

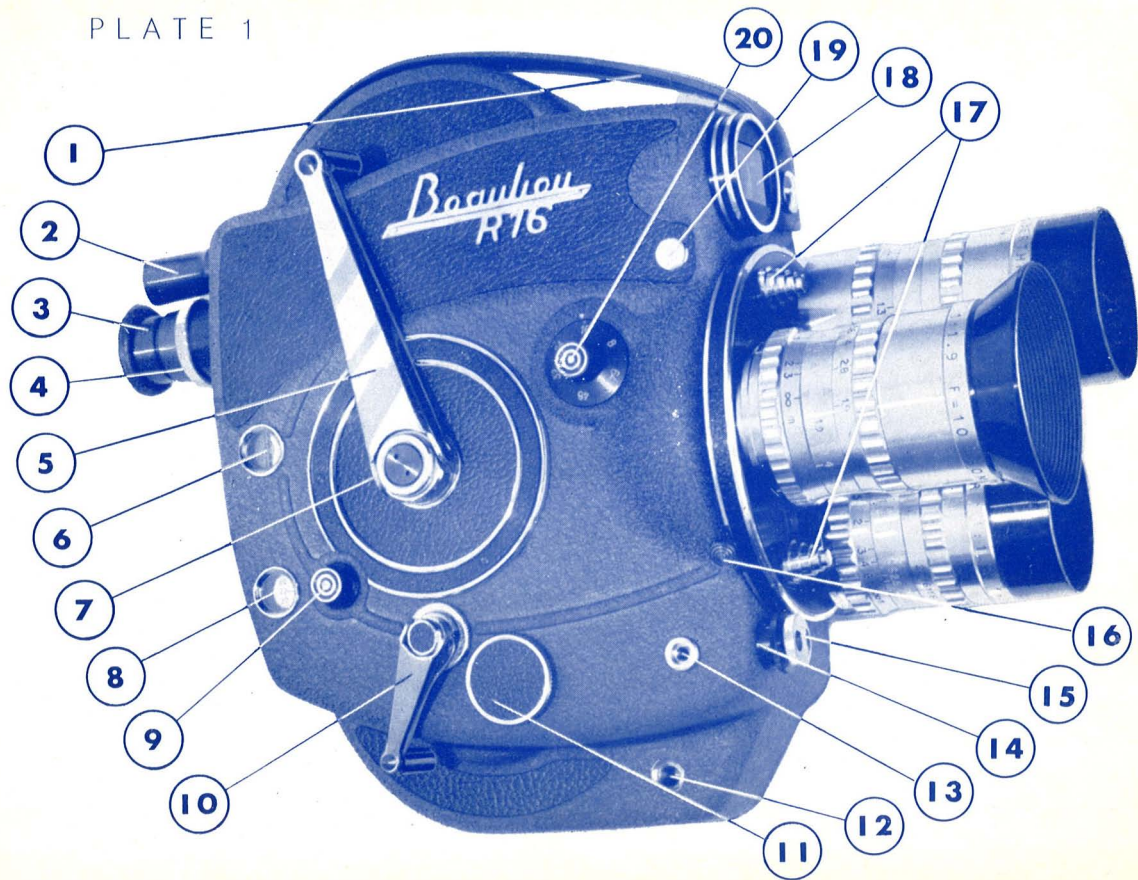
How to use your

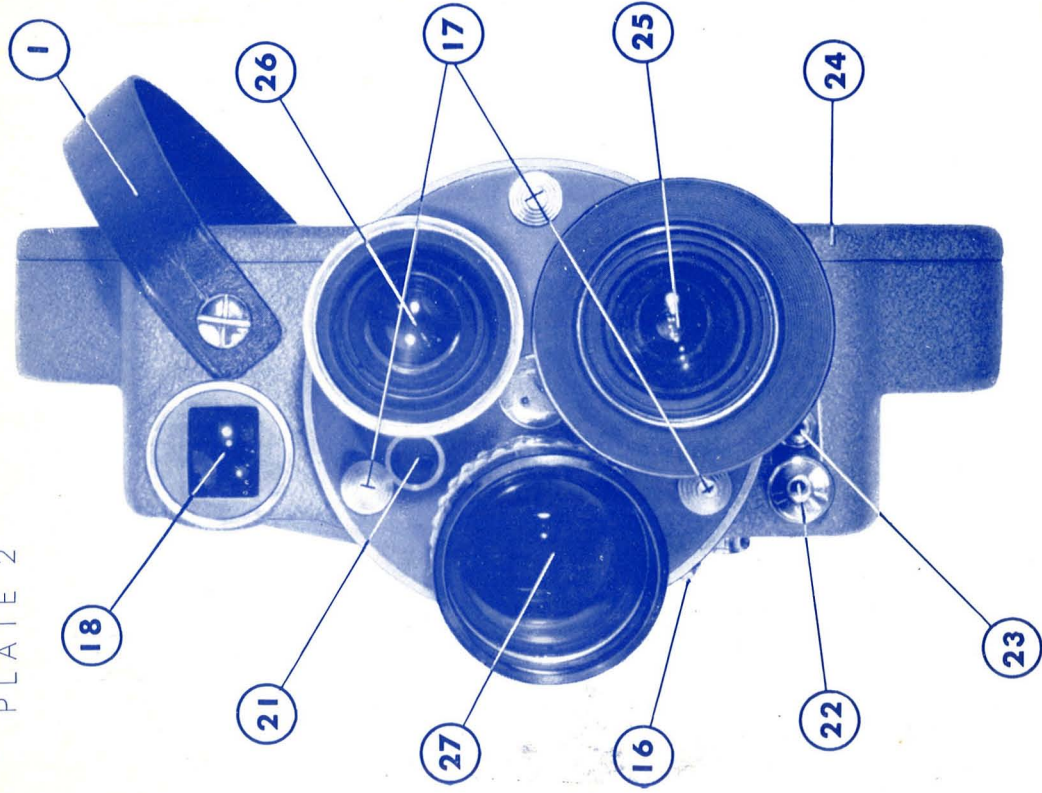
Beaulieu

camera

R16

PLATE 1





Turret view showing
relative lens positions

This manuel should provide adequate information for all routine applications of the R.16. For special uses (medical, professional etc...) please explain your specific problems, to your Beaulieu retailer who will be pleased to offer the assistance of his research and experience.

Get acquainted with your Beaulieu R-16 camera

In the 4 descriptive plates in this leaflet, each component is designated by a number or by a letter referring to the following nomenclature :

PLATE 1

1. Carrying strap
2. Field viewfinder
3. Adjustable eyepiece of the Reflex Viewfinder
4. Eyepiece locking ring
5. Winding crank handle
6. Footage counter
7. Crank drive hub
8. Frame counter
9. Frame counter zero reset
10. Reverse motion crank
11. Plug covering threaded socket for electric motor drive
12. Grip handle fixing socket
13. Single frame release cable socket
14. Locking ring
15. Trip press-button
16. Turret-locking pawl
17. Turret actuating knobs
18. Straight viewfinder
19. Film-plane indicator
20. Speed setting control

PLATE 2

1. Carrying strap
16. Turret locking pawl
17. Turret actuating knob
18. Straight viewfinder
21. Monitoring window (indicates film start and termination)
22. Threaded socket for trip cable
23. Threaded socket for trip cable (still exposures)
24. Case lid
25. Wide-angle lens
26. Standard lens
27. Telephoto lens.

PLATE 3

- A. Upper spool
- B. Spool locking balls
- C. Spool positioning square
- D. Upper drive mechanism
- E. Housing of actuating finger
- F. Floating plate (open)
- G. Film gate
- H. Lower drive mechanism
- I. Lower spool spindle
- J. Zero-reset pawl
- K. Drive mechanism guide assembly.

PLATE 4

- H. Lower drive mechanism
- F. Floating plate in place
- K. Drive mechanism guide in place
- D. Upper drive mechanism
- L. Feeder spool
- M. Take-up spool
- N. Film circuit.

PRELIMINARIES

a) The turret *(see plate 2)*

The turret is rotated by means of three actuating knobs, designed to obviate the risk of maladjusting the lenses by twisting.

Hold the R.16 correctly: get a firm grip over the top of the camera, with your left hand under the strap, palm applied against the lid. With your right hand thumb, press on pawl (16) unlocking the turret, while the fore or middle finger acts on one of the actuating knobs (17) initiating clockwise turret rotation. Now, release pawl (16) and rotate turret until it locks into position. One of the three lenses is now in position for filming.

Note this exclusive feature : When starting a fresh reel, you can determine exactly when to

begin filming by observing the tell-tale perforations on the lead-in strip through a monitoring window provided on the turret casting. To do this, rotate the turret until the window coincides with the exposure aperture.

b) The lenses *(see plate 2)*

The three lenses provided on the R.16 turret should cover all normal requirements :

- Standard 25 mm lens,
- Wide-angle short focal length lens,
- Telephoto lens (appx 75 mm).

The figures and the letters in brackets are connected with the plates 1, 2, 3 and 4.

However, all lenses with standard 17.52 mm fit can be readily mounted on the turret, without prior correction. When mounting the lenses, remember to fit the telephoto lens immediately under the wide-angle lens (the latter being placed in the operation position). If this precaution is overlooked, the sun hood of the telephoto lens will get in the way of the field of the wide-angle lens (incidentally, reflex viewing will immediately show up obstructions of this nature). If long focal length lenses are used (150, 300 mm etc...) the turret locking plug should be screwed in the place of the intermediate lens.

Extension tubes and rings: They screw between the lens and the turret. Their purpose is to permit the close-up filming of small-sized objects (for larger-than life reproduction on the film). Manufacturers of extension tubes supply aperture-correction charts, a necessary requisite for correct exposure. Perfect focussing is assured through the reflex viewfinder.

c) The diaphragm

We shall assume that the operator uses an exposure meter, an essential requirement for correct exposures.

Exposure times for the different speeds are:

at	8 f.p.s.	1/20	sec.
16	—	1/40	—
24	—	1/60	—
32	—	1/80	—
48	—	1/120	—
64	—	1/160	—

d) Focusing and framing

(see plate I)

Here, the full advantages of the R.16 reflex viewfinder will be seen: the system permits precise and complete evaluation of the subject, even at very low diaphragm settings, so that the operator is able to achieve extremely accurate focusing.

Focusing procedure: Using the lower eyepiece (reflex finder), start by focusing on the cross-hair, rotating the eyepiece (3) until correct focusing is obtained. Lock the eyepiece (anticlockwise motion of locking ring 4). Thereafter, the

viewfinder will remain exactly focused, irrespective of the type of lens used.

If the operator normally wears spectacles, he may take them off and apply his eye directly to the eyepiece for focusing, adjusting the eyepiece for his correct vision. Subsequently, he will be able to film without suffering the inconvenience of wearing spectacles.

When this preliminary eyepiece focusing is over, proceed to focus on the subject by rotating the focusing ring of the lens.

If, during filming, the subject moves, keep it in focus by adjusting, with the right hand, the focusing ring. Naturally, for this operation, the camera should be securely mounted on its tripod.

This facility, made possible by the high luminosity of the R.16 reflex viewing system, is extremely valuable in telephoto work, where the depth-of-field is always limited and range difficult to assess.

e) The straight Viewfinder

The applications of the straight viewfinder are described in the "General Introduction" leaflet.

The field of the finder corresponds to that of the

normal 25 mm lens. With anamorphizing lenses, reflex finders give a slightly distorted image of the recorded scene and the straight finder will be found preferable. When filming in this way, do not forget to fit the special correcting lens provided for use with anamorphizing lenses. The correcting lens is mounted in front of the field viewfinder. (18)

FILM RUNNING

a) Speeds

The BEAULIEU R.16 provides a choice of 6 calibrated speeds. Speed setting is perfectly simple: just turn the speed-setting knob (20) until the desired speed setting coincides with the knob pointer. The normal speed setting is 16 f.p.s. (24 f.p.s. if the film is to be post-synchronized for sound).

The speed can be readily altered during filming, to obtain slow or accelerated motion effects.

Do bear in mind, however, that, by altering the speed, exposure times are also altered. Consequently, in order to maintain correct exposure, stop settings will need correcting in accordance with the following table:

Stop setting	f. 1,4	1,8	2	2,4	2,8	3,5	4	4,8	5,6	6,8	8	9,5	11	13-16
								64 f.p.s.		32 f.p.s.		16 f.p.s.	8 f.p.s.	8 f.p.s.
						64 f.p.s.	64 f.p.s.	32 f.p.s.	32 f.p.s.	16 f.p.s.	16 f.p.s.	8 f.p.s.	8 f.p.s.	
Example.....					64 f.p.s.	32 f.p.s.	32 f.p.s.	16 f.p.s.	16 f.p.s.	8 f.p.s.	8 f.p.s.			
			64 f.p.s.	64 f.p.s.	32 f.p.s.	32 f.p.s.	16 f.p.s.	16 f.p.s.	8 f.p.s.	8 f.p.s.				
	64 f.p.s.	64 f.p.s.	32 f.p.s.	32 f.p.s.	16 f.p.s.	16 f.p.s.	8 f.p.s.	8 f.p.s.						

Assuming exposure meter readings of 5,6/16 f.p.s., the required stop-vs-fps values will be found along the same line (between the two arrows \rightleftarrows) for various speed changes.

It will be observed that:

at 64 f.p.s. stop setting is f. 2,8.
 at 32 f.p.s. stop setting is f. 4.
 at 24 f.p.s. stop setting is f. 4,8.
 at 16 f.p.s. stop setting is f. 5,6.
 at 8 f.p.s. stop setting is f. 8.

CAUTION: Never run an unloaded camera at more than 32 f.p.s.

b) Tripping

a. Press-button tripping

This is quite simple: keep your finger pressed on the press-button (15) as long as filming is required. For continuous runs, press on the trip button and lock it by applying a quarter-turn twist to the button. When set, the film will run continuously until the power of the spring motor is spent.

To stop the continuous run, release the trip button by giving it a quarter-turn twist in the reverse direction.

b. Flexible cable trip

A flexible cable, supplied with the camera, screws into an internal thread provided in the trip button (pl. 2, 22). The flexible cable assures intermittent or continuous run release control. When using the flexible cable trip the camera should be operated on its tripod — a procedure that should be followed as often as possible, to assure the highest degree of camera stability.

c. Grip handle

The grip handle greatly facilitates camera holding.

The shape of this transparent polyester handle is perfectly functional.

The handle screws into a brass socket (12) located on the lower section of the case side. It is secured to the camera by a small locking lever (pull back to lock).

HOW TO HOLD YOUR R. 16

1 Camera without grip attachment.

Left hand under the strap, palm against the lid, camera firmly held between palm and fingers. Right hand adjusts focusing ring, then supports camera, palm applied on underside, forefinger on trip release.

2 Camera with grip attachment.

Right hand always grips handle. Left hand makes focusing adjustments. Camera held against forehead, eyecup against operator's eye.

d. Electric motor

When the owner of an R.16 makes frequent use of his camera, the BEAULIEU electric motor will prove of considerable assistance. The motor is of barrel shape, with a drive pinion at one end and a contactor cap at the other.

Installation: remove the protecting cap from the drive pinion, screw the motor into the socket provided on the side of the camera casing (11). The supply cord is plugged into the motor receptacle and into the socket of the battery bag. Switch-on by rotating the contactor cap clockwise to the next setting. The motor will turn over slowly, in the unclutched position. Actuate the trip control (press-button or flexible cable).

The motor automatically clutches-in and continuous filming begins — if required, until the spool is fully spent. Trip-off action de-clutches the motor drive. The motor then continues to run slowly “in neutral” To switch-off, twist the contactor to the next setting.

c) Trip lock

The trip button can be locked by screwing the knurled ring (15) mounted at the back of the press-button.

d) Counters *(see plate I)*

With the hand drive mechanism fully wound up, the total duration of film run is 35 seconds, corresponding to 4.5 m of continuous film run. Always keep a safety margin of spring drive. You

should acquire the habit of automatically cranking up after each sequence.

A footage counter (6) graduated in meters (top scale) and in feet (bottom scale), indicates the length of film still available for filming. The average length of lead-in strip corresponds to the portion of the drum comprised between A and the first reading.

The frame counter is observed through the bottom window (8). One complete revolution of the scale corresponds to 100 frames. Between two passages of the 0 graduation, frame readings appear successively in even readings, from 2 to 98. Odd readings are indicated by lines.

A knurled knob (9) located next to the frame counter, permits counter zero resetting so that the precise starting point of the next sequence can be noted.

SPECIAL PROVISIONS

Reverse run facilities are required for lap-dissolve and multi-exposure effects. A reverse motion crank is used for reeling-up. Before using the reel-up crank, always cover the lens with its lens cap. Release the crank handle (10) from its non-

operative position and pivot it about its hub. Now, rotate the handle until the flats engage. Start cranking at a steady rate, not too fast, in the direction indicated by the arrow (engraved on the handle) Always bear in mind that:

- 1° The amount of reel-up should exactly correspond to a given span of "shooting" in the the forward direction. You must, accordingly, reset the footage counter to zero before proceeding with a lap-dissolve double or exposure. After 4 to 5 seconds of forward run, note the exact footage reading.
- 2° During the reverse motion (back to zero reading) the lens cap must again cover the lens.
- 3° **But**, don't forget to remove the lens cap before re-exposing your film!
- 4° Reverse motion automatically rewinds the motor spring mechanism. The extent of reverse motion is therefore limited to the rewind capacity. In view of this limitation, reeling-up should preferably take place after a fair proportion of the spring power has been spent.
- 5° There is no risk whatever of "film pack-up" during reel-up, the functions of the two spools

being inverted: the feeder spool thus acts as a take-up spool, and vice-versa.

Single frame filming

A single-frame release socket is provided at the side of the camera. A flexible release cable screws into the threaded bushing of the socket. This arrangement necessarily implies the exclusive use of a flexible cable for single-frame release and, also, the quasi-necessity of tripod mounting for the camera. This provision was deliberately adopted by BEAULIEU because absolute camera rigidity is required for accelerated-motion filming (cloudscapes, growth of plants etc...)

In single-frame recording, 16 fps corresponds to $1/24$ second of exposure time. At 24 fps and over, the exposure time is $1/32$ second and at 8 fps, $1/14$ second.

Timed exposure

Another socket, located at the front of the camera (pl. 2, 23), receives the flexible release cable, providing still exposure control (letter P on the camera). Trip action holds the shutter open during the exposure time required by ambient light conditions. The next frame automatically slides into position when the shutter closes. Naturally, for still expo-

tures, the camera should be operated on its tripod mount. Timed exposure is extremely valuable when filming in dimly lit surroundings (church interiors), the scene being recorded in successive stills of, say, one second exposure. You mentally count the seconds, pressing the trip over the odd counts and releasing over the even counts. The method assures the necessary uniformity of exposure.

LOADING

(see plates 3 and 4)

Daylight loading is permissible, but choose a dimly lit room or, if operating outdoors, a spot in the shade.

- 1^o Unlock the reel-up crank handle (5), swivel the handle to its operating position. Wind-up, cranking (but, don't overcrank) clockwise (direction clearly indicated on the handle). Reset the handle to its non-operative position: turn handle about its hub (disengaged position) until it fits on its locking lug.
- 2^o Release lid lock and open. Take out the take-up spool (supplied with the camera), retracting the zero-reset pawl clear of the spool (pl. 3 - J). Open the gate pressure plate (pl. 3 - F).

3^o Pull out 40 or 50 cm, (about 20 in.) of film length from the feeder spool, place the spool on its spindle (pl. 3 - A), fitting it correctly over the square tip (pl. 3 - C). The film must be positioned so that the film feeds out in the downward direction. The spool is securely locked by balls blocking the inner flange.

4^o Insert the film between the upper drive (pl. 4 - D) and the drive guides (pl. 4 - K). Film perforations must position themselves over the corresponding actuating teeth. Check, by pulling lightly on the film, that the teeth are engaged correctly. After looping the film, as shown on plates 3 and 4, insert it into the gate. Close the pressure plate (pl. 4 - F). If the film is correctly inserted, the pressure plate will mate perfectly over the gate. Check this condition by giving a light downward pull to the film.

The sprocket claw should position itself into one of the perforations and hold the film securely.

- 5^o Apply the correct loop to the film and slide the film between the drive guide and lower drive (H), following the same procedure as for the upper drive.
- 6^o Insert the lead-in strip into the slot on the hub of the take-up spool, wind it over the hub

(3 to 4 turns), checking that it is securely fixed in the slot.

- 7^o Keep the zero-reset pawl clear of the spool, place the spool over the spindle (I), fitting it securely over the square tip (same procedure as in the case of the feeder spool).

Press the trip button, unreel a few inches of film to check that everything is operating satisfactorily. The size of the two loops should remain constant.

- 8^o Close the lid of the camera. Incidentally, the interlock system permits lid locking only if the camera is properly loaded.
- 9^o Run the film until the perforations are visible through the monitoring window or until the

footage counter moves from A to the first footage indication.

UNLOADING

The indication that the useful length of film is approaching the end of its run is provided by the appearance of the letter F on the footage counter ; Keep filming until the letter F has fully registered on the dial. Now, open the camera in dim light and, if necessary, reel up, by hand, the last few inches of film still engaged on the teeth of the driving mechanism.

Retract the zero-reset pawl clear of the spool, remove the spool, while maintaining the film in good reeled-up condition.



MAINTENANCE

The R.16 is supplied with two maintenance requisites; a handblower and a soft-hair brush. They will help you to keep the main components of your camera in dust-free condition.

- A. **LENSES.** — The lenses must be kept in spotlessly clean condition. External parts will be wiped with a soft non-fraying cloth. Never dampen the cloth.

When you finish filming, always replace the protecting cap over the lens.

- B. **GATE.** — Clean frequently (every three or four spools) with the small brush supplied with the camera. Opening the pressure plate provides ample clearance for adequate brushing. Similarly, the drive elements are easily cleaned once the drive guides are pulled out.

- C. **REFLEX SYSTEM.** — The mirror and ground-glass lens are reached through the filming aperture. The mirror will become visible once the lens is removed. If dust is present on the mirror, blow it away with the

help of the handblower. To reach the ground-glass lens, located to the left of the filming aperture, release the trip button fully. Now crank the reverse motion mechanism until the mirror reaches its bottom position (i.e., shutter open). It is now quite easy to reach the field lens with the handblower.

- D. **LUBRICATING.** — Theoretically, lubricating should be left to us. After a period of three years, the camera should be returned to a BEAULIEU agent for routine maintenance inspection and lubrication.

Camera registration number: The factory number of your camera (which should be quoted every time you deal with your BEAULIEU agent) is visible inside the plug of the electric motor drive socket.

**And now,
before you
start shooting
remember these
golden rules :**

As the owner of a BEAULIEU camera, you are fully justified in expecting perfect results. You will get them... but only so long as you never forget the essentials of film making. You probably know them, but they need stressing over and over again:

- a. A film consists of a succession of scenes which should never exceed 15 seconds. Actually, 5 seconds will suffice if the subject is static. If the subject moves, 10 seconds will be ample.
- b. The pictures must be clearly defined, a condition that requires:
 - 1) **Accurate focusing.** Easily achieved with the reflex viewfinder of the R.16.
 - 2) **Correct diaphragming.** Use and abuse of your exposure meter.
 - 3) **Camera stability.** Steady your hold by leaning against a fixed point or surface. Use a tripod whenever possible.
- c. Alternate shot distances
 - 1) change from close-up to medium shots between two successive shoots.
 - 2) Switch-over from one lens to the other.
- d. Don't abuse the use of lap-dissolves. Insert them, for instance, between two titles.
- e. Stick to a rough "script".
- f. Be exacting, even critical, in the appreciation of your personal productions.

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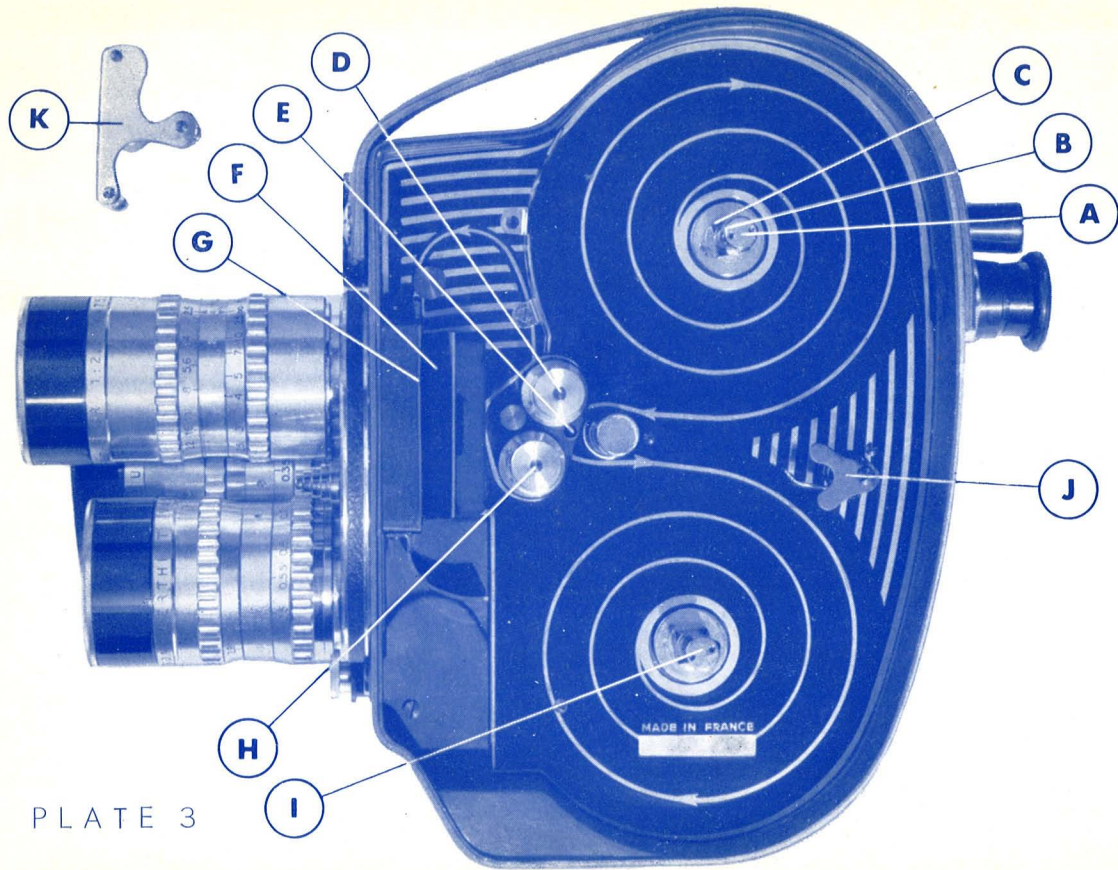
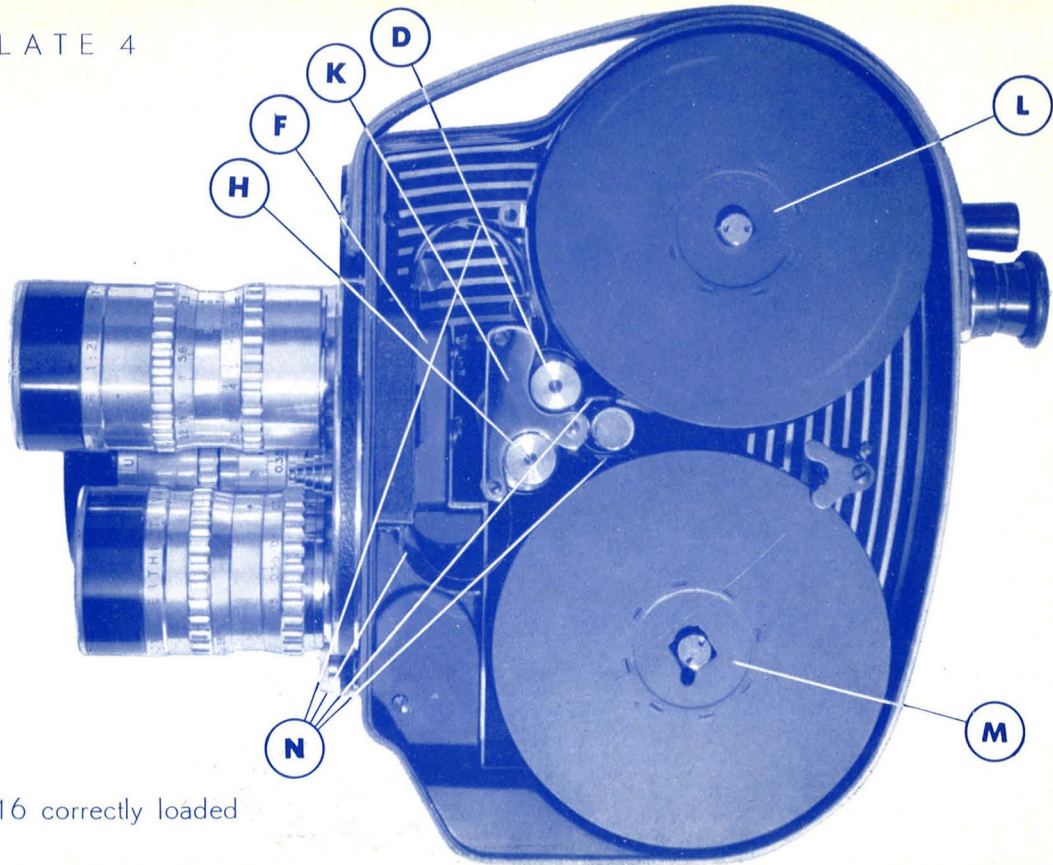


PLATE 3

PLATE 4



R.16 correctly loaded

Follow the advice
of your Beaulieu cinema Agent
when you "think movies"

Beaulieu
cinema