also that the sharp area is greater behind the plane actually focused than in front of it (see page 85).

Depth Scale

The focusing knob (Fig. 19 No. 4 and Fig. 43) is engraved in either feet or metres, depending upon the market for which the camera was originally intended, although during the first years of its life only metric engravings existed in this model Automat. This knob is rotated against a depth of focus scale from which the depth of field can be read off at a glance. It is only necessary to notice which measurements are included between each of the two like apertures shown at either side of the central position (see Fig. 43). In cases of quick action and snapshooting often done from the hip if one has to photograph unobserved, this is an invaluable feature. First ascertain the smallest stop usable (see pages 87-88) then set the focusing knob against the scale so that the anticipated depth through which the action will take place is set between the two like aperture-markings. For example, if an aperture of f/8 can be used and the depth of the action is between 4 and 10 metres (12–30 ft.) then the central point on the depth scale should be set against the 6 metre (20 ft.) mark, and it will be seen that the two figure 8's on the depth scale indicate 4 metres (12 ft.) on one side and 10 metres (30 ft.) on the other.

Shutter Speeds

These are shown as figures which appear in the top peep window (Fig. 18 No. 7A) situated above the viewing lens, those nearest to the camera body are the speeds and are indicated as fractions of a second except the figure 1 which of course represents an exposure of one second's duration. The speeds available are 'B' for Bulb, or Brief Time, 1 sec., $\frac{1}{2}$ sec., 1/5th, 1/10th, 1/25th, 1/50th, 1/100th, 1/250th and 1/500th of a second. These speeds are varied by turning the milled knob (No. 10) at the right (or crank handle side) of the camera. Intermediate speeds can be judged and used between any of the marked values except between 1/10th and 1/25th second and also

between 1/250th and 1/500th 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) and under no circumstances should the milled knob be turned past the 1/250th mark until the release button (Fig. 18 No. 14) has been depressed. This shutter is only fitted with Bulb or Brief Time mechanism which, after cocking by means of the crank handle, opens the shutter at a pressure of the release and closes it when the pressure is released. For long Time exposures, a time-lock cable release must be screwed into the cable release socket at Fig. 18 No. 12 and the lock engaged.

Lens Apertures

The left hand milled knob on the 'focusing' side of the camera is used for setting the apertures which are in the front part of the same peep window. These are marked f/3·5, 4, 5·6, 8, 11 (16), 22. The aperture f/16 has been omitted because of lack of space for the engraving but is indicated by a dot. Any intermediate stop can be used and although every one of these apertures can be utilized as the occasion demands (see page 85), wide aperture lenses like those fitted to the Rolleiflex and Rolleicord give their finest definition between f/5·6 and f/11. This, of course, is only considered relevant when the ultimate in definition is required, or when enormous blow-ups may be needed from only small portions of the negative.

Whichever aperture may be selected for use in taking the picture the viewing lens always uses the widest aperture of which it is capable unless of course it is desired to check the actual depth of focus on the screen. In such cases the iris diaphragm accessory may be brought into use (see page 136) over the viewing lens and the aperture on it made to correspond with the taking lens aperture.

Loading the Camera: Opening the Back

Whenever possible, a spot away from bright sunlight should be chosen, but if this is not possible then provide some shade with the body, and the lens cap should always be in position during this operation. Place the camera face down on a flat surface, or alternatively on its 'head' for this. 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). In the former case swing up the back so that it rests against the hinge, or in the latter swing it down so that it rests on the flat surface.

Inserting the Spool

Now that the back is open, turn the crank handle in a clockwise direction until the winding key (Fig. 45 No. 2) is in a vertical position. Pull out the retaining knob (No. 8) at the other end of the spool chamber and give it a half turn; it will then remain fixed 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 spool 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.

Inserting the Film

The feed spool chamber (Fig. 46 No. 1) is located at the opposite end of the open camera. First pull out the knob at Fig. 45 No. 10 and 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 to the pivot inside the right hand corner of the spool chamber. Let it fall into position, holding it down against the spring leaf, then give a further half turn to the knob No. 10 and allow it to return to its normal position. It will then engage the spool and hold it in position. 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 and being fogged by light as it is firmly held by the leaf spring (No. 11).

Threading the Film

Now bring the paper leader *underneath* the roller (Fig. 46 No. 11) then over the film gate rollers and film gate 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, centre the paper backing so that it is riding comfortably between the shoulders of the spool and is not riding up on one side and leaving a space at the other.

This operation should always be done carefully and for the first few times some special reminder should be made to assure yourself that the film leader has really gone *under* the measuring roller. This 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* any 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 be wasted.

Closing the Camera, and Winding to 'No. 1'

Now 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 arrow and pushing it home. 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 (Fig. 18 No. 5).

Shutter Setting

As soon as the definite stop is felt, reverse the 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 can now turn the crank handle over on its hinge and stow it in the space provided at (Fig. 18 No. 7). The camera is now ready for action, and the shutter speed milled knob (No. 10) should be turned to show an appropriate speed in the peep window (No. 7A). To make an exposure, press the release (No. 14) and after making it, repeat the forward and backward movement of the handle. 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 window (No. 5) 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 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. This applies for all speeds and 'B' which are interchangeable and can be altered at will after cocking the shutter. The 1/500th second, however, cannot be engaged once the shutter has been set or the crank handle wound and under no circumstances should any attempt be made to force the speed adjustment from 1/250th to 1/500th second.

To engage the fastest shutter speed, this must be moved into position in the peep window at No. 7A *before* the crank handle is wound and the shutter cocked. 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 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 the 1/500th and then the crank wound and reversed (the shutter reloaded) for this speed.

Those who may be using a Rolleiflex Automat for the first time may be concerned about the fact that in normal use the shutter always remains in the cocked or set position. The photographer can be reassured, however, as this has no ill effect on the Compur shutter mechanism even when it is allowed to remain cocked for long periods. It is unwise, however, to have the 1/500th second engaged and cocked for long periods and not the least reason is because a longer exposure time is more likely to be needed on the next occasion that the camera is required.

Removing the Exposed Film

When the film has been wound off, open the camera back again as described on page 38, pull out the retaining knob (Fig. 19 No. 1) 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.

Delayed Action

The delayed action release button (Fig. 18 No. 8) which allows twelve seconds delay before actually firing the shutter, permits the photographer himself to be included in the picture either as part of a group or as a figure in a landscape. This control is situated at the right hand top corner of the front panel and as the crank handle is used to wind the film and cock the shutter, so the delayed action mechanism is pre-set every time and is always ready.

For use, place the camera on a tripod, or towards the front edge of a steady table (so as not to cut off the lower part of the picture area as this may not be visible on the viewing screen). Now adjust the shutter speed and diaphragm setting to the prevailing light conditions and push the button (No. 8) towards the right, i.e. towards the edge of the camera in the direction of the engraved arrow, a burring sound will be heard as pinion wheels are actuated by a strong spring mechanism. Immediately the photographer should take up his position as pre-arranged and pre-focused and he has twelve seconds in which to reach the position and arrange himself. At the end of this time the tell-tale click of the shutter will indicate that the exposure has been made.

Size and Weight

This model measures $5\frac{1}{2}''$ high, $3\frac{1}{2}''$ wide and $3\frac{5}{8}''$ deep overall ($14 \times 9 \times 9$ cms.) and weighs 2·2 lb. (1 Kg.) without ever-ready case.

The New Standard Model

Of similar proportions and performance is the New Standard Model (see Figs. 30 and 31), produced concurrently with the Double Bayonet Model described above, as a lower priced alternative, and it was almost identical to it. Almost the only difference is the simplified method of loading the film which is, in fact, just as for the Lever Wind Model described on page 31.

There is a red window located in the base, and in order to wind the film to the first exposure, the crank handle is wound until number '1' appears in this. The base lock (Fig. 47 No. 2) is not pushed home until this number appears. When this lever is finally pushed home, the red window automatically closes, and it is not opened again until the next film is to be reloaded. It will now be found that a figure '1' has appeared in the peep window on the side of the camera at Fig. 30 No. 4. From this point on, the operation of the camera is exactly as for the Automat described above. Other slight differences between this model and the Automat are the speed and aperture settings,

which in this instance are controlled by setting levers (Fig. 30 No. 12) instead of milled wheels, and inside the camera there are, of course, no 'feeler' rollers.

The Sports Model Rolleiflex

This model which was introduced in 1937 is a development of the earlier Baby models, and in its final form was the last of all the 'Babies'. It is, in fact, what one might call a cross between the Lever Wind Model and the Rolleicord II, as it has a bayonet lens mount and the hood is of the same type as the Lever, but of course on a reduced scale. The final form of this model was introduced in 1939 with a double bayonet fitting, as were the 1939 Automats. The film used is 27, 127, or A-8 size, on which twelve exposures each $1\frac{5}{8}''$ square (4 × 4 cms.) are taken. This model is fitted with f/2·8 Tessar lens of 60 mm. focal length and a Compur Rapid shutter with speeds up to 1/500th second. The bayonet lens mount accepts the same standard bayonet accessories as the Rolleicord II and the Automat such as lens shade, filters, Dutos, Rolleinars, etc. There was at one time a special plate-back manufactured for this model and its predecessors, but this has now been discontinued for some time. The plates used were $1\frac{5}{8}'' \times 2\frac{1}{4}''$ (4·5 × 6 cm.) but in every other way this accessory resembled the 6 × 6 Plate Back described on page 103. However, no Rolleikin 35 mm. Cine Back has ever been made for this model.

Loading the film, shutter setting and release is as for the Lever Wind Models described on page 31. Focusing is also similar to this model and the direct vision finder is again of the Diopter type described on page 32. The film wind window for taking the first frame of film to No. 1, is situated in the centre of the camera back under the exposure guide panel (Fig. 27 No. 9).