

## PATENT SPECIFICATION

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## COMPLETE SPECIFICATION

### Improvements in and relating to Shutter Mechanism for Photographic Cameras, more particularly Small Type Roll-film Cameras

We, KARL GUMPEL, a Citizen of the German Republic, of 8, Olivaerplatz, Berlin, W.15, Germany, and FRITZ KAFTANSKI, a Citizen of the German Republic, of 173/4, Kurfurstendamm, Berlin, W.15, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to improvements in shutter mechanism for small roll-film photographic cameras and more particularly to shutter mechanism for small type roll-film cameras, such as are covered by our co-pending Patent Application No. 34513/34 (Serial No. 448,127).

It is desirable, in order that a small type roll-film camera may be produced at a low price, that the shutter mechanism should be simple and cheap whilst, at the same time, being effective in operation and readily adaptable for instantaneous or time exposures. Such a shutter mechanism is provided by means of the present invention. No difficulty is experienced with box-type cameras in providing shutter mechanism adapted for instantaneous or time exposures, but with small roll-film cameras of the kind to which this invention relates it is impossible to use the usual arrangement of shutter mechanism due to the very small space available.

The shutter mechanism according to the present invention is of the single blade type and comprises a pivoted sector-shaped shutter plate having therein a reniform aperture and is operated through the intermediary of a spring from a pivoted operating lever, the axes of pivoting of the operating lever and the shutter plate and the axis of the lens aperture lying in line, or substantially in line with one another and the shutter plate is provided with an abutment which, for the purpose of time exposures, is adapted to engage with a longitudinally slidable locking member adapted to arrest the movement of the shutter plate when the shutter aperture and the lens aperture are in register.

[Price 1/-]

In order that this invention may be the more clearly understood and readily carried into effect, we will proceed to describe the same with reference to the accompanying drawings, in which

Figure 1 is an elevation of the complete camera, and

Figure 2 is a plan view of the same with the upper portion removed to show the details of the shutter mechanism.

Referring now to the drawings, 1 is the camera casing which is provided with suitable bearings to receive and hold in a rotatable manner the spools 6 and 7 carrying the film. The casing comprises two parts, as indicated by the horizontal line extending over the entire length of the casing, one of these parts being provided with a flange or shoulder 1a which takes friction-tight into the other part so that the two parts are thereby held together and a light-tight joint is provided between the same. Each of the two parts of the casing is provided with a lug, these lugs 10 and 11 being staggered with respect to one another so that the two parts of the casing may be readily separated for the replacement or removal of the spools by pressing against one lug with the thumb and the other lug with the finger and exerting a slight twisting force.

The front projecting portion 2 of the casing carries the mounting for the lens 3. 4a is a cylindrical ring, which is cast into the casing and supports the diaphragm 4b, which is held by a circular wire spring (not shown). The casing itself is made of metal or any other suitable material, such as a mouldable material. The above described form of camera casing forms the subject-matter of our co-pending Patent Application No. 34513/34 (Serial No. 448,127) and no claim is made to the same herein.

Referring to Figure 2, which shows the camera with the front projecting portion 2 removed, 9 is the member for winding the film on the spool 7, this member being mounted in such a manner that it can be turned in one direction only in any known manner. On the front of the casing 1 and under the projecting portion