

## Contents:

	Page
<b>A Components and Controls</b> .....	17
<b>B Abridged Operating Instructions</b> .....	18
(for quick reference)	
<b>C Batteries</b> .....	19
<b>D Film</b> .....	20
<b>E Film Running Indicator</b> .....	20
<b>F Footage Counter</b> .....	20
<b>G Filter</b> .....	21
<b>H Running Speeds</b> .....	21
<b>I Reflex Viewfinder</b> .....	22
<b>K Zoom Lens</b> .....	23
<b>L Exposure Control</b> .....	24
<b>M Close-ups</b> .....	25
<b>N Filming with Refinements</b>	
1. Single frame —	
automatic single frame operation .....	25
2. Time exposure .....	26
3. Remote release .....	27
4. Automatic fade-in and fade-out .....	27
5. Manual fade-in and fade-out .....	27
6. Lap dissolve .....	28
7. Double exposure .....	29
8. Filming with shutter adjusted .....	30
9. Synchro socket .....	30
<b>O Notes on Filming</b> .....	31
<b>P Accessories</b> .....	31
<b>R Care of Your Camera</b> .....	31
<b>S Tables for close-ups with close-up lenses</b> .....	68

## A Components and Controls

1	Viewfinder eyepiece
2	Button for opening cartridge compartment
3	Selector knob for automatic single frame operation
4	Running speed settling switch
5	Slow motion button
6	Film plane
7	Filter slide
8	Manual aperture setting cover
9	Push buttons for power zoom
10	Speed selector for power zoom
11	Zoom lever
12	Focusing ring
13	Film type indicator
14	Operation mode selector switch
15	Battery housing cover
16	Tripod bush
17	Connection socket for remote release
18	Tripod bush
19	Handgrip (folded)
20	Battery housing cover
21	Release button
22	Retainer slot for BAUER 1000 cine lamp
23	Time exposure meter (do not use in daylight)
24	Footage counter
25	Synchro socket
26	Pre-selector mechanism for time exposure
27	Handgrip (in position)
28	Knob for manual shutter setting
29	Button for automatic shutter setting
30	Storage unit release lever
31	Rewind button
32	Eyepiece catch

# **BAUER**

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**BOSCH Gruppe**

**ROBERT BOSCH  
PHOTOKINO GMBH  
7000 STUTTGART 60  
POSTFACH 109**

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**BAUER C Royal 6 E  
BAUER C Royal 10 E**

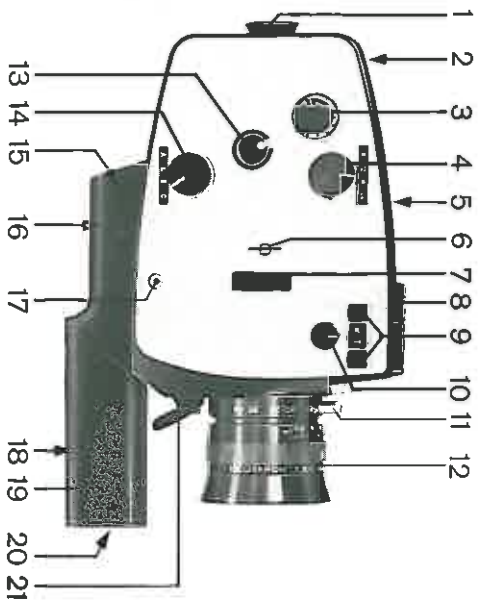
Bedienungsanleitung  
Instruction Manual  
Mode d'emploi  
Instrucciones para el uso

## Contents:

	Page
<b>A Components and Controls</b> .....	17
<b>B Abridged Operating Instructions</b> .....	18
(for quick reference)	
<b>C Batteries</b> .....	19
<b>D Film</b> .....	20
<b>E Film Running Indicator</b> .....	20
<b>F Footage Counter</b> .....	20
<b>G Filter</b> .....	21
<b>H Running Speeds</b> .....	21
<b>I Reflex Viewfinder</b> .....	22
<b>K Zoom Lens</b> .....	23
<b>L Exposure Control</b> .....	24
<b>M Close-ups</b> .....	25
<b>N Filming with Refinements</b>	
1. Single frame —	
automatic single frame operation .....	25
2. Time exposure .....	26
3. Remote release .....	27
4. Automatic fade-in and fade-out .....	27
5. Manual fade-in and fade-out .....	27
6. Lap dissolve .....	28
7. Double exposure .....	29
8. Filming with shutter adjusted .....	30
9. Synchro socket .....	30
<b>O Notes on Filming</b> .....	31
<b>P Accessories</b> .....	31
<b>R Care of Your Camera</b> .....	31
<b>S Tables for close-ups with close-up lenses</b> .....	68

## A Components and Controls

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18	Tripod bush
19	Handgrip (folded)
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21	Release button
22	Retainer slot for BAUER 1000 cine lamp
23	Time exposure meter (do not use in daylight)
24	Footage counter
25	Synchro socket
26	Pre-selector mechanism for time exposure
27	Handgrip (in position)
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29	Button for automatic shutter setting
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31	Rewind button
32	Eyepiece catch



## A Bedienungselemente

- 1 Sucherokular
- 2 Taste zum Öffnen des Kassettenlachs
- 3 Intervallschalter für Einzelbildautomatik
- 4 Schalter für Laufgeschwindigkeit
- 5 Zeitlupe Taste
- 6 Filmebene
- 7 Filterschieber
- 8 Abdeckung für Blendenhandeleinstellung
- 9 Drucktasten für Powerzoom
- 10 Geschwindigkeitswähler für Powerzoom
- 11 Variobehebel
- 12 Einstellung für Aufnahmeentfernung
- 13 Filmsortenanzeige
- 14 Betriebsartenschalter
- 15 Batteriegehäusedeckel
- 16 Stativgewinde
- 17 Anschlussbuchse für Fernauslöser
- 18 Stativgewinde
- 19 Handgriff (eingeschwenkt)
- 20 Batteriegehäusedeckel
- 21 Auslösetaste
- 22 Halleschütz für BAUER Filmsone 10000
- 23 Langzeitbelichtungsmesser  
(bei Tageslicht nicht ausschwenken!)
- 24 Filmzähler
- 25 Synchronbuchse
- 26 Vorwahl für Langzeitbelichtung
- 27 Handgriff (ausgeschwenkt)
- 28 Drehknopf für manuelle Sektorenblendenverstellung
- 29 Druckknopf für automatische Sektorenblendenverstellung
- 30 Speicherwerktaustöser
- 31 Rückwickelaste
- 32 Okularreiterung

Änderungen vorbehalten

## B Abridged Operating Instructions

- Insert six batteries 15, 20.
- Insert film cartridge 2.
- Set filter slide according to film type and light 7.
- Set selector switch to "C" 14.
- Set running speed to 18 frames/sec. with switch 4.
- Adjust viewfinder eyepiece to suit eye 1.
- **Important**
  - a) Set exposure control to "Automatic".  
(Cover 8 on top of camera closed!)
  - b) The two white and black sections of the shutter setting must be opposite one another (fig. H).
  - c) Green panel on storage unit release lever 30 visible.
- Set distance 12 and focal length 11.
  - Zone focusing for example:  
Distance — 2 metres / 7 feet  
Focal length — 8 mm  
= Depth of field from 0.94 metres / 3 feet to infinity!
- Sight on subject through viewfinder 1 and depress release button 21.

The BAUER C Royal 10 E and BAUER C Royal 6 E cine cameras differ only in respect of the lens fitted:

### C Royal 10 E:

Neovaron 7—70 mm *f*/1.8, filter thread M 55 x 0.75.

### C Royal 6 E:

Neovaron 8—48 mm *f*/1.8, filter thread M 49 x 0.75.

## C Batteries

Current for the drive motor, exposure control and zoom motor is supplied centrally by six 1.5 V Mignon cells (Type AA) — it is essential to use heavy-duty batteries (alkali-manganese cells).

### Inserting Batteries (Fig. A)

Remove two battery housing covers 15 and 20 — undo catch with coin.

Insert batteries in the battery compartments, observing the + and — marks. Close battery housing covers.

### Checking the Battery Voltage

Set running speed of 18 frames/sec. with switch 4, press camera release. The green light signal in the viewfinder (Fig. C) will light up.

When the light signal extinguishes, renew all six batteries immediately. Never renew individual cells!

When the camera is not used, make sure to set the switch 4 on "0" — this means that the power supply is completely cut off. If you fail to switch off the power, the batteries will be drained within short by the steady current of the electronics.

If the camera is not in use for any length of time, remove batteries for safety's sake.

A set of batteries will transport approximately 10 films at + 20° C.

At low temperatures (e.g. in winter) it is advisable to carry a spare set of batteries — if possible at body temperature. Battery renewal at the proper time is particularly important in the case of single-frame shots or time exposures.

## D Film

Super-8 cartridges with film speeds of 17 and 23 DIN/50 and 160 ASA can be inserted:

Open cartridge compartment by depressing button 2. Insert film cartridge (Fig. B), push right forward and close cover. The BAUER exposure control is automatically set correctly when the cartridge is inserted.

The film type inserted is indicated in window 13.

Note position of filler slide 7 — see Section G.

## E Film Running Indicator

A pointer on the right-hand edge of the viewfinder (Fig. C) moves up and down while filming is taking place — this indicates that the film is being properly transported.

If this pointer does not move: Film finished (footage counter 24) or cartridge fault.

Remove film cartridge. If the film is not fully exposed ("EXPOSED" not yet visible), advance the film by a few perforations manually and re-insert cartridge — this usually remedies the cartridge fault.

Note footage counter: see Section F.

## F Footage Counter

The Super-8 cartridge contains 15 m (50 feet) of film, suitable for approximately 3½ minutes projection at 18 frames per second.

When inserting the cartridge, the footage counter 24 switches on automatically, the footage available being indicated in metres or feet.

When the cartridge is removed, the footage counter returns automatically to starting position (15 m/50 feet).

Note: This is particularly important when removing a partly exposed cartridge.

Before removal, note footage counter reading, after reinsertion subtract the footage reading from 15 metres — after re-

insertion of the cartridge, the film will be finished at the calculated footage — watch film running indicator.

## G Filter

(Fig. E)

The built-in conversion filter can be moved into and out of position by means of filter slide 7.

Normal Super-8 cartridges usually contain universal colour film which can be exposed in daylight and in artificial light (e.g. BAUER 1000 cine lamp).

Daylight:

With filter slide 7 down, the filter is in position.

Visible symbol: 

Artificial light:

With filter slide 7 up, the filter is out of position.

Visible symbol: 

The filter slide setting is also applicable when using high speed Super-8 colour films (e.g. Kodak Ektachrome 160).

When shooting with black-and-white film, the filter slide 7, remains up — filter out of position, visible symbol: 

## H Running Speeds

Switch 4 for running speed setting has the following positions:

0 = Current supply switched off

12 = 12 frames/sec.

18 = 18 frames/sec.

24 = 24 frames/sec.

For 54 frames/sec. see Automatic Slow Motion, page 22.

When filming at these speeds the selector switch 14 must be set to "C" (= cine).

The exposure control is correctly set automatically in each case.

To start camera depress release button 21.

### **12 frames/second**

Time-lapse effect, e.g. to give the impression of increased speed with skiing or motor racing, also for humorous effects.

In bad light conditions, stationary subjects can be filmed — gaining almost  $\frac{2}{3}$  of a stop in comparison with 18 frames/sec.

### **18 frames/second**

"Normal speed" — the usual frame speed for shooting and projection. Filming is normally done at this speed.

### **24 frames/second**

Slight slow motion effect, e.g. for panning or taking panorama shots and for shots from a moving car.

### **54 frames/second — Automatic Slow Motion**

By depressing the slow motion button 5 it is possible while filming to change over from speeds 12, 18 or 24 frames/sec. to slow motion — the exposure control adjusts automatically. After releasing the slow motion button 5, the previously selected running speed is resumed.

The automatic slow motion makes it possible to slow down motion — for example in sports — at interesting phases.

**Note:** In unfavourable light conditions, check before depressing the slow motion button, that the aperture indicator in the viewfinder indicates at least between  $f/2.8$  and  $f/4$ .

## **I Reflex Viewfinder**

(Fig. C)

The C Royal viewfinder is parallax-free — you see the exact picture area which is recorded on the film.

Focusing is also carried out through the viewfinder: the viewfinder eyepiece must first of all be adjusted to suit your eye. The range of adjustment of the eyepiece is between — 5 and + 5 diopters.

## **Adjusting the Viewfinder Eyepiece**

Set focusing ring 12 to 2 metres / 7 feet (figure opposite index mark, Fig. D).

Select maximum focal length of 70 mm (on the Royal 6 E — 48 mm) with zoom lever 11.

Point the camera at a subject exactly 2 m / 7 ft away, e.g. the page of a newspaper (measure distance with rule from film plane 6). After releasing the eyepiece catch 32 rotate the viewfinder eyepiece 1 until the centre cross-hairs and the subject appear sharp. Then lock eyepiece with screw 32.

### **Focusing**

To focus, set focal length to "Tele" with zoom lever 11 — C Royal 10 E: 70 mm, C Royal 6 E: 48 mm. Focus by rotating the focusing ring 12 until subject and centre cross-hairs are sharp.

The distance in metres opposite the index mark (Fig. D) must agree with the actual distance.

For snapshots with short focal length (approx. 8–15 mm) it is usually sufficient to set the estimated distance on the lens. The depth of field can be read off in each case from the table supplied.

## **K Zoom Lens**

The focal length of the lens can be continuously adjusted from "wide angle" to "Tele" using the zoom lever 11 — the required picture area can easily be determined.

If the focal length is to be altered whilst filming (zoom shots), zooming can be carried out by electric motor<sup>1</sup> by depressing pushbuttons 9: T = "Tele", W = "Wide angle".

Power zooming can be either:

rapid: knob 10 — white mark facing upwards.

slow: knob 10 — white mark facing downwards.

The cross-hairs in the viewfinder are a useful aid in determining the center of the picture and aligning the camera.

**Important:** Focus before operating power zoom (s. Section J).

## L Exposure Control

The BAUER exposure control sets the aperture correctly independent of the battery voltage. The pre-selected running speed and lens fittings (e. g. filters) are automatically taken into account.

The automatic exposure control is in operation when the aperture setting wheel under cover 8 is locked (cover can be completely closed).

The aperture set can be read off under the image in the viewfinder (Fig. C).

Red warning signals at  $f/1.8$  (full aperture) and  $f/22$  (minimum aperture) indicate that filming is taking place in the extreme limits of the automatic exposure control.

When shooting indoors use the BAUER 1000 cine lamp. In spite of the warning mark being visible, it has been found from experience that it is possible to film at  $f/1.8$  up to a distance of approximately 5 metres.

Under special shooting conditions, the automatic exposure control can be switched off: open cover 8 (Arrow Fig. I) and set the aperture setting wheel to the required stop by hand (indication in viewfinder, Fig. C).

### Example:

People in front of very light backgrounds (e. g. snowscape)

1. Zoom the lens so that the people fill the picture format.
2. Set aperture indicated in viewfinder by hand.
3. Reset focal length to obtain required picture area.
4. Depress camera release.

By this means the background will be rendered rather too light, but the people themselves will be correctly exposed. The same applies to light objects in front of a dark background.

Afterwards reset exposure control to "Automatic".

### Important

The apertures determined by the BAUER automatic exposure control indicated in the viewfinder take into account all fac-

tors influencing measurement, e. g. angle of view, zoom lens, reflex viewfinder.

When correcting the aperture manually, calculation should always be based, therefore, on the aperture indicated in the viewfinder.

## M Close-ups

If, at maximum focal length and minimum focusing distance, the picture area is still not sufficient, any of the usual close-up lenses can be used.

Normally, it is also possible to focus through the viewfinder when taking shots with close-up lenses.

See focusing table for close-up lenses, page 68-71.

Recommended: Cine tripod.

## N Filming with Refinements

### 1. Single Frame — Automatic Single-Frame Operation

#### Use tripod

Manual single-frame shots: connect release supplied to socket 17 (see Section N 3).

A single frame will be exposed each time the release is depressed. According to release interval, varying time lapse effects can be obtained.

It is usually advisable to set the camera aperture before single frame release (see Section L).

#### Manual Single Frame Release

- Set running speed switch 4 to 16 frames/sec.
- Set selector switch 14 to "E".
- Each pressure on the release supplied will expose a single frame — for one second exposure time 18 single frames must be exposed.

#### Automatic Single Frame Release

- Set selector knob 3 to required frame speed: Optionally between approx. 6 frames/sec. and approx. 1 frame/min. To start the automatic single frame operation,



move selector switch to "A". After completion of the single frame scene set selector switch 14 back to "C".

## 2. Time Exposure (Fig. K).

For shots under extremely unfavourable light conditions — e.g. night shots, shots in dimly-lit interiors etc., to obtain satisfactory projection results, each individual frame can be exposed at between  $\frac{1}{10}$  sec. and 1 minute by moving the time exposure meter 23 into position.

This technique is particularly suitable for stationary subjects.

The required scene length in projection seconds is set with the knob of the pre-selector mechanism 26: per second of time selected 18 individual frames will be exposed.

**Note:** at the slowest pre-selected speed the camera will require up to 3 hours or more to expose the scene.

**Attention:** When using ASA 160 (23 DIN) film set the diaphragm manually to f/4 (see Section L).

### Practical example

- a) Camera on tripod
- b) Focus and select picture area
- c) Set running speed switch 4 to 18 frames/sec.
- d) Swing out time exposure meter 23
- e) Set required scene length in seconds on the scale of the pre-selector mechanism 26.
- f) Set selector switch 14 to "L" — shooting will commence. The knob 26 of the pre-selector mechanism indicates how many projection seconds (per second 18 frames) still have to be exposed.
- g) When the time exposure is complete, set selector switch 14 to "C" and running speed setting switch 4 to "0".
- h) Swing time exposure meter 23 in again.

### Important

The highly-sensitive CdS cell of the time exposure meter should never be swung out in bright lighting (e.g. daylight).

## 3. Remote Release

For special purposes, the camera can be released from an increased distance by extending the release supplied (use any normal extension cable).

During the operations 4-8 a red control signal lights up on the left in the viewfinder (Fig. C) as long as the variable shutter is not wide open — unlike Fig. H.

The frame counter — which registers the number of individual frames up to a total of 90 images — automatically starts operating during the fade-out (or after turning the knob 28 beyond the clearly tangible switching point). Whenever the fade-out is operated manually it is therefore necessary to switch off this automatic frame counter by actuating the release 30; during automatic fade-in the frame counter is switched off by actuating the button 29.

## 4. Automatic Fade-In and Fade-out

To fade-out at the end of a scene or to fade-in again at the beginning of a scene, the variable shutter can be operated while the camera is running by depressing button 29.

**Example:**

- a) Fade-out: With the camera running depress button 29 — within approximately 3 seconds, the scene will be faded-out — the camera stops.
- b) To fade-in: After depressing release button 21, depress button 29 — the following film scene will fade in.

## 5. Manual Fade-In and Fade-out

Fade-in and fade-out can also be effected manually over any desired period (maximum 90 frames = 5 sec. at a running speed of 18 frames/sec.) by turning knob 28.

a) **Manual fade-out:** While filming, turn knob 28 clockwise. At the end of fade-out, at the latest however, after 90 single frames, the camera will stop automatically.

b) **Fade-in:** First of all, briefly push storage unit release lever 30 (Fig. 5) to "red" and push back again.

Depress release button 21 and turn knob 28 back anti-clockwise: the camera will start to run, the scene will be faded-in.

**Note:**

For a fade-in without previous automatic or manual fade-out, turn the knob 28 first to the right to its end stop (this closes the variable shutter). Upon release of the automatic frame counter (push knob 30 on red and then back to green) it is possible to make a manual fade-in.

If the camera should not run due to false manual or automatic operation of the variable shutter unlock the automatic frame counter with the aid of release 30 and open the variable shutter completely — by turning the knob 28 to its left end stop, it need be depress the knob 29. — This unlocks the mechanism electronically and mechanically and the camera will run again.

**6. Lap Dissolve**

Additional operation of the rewind button 31 after fade-out has taken place will produce what is called "lap dissolve", i.e. one scene will disappear and the next appears simultaneously.

a) **Lap dissolve after automatic fade-out:**

After the camera stops, remove finger from release button 21. Depress rewind button 31 until the camera stops again after rewind has taken place.

Focus on new subject, depress release button 21 and simultaneously operate pushbutton 29. The camera will start — the new scene will be lap dissolved.

b) **Lap dissolve after manual fade-out:**

After fade-out has taken place (maximum 90 frames = 5 sec. at 18 frames/sec.) the camera will stop.

Remove finger from release button 21. Depress rewind button 31 until the camera stops again.

Release storage unit by pressing lever 30. Push release lever 30 upwards again immediately (green panel visible). Focus on new subject, depress release button 21. Then, turn knob 28 fully anti-clockwise — the camera will start, the new scene will be lap dissolved.

**Note:**

When rewinding, knob 28 must be turned fully clockwise (a black and a white panel will be opposite one another) — if this is not the case, the film will be exposed during rewind.

**Important:**

With manual lap dissolve, knob 28 must be rotated at the same speed during fade-in and fade-out to obtain a satisfactory result.

Don't press release and rewinding buttons at the same time.

We do not recommend carrying out any lap dissolves on the last two metres of film (counter reading approx. 2 metres/7 feet).

**7. Double Exposure**

The sophisticated design of the BAUER C Royal permits double exposures — e.g. fading-in a title over a running film scene up to a maximum period of 5 seconds at 18 frames/sec.

**We recommend trial exposures with various shutter settings.**

From experience it has been found that with double exposures the two scenes must be exposed with the shutter set (see Section N 8) as otherwise the overall result will be too light. At variance with Section N 8, the exposure control remains set to "Automatic".

a) Storage release lever 30 up (green panel visible).

b) Turn knob 28 for manual shutter setting past the perceptible engagement point and turn back anti-clockwise to its fullest extent.

c) Film first subject as usual — after 90 frames (5 sec. at 18 frames/sec.) the camera will stop automatically.

d) Turn knob 28 to its fullest extent clockwise — shutter fully closed!

- e) Depress rewind button **31** until camera stops again.
  - f) Turn knob **28** fully anti-clockwise — shutter fully open.
  - g) Press storage unit release lever **30** down briefly — then push up again.
  - h) Film second scene (e. g. title).
- To check the scene length for the second exposure, the knob of the pre-selector mechanism **26** rotates as well and indicates in seconds the time available for the second exposure — this is important where several titles are to be faded into the scene previously filmed.
- 8. Filming with Shutter Adjusted**
- For special filming effects, it is possible by manual adjustment of the shutter with knob **28** to reduce the depth of field or shorten the exposure time of individual frames.
- a) At least  $f/2.8$  to  $f/4$  must be indicated in the viewfinder (Fig. C).
  - b) Move knob **28** to position 1 (Fig. G) or 2.
  - c) Switch off storage unit by momentary pressure on lever **30**.
  - d) If the knob is set to position 1, the aperture indicated in the viewfinder must be opened up by one stop (e. g. from  $f/5.6$  to  $f/4$ ), if set to position 2 the increase should be two stops.
- Trial exposures recommended.
- 9. Synchro Socket**
- The synchro socket **25** extends the scope of the BAUER C Royal.
- a) Flash shots with single frame release or automatic single frame operation (see corresponding sections): Connect flash lead to synchro socket **25** after fitting adaptor. Ensure that the flash re-cycling time is not longer than the camera release rate.
- Suitable flash units are, for example, the BAUER E25 A express, or BAUER Matador 500.
- The iris of the camera should be set in accordance with the aperture calculator of the flash unit — it has been found from experience that the aperture should be opened up by a further 1—2 stops. We recommend trial exposures.

b) Synchronized Film and Sound Recordings

Using a suitable connection lead and suitable additional equipment — ask your photo dealer — it is possible to shoot films with lip synchronized dialogue.

c) The synchro socket makes it possible to start a suitable tape recorder when the camera is released and to stop it at the end of the scene — important for synchronized filming.

Please note the contact layout of the synchro socket **25** (circuit diagram Fig. L).

### O Notes on Filming

Fig. F shows the best way to hold the camera: the controls e. g. power zoom buttons, pushbutton for automatic fade-in and fade-out etc., are convenient to operate.

For tripod shooting, the camera is provided with bushes **16** and **18**. The folding handgrip **19/27** permits adaptation to the tripod being used (Fig. M).

For indoor shots, the BAUER 1000 cine lamp can be inserted in slot **22** (Fig. N).

To enable you to utilize all the technical facilities of the camera, we recommend that you ask your dealer for suitable publications on cine technique.

### P Accessories

1. Elegant soft leather bag to keep your camera free of dust.
2. Adaptor for synchro socket **25** for connection of flash units.
3. Electric release cable (extension of remote release possible).

### R Care of Your Camera

Protect your BAUER C Royal from water or damp, heat (e. g. hot direct sunlight), vibration, sand and dust. Maintenance of the camera consists solely of keeping the external mechanical and optical components clean.

To clean the lens, use a fine camel hair brush and special lens tissues. Do not get fingerprints on the front component of the zoom lens! The film gate in the cartridge compartment (open cover) is easily accessible — it should be cleaned with a soft brush from time to time. In the event of complaints please contact your photographic dealer or one of the BAUER Service Stations.