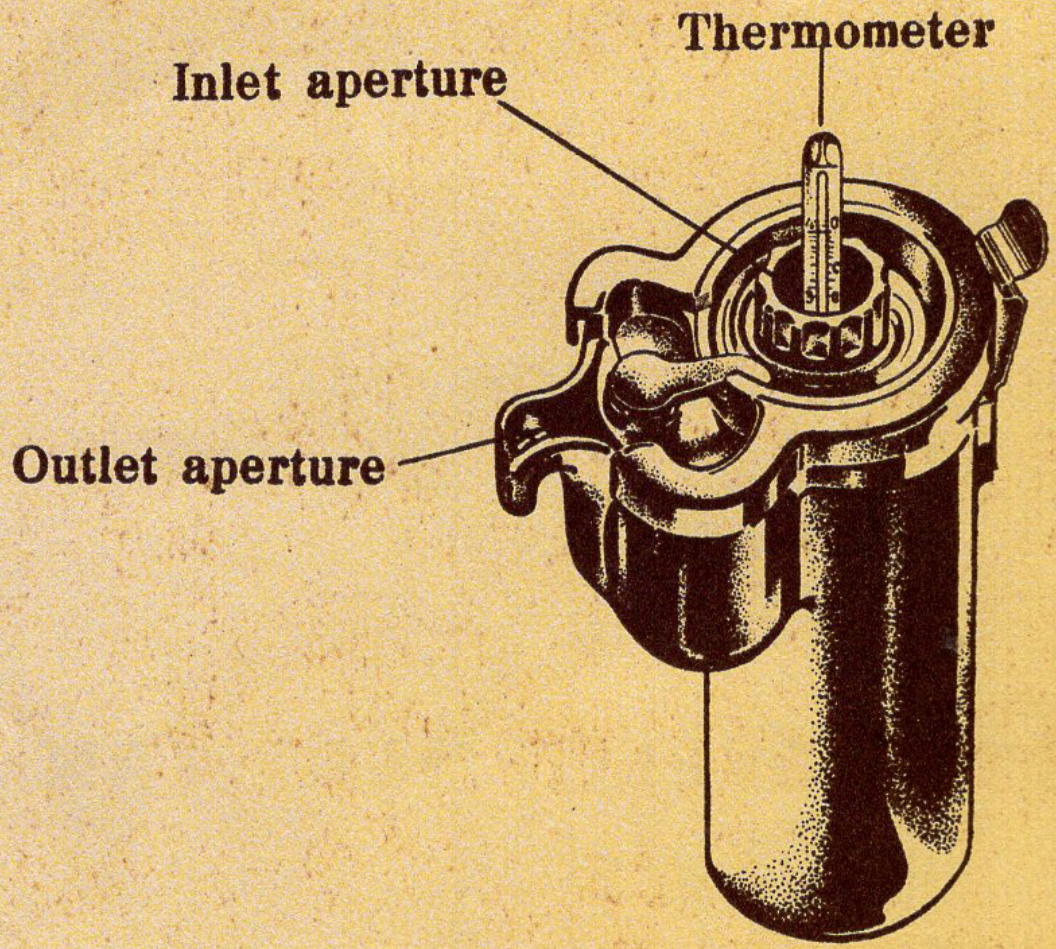
VEF MINOX RIGA

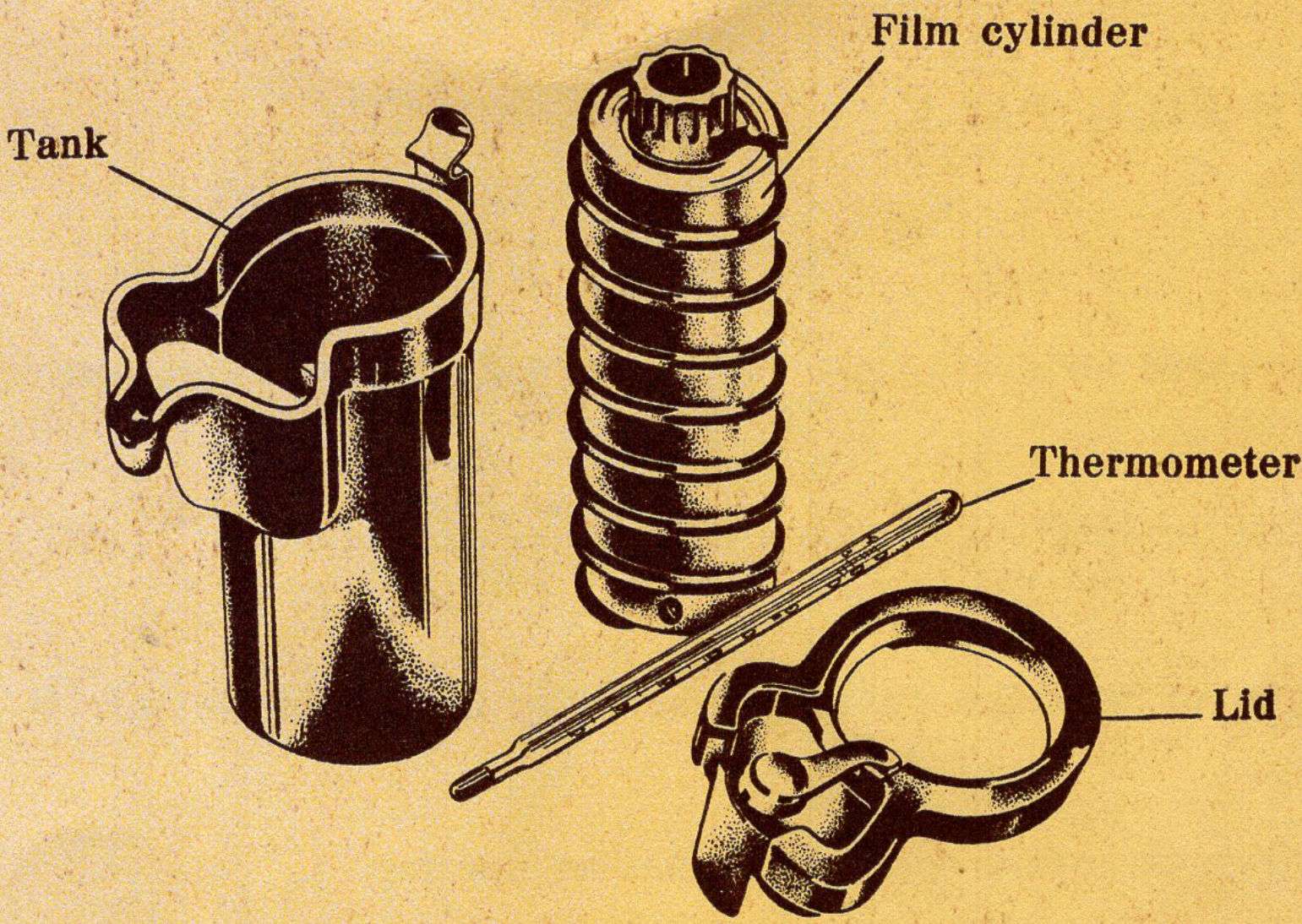
Directions for the use

of the VEF

Minox - DEVELOPMENT TANK



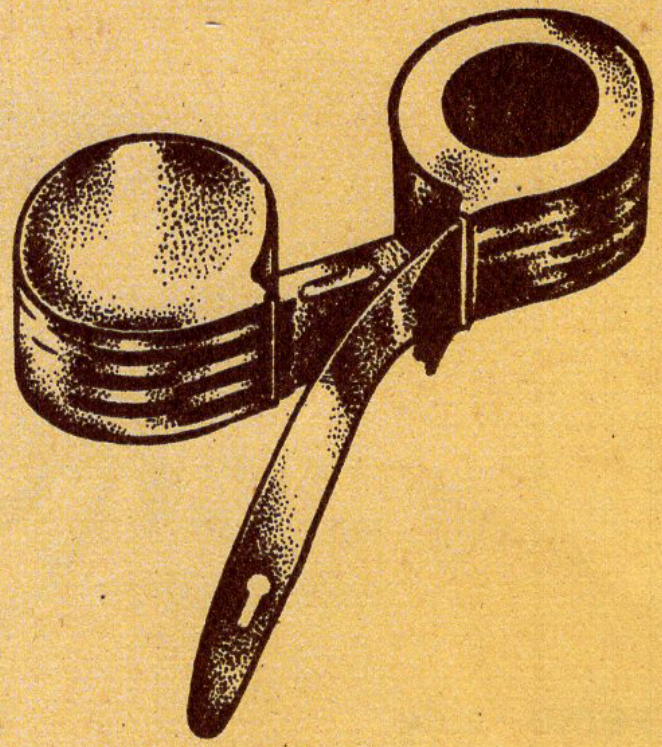
The MINOX development tank in normal position.



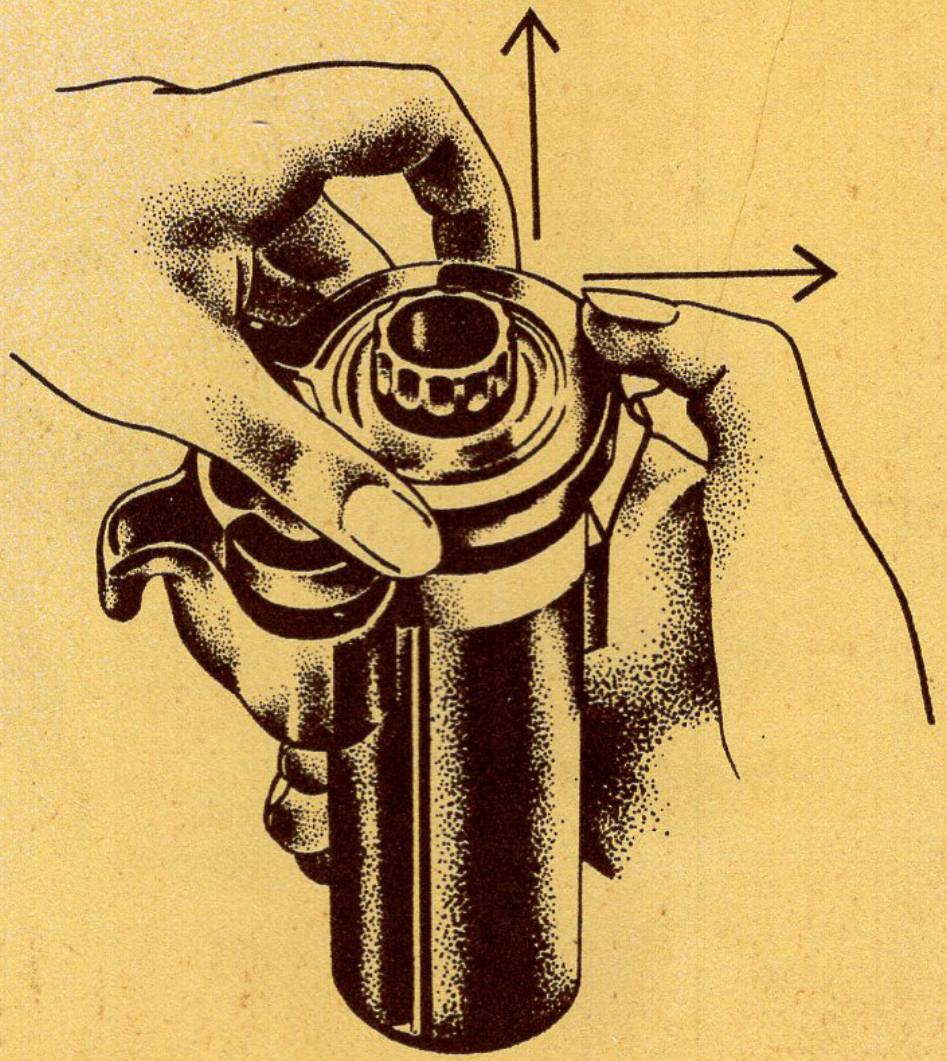
The parts of the MINOX development tank.

THE FILM PACK

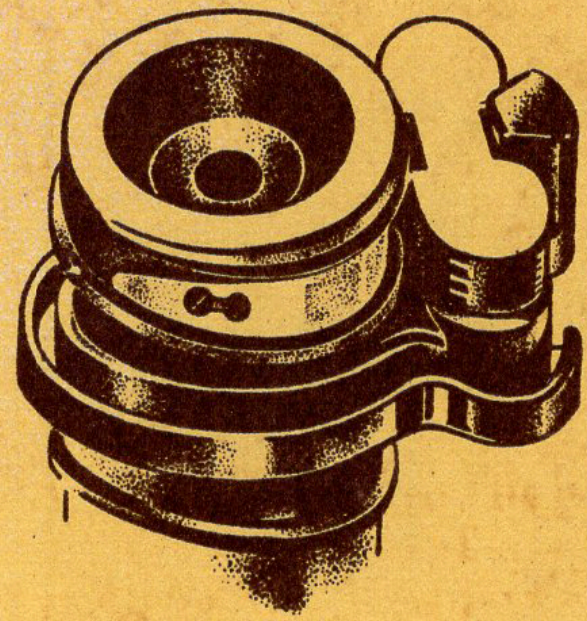
is prepared for development by tearing off the black protective paper behind the film, but in such a manner that a piece of it is still left on the cover with the opening, whereafter the end of the film is pulled out from the other cover which has no opening.



THE MANIPULATION OF THE DEVELOPMENT TANK:

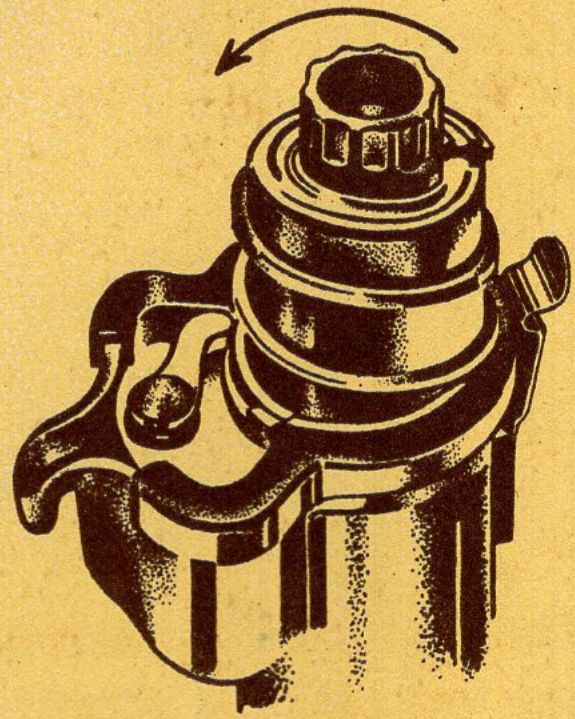


The spring on the reverse side of the tank is pressed backwards and the lid with the film cylinder is taken out.

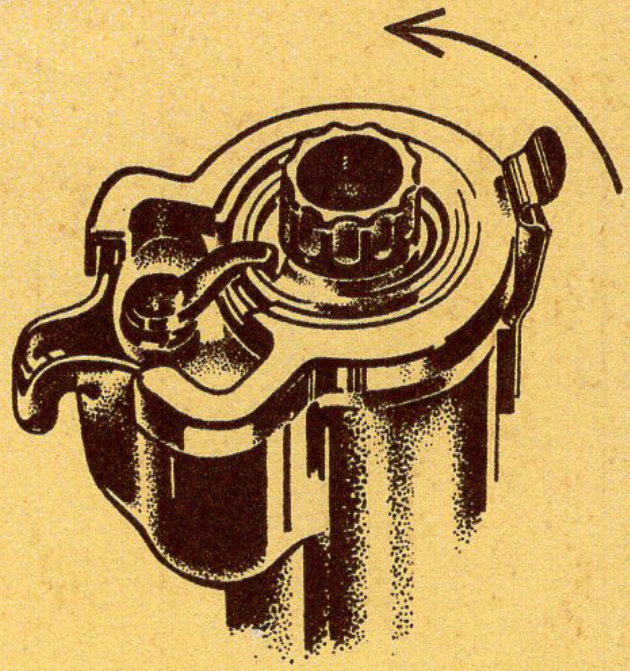


The film pack is placed on the lid and the cylinder is screwed out to such an extent that the end of the film can be fastened on to the screw at the lower end of the cylinder.

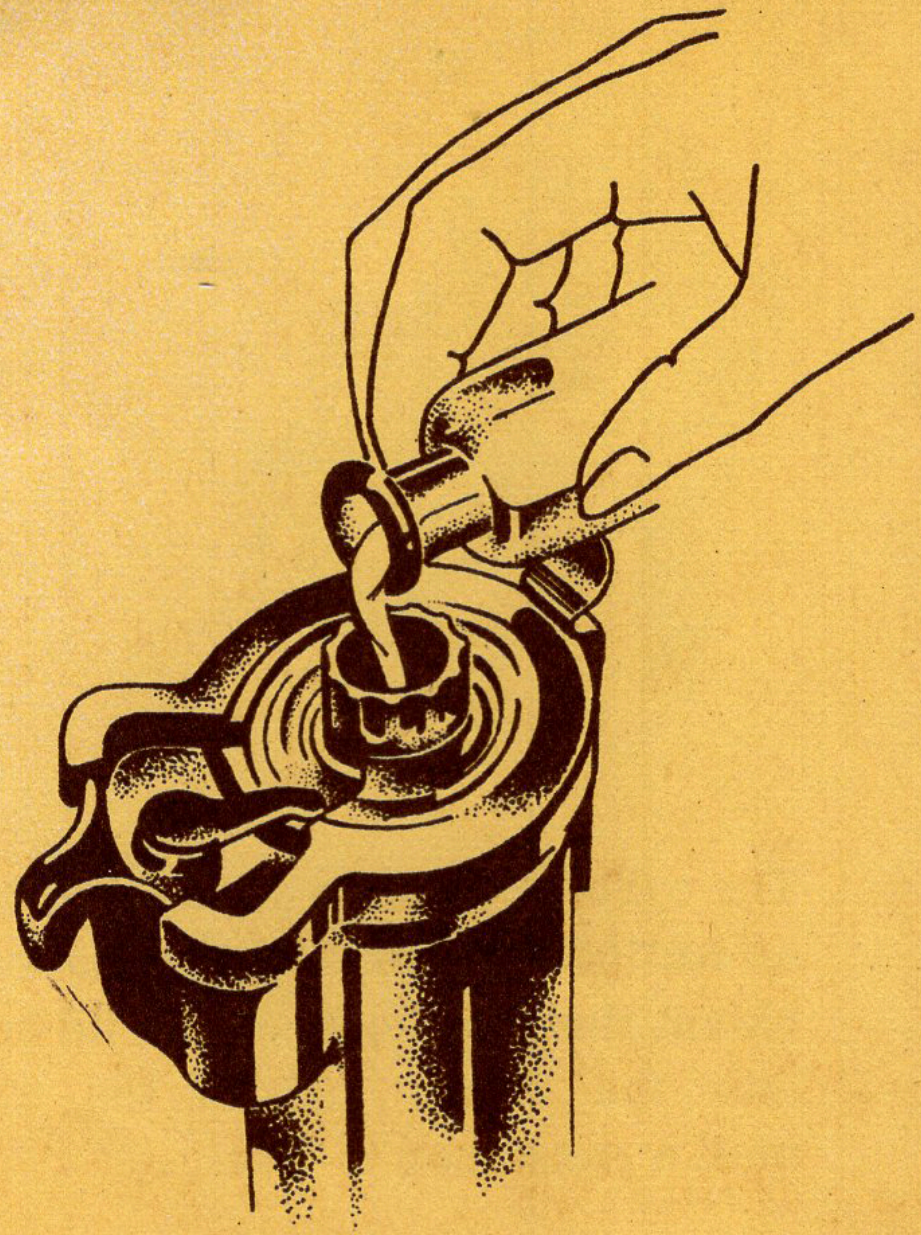
Hereafter the cylinder is screwed back but only to such an extent that the screw is located at the end of the film slot and the film rests evenly on the cylinder.



The cylinder with the lid is placed in the tank so that the spring is engaged.

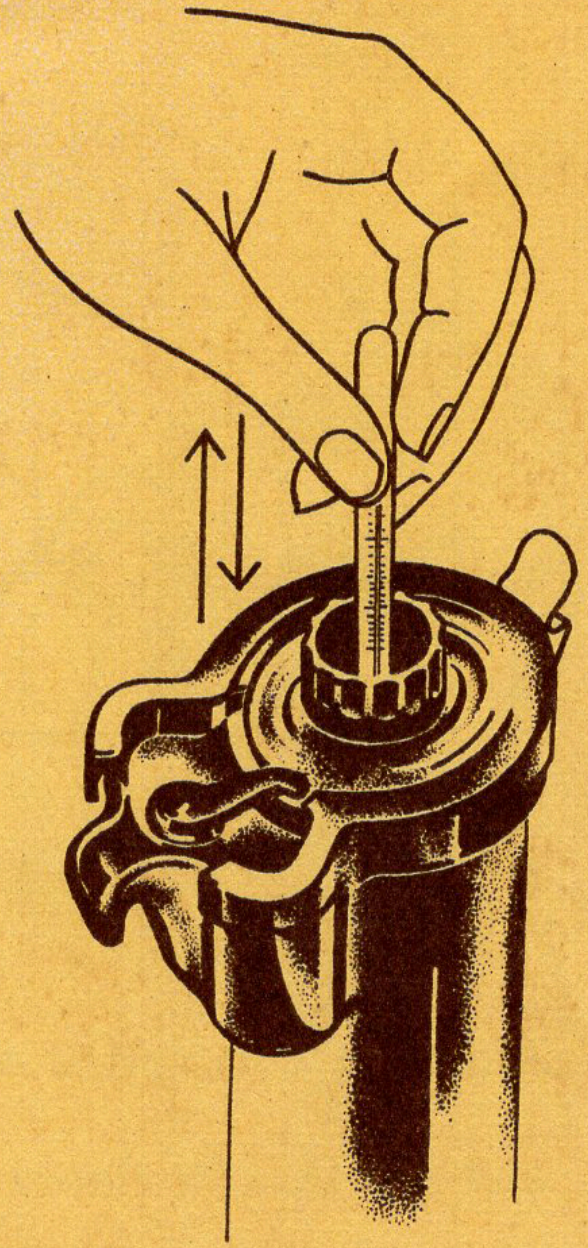


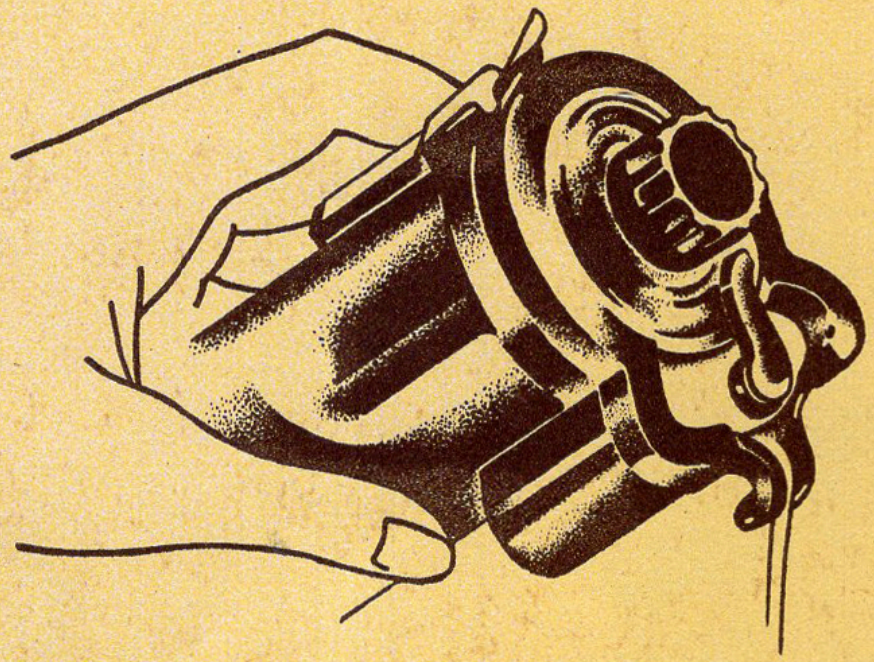
The cylinder is screwed into the tank in an **anticlockwise** direction, to such an extent that the hook on the lid engages into the upper end of the cylinder until a resistance is met.



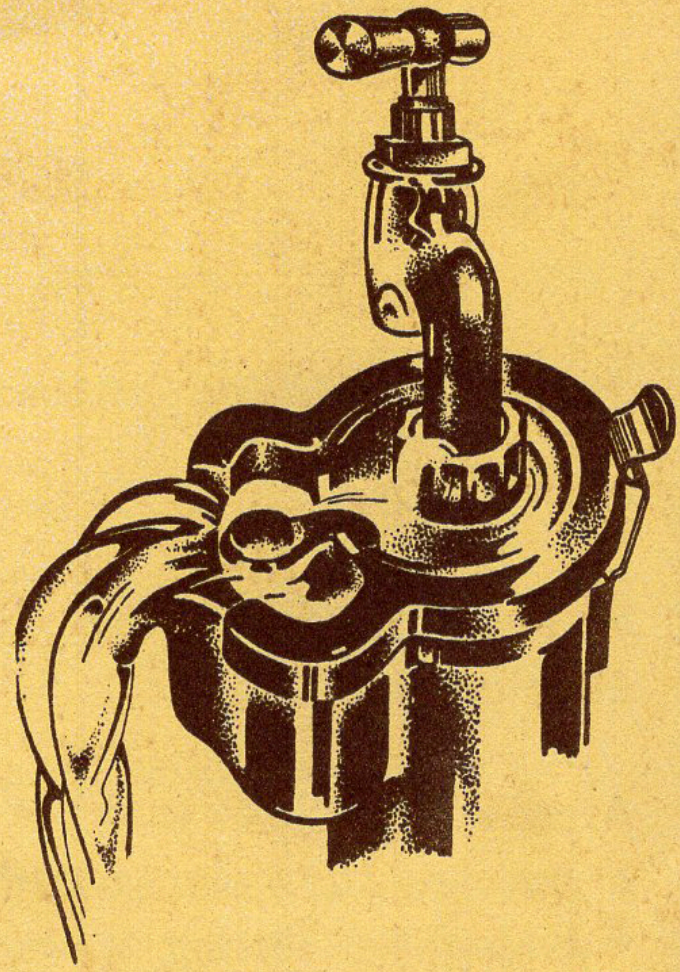
The developer is poured in slowly until it becomes visible in the extended part of the inlet aperture.

Then the thermometer is placed in the inlet aperture and moved up and down several times in order to cause the developer to circulate. This movement is repeated several times during the development.





After the completion of the development, the developer is poured out and the tank is rinsed with water.



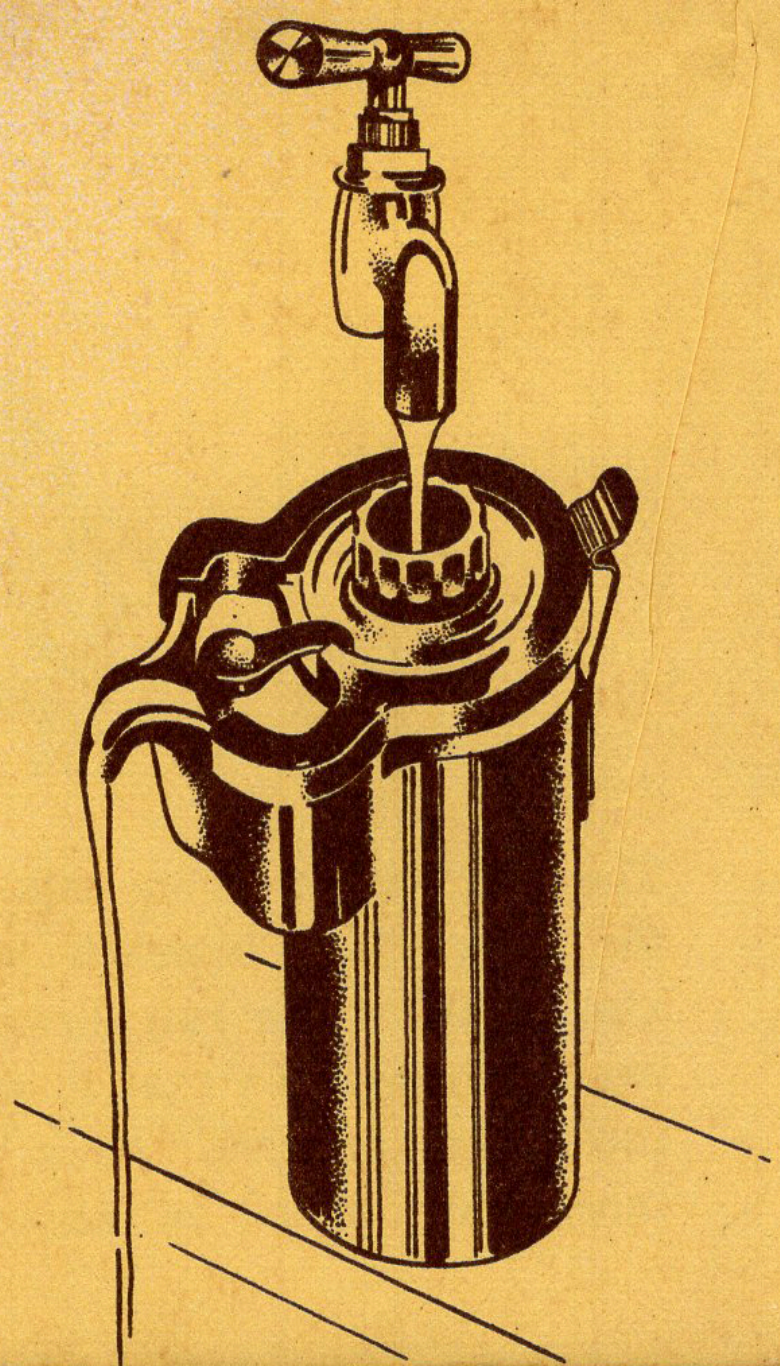
The best way of doing this is to place the tank close beneath a water tap and let the water run through the tank under pressure so that it spouts out of the outlet aperture. Thus the tank is thoroughly rinsed in about 5 seconds.

FIXING

is done in the same manner as the development.

After fixing, the tank is rinsed once more, and then placed under the tap for washing by letting a very thin jet of water run into the inlet aperture.

After about 30 minutes the film is properly washed.



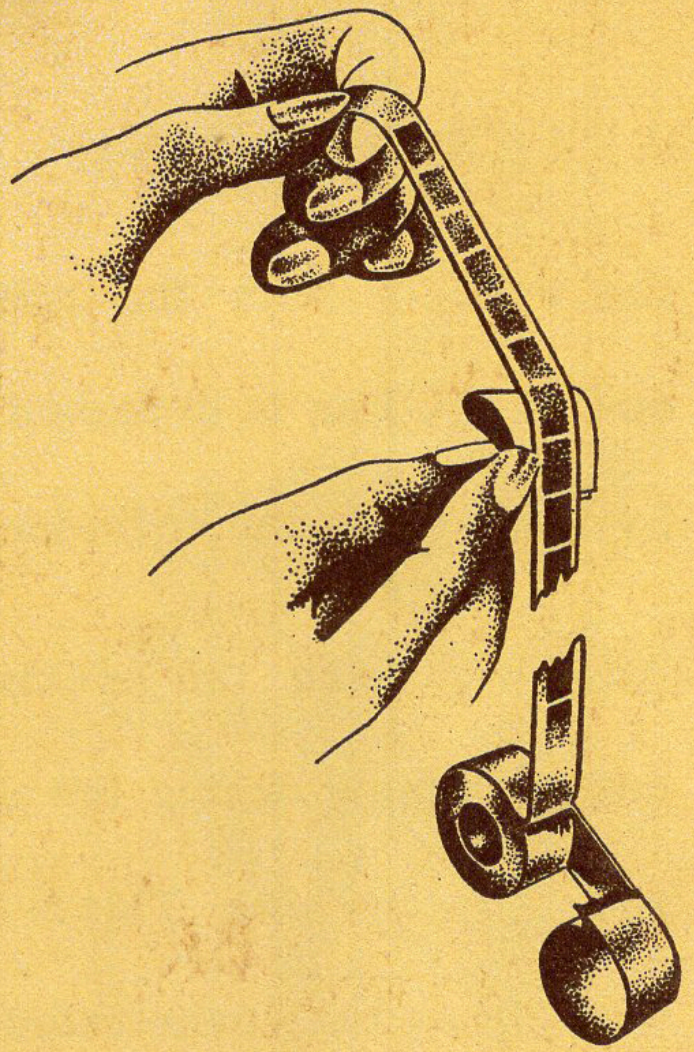
AFTER WASHING

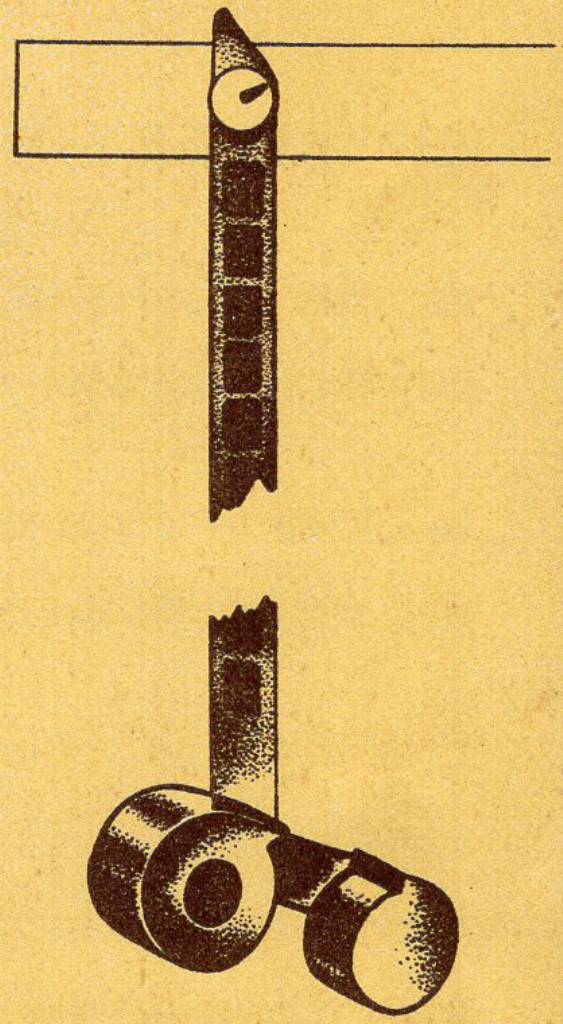
the cylinder with the upper part is removed from the tank and the end of the film is detached from the screw, whereafter the film runs out by itself when the cylinder is held vertically.

After removing the packing from the lid the film is once more rinsed under running water for about 1 minute in the direction from the film end to the packing. This is essential for removing any traces of chemicals which may have penetrated in between the cylinder and the reverse side of the film.

Then the water drops which adhere to the film should be removed; this is best done with a small piece of damp chamois leather.

This must be carried out **very carefully** is because the wet emulsion is very soft and may be easily scratched





For drying the film is hung up vertically on a peg or nail the packing at the bottom of the film acts as a weight and will keep it straight.

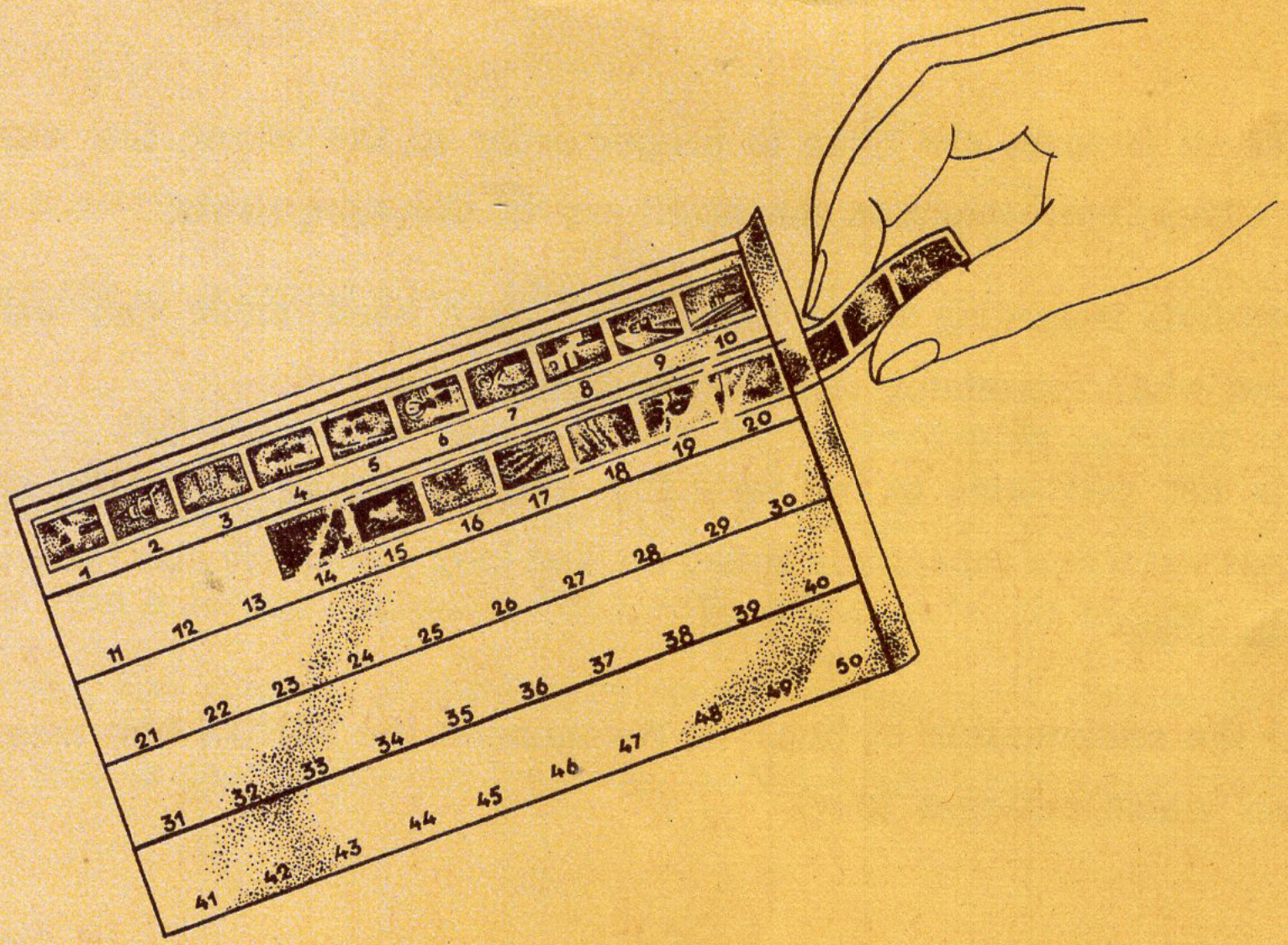
It is essential that the drying takes place in a dustless room, preferably, of course, in a drying chamber.

AFTER DRYING

the film is cut into 5 parts of 10 pictures each, which are stored in special cellophane covers.

In order to place the films in the cellophane covers in the proper position and sequence, the following method of cutting should be observed:

First the empty film packing should be cut off from the first picture, then comes the first strip with 10 pictures, this strip is placed in the first compartment (№ 1—10) of the cellophane cover with the **emulsion side down** (glossy side up) **and the first picture in front.** The other parts of the film are handled in the same manner.


1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50

Thus all pictures are lying in proper order in the cover, the **numbers** on which correspond to the **numbers of the snapshots.**

Snapshots regarding which notes may have been made can easily be found when examining them or enlarging them.

It is not advisable to roll up a film without cutting, as the film is easily scratched when repeatedly rolled up, and long pieces are also inconvenient to enlarge.

For the examination of films we recommend the MINOX film magnifying glass which enlarges 10 ×.

GENERAL:

If there is no running water available, the tank can also be rinsed after development by pouring water into it about 3 times.

After fixing, the washing is best achieved by removing the cylinder and lid together with the film from the tank. It should be first rinsed and then put into a larger container filled with sufficient water to cover the lid. During the course of the water should be changed several times and the film is then detached from the cylinder and thoroughly rinsed again.

AFTER USE

all parts of the development tank should be thoroughly washed. For this purpose the film cylinder is screwed out of the upper part.

Should the tank be used again immediately, it must be dried first in order to prevent drops of water falling on the film.

SUPPLEMENT

HINTS TO BEGINNERS

The developer renders visible the effect of light on the film as the parts of the **bromide silver emulsion** which were exposed to light turn black.

In the **fixing bath** the developed picture is rendered insensitive to light by the dissolution of the undarkened parts of the white bromide silver.

By washing the fixing solution is removed from the emulsion in order to preserve the film.

FOR DEVELOPMENT

fine grain developers are used which are mostly sold in a dry state and which have to be dissolved in the prescribed quantity of water.

The duration of developing is indicated in the instructions for the use of the developer, and usually amounts to 6—10 minutes. The duration also depends on the quality of the film, as well as on the temperature of the developer which should be between 18 and 20° C. At a low temperature the developer acts more slowly than at a higher one.

The longer a film is developed, the **denser** (darker) and richer in contrast it becomes.

It is not recommended to use the developer more than once, because the small quantity with which the MINOX development tank is filled (about 30 cub. cm) is nearly exhausted after having been used once. Repeated use of the same solution demands a longer duration of development, and is less reliable.

FOR FIXING

either ready mixed fixing powder is used, or the fixing bath may be prepared occording to the following formula:

1 litre of water
200 gr Natrium hyposulphite
20 gr Kalium metabisulphite.

The duration for fixing is about 3—5 minutes at normal temperature.

The fixing bath should only be used **once.**

When washing in the summer care should be taken that the water is not too warm, because in this case the emulsion may easily become too soft and the surface will either curl up, or even melt.

Therefore films must not be dried in the sun or in immediate neighbourhood of a stove.

After drying, should traces of water drops still appear on the reverse side of the film, these can be removed with dry chamois leather. When doing this the film must be placed on clean paper with the emulsion side downwards.

FOR SPECIAL ATTENTION:

The fixing solution must be kept apart from all other photographic materials as well as from films and pictures. After handling the fixing solution the hands should always be washed. For the same reason the development tank should always be carefully washed after use.

The emulsion side of the films should not be touched, either in **wet** or **dry** condition because fingermarks **appear which cannot afterwards be removed.**

The wet film should **always** be held by the **unexposed ends.**

The **dry** film strips should be held **only at the edges.**

VALSTS ELEKTROTECHNISKA FABRIKA

RIGA – LATVIA

LIT. A. ŽNAKENBURG A/S. RĪGĀ, AIZSARGU IELĀ 25.

3000 3. 1939.