



Application Date : Oct. 10, 1935. No. 27940/35

Complete Specification Accepted : Oct. 7, 1936.

COMPLETE SPECIFICATION

Improvements in Slotted Shutters for Photographic Cameras

I, FRITZ KAFTANSKI, of 173/4, Kurfürstendamm, Berlin, W.15, Germany, a German citizen, 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:—

The invention relates to slotted shutters for photographic cameras.

The object of the present invention is to provide a shutter of simple construction and only requiring little space, which is particularly suitable for small cameras.

In the shutter according to the present invention, a slotted slide is movable in proximity to the path of a covering slide adapted for adjusting the effective length of the slot and is connected on opposite sides respectively to the ends of two blinds formed of elastic metal band which extend in the direction of movement of the slides to prevent the passage of light otherwise than through said slotted slide and which are adapted, on movement of the slides, one to coil up and the other to uncoil spirally according to the direction of movement of the slides.

Preferably the slotted slide is loaded for movement in one direction and the covering slide connected to the slotted slide by a spring whilst a trip-hook is adapted for engagement with a pawl on the slotted slide to traverse the slotted slide and the covering slide in their paths and against said loading until the covering slide engages a stop adjustable for varying the effective length of the slot, whereupon the slotted slide continues to move on alone until the trip-hook is disengaged from said pawl by a stop pin to enable the pawl to engage one of a plurality of notches on the covering slide whereby the slides are coupled together at the adjusted slot length and commence their return movement under the influence of said loading during which return movement the exposure takes place.

An example of construction of the invention is shown diagrammatically in three different positions in the accompanying drawings.

The objective carrier *a* is mounted in the casing of the camera in the usual way,

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and below the objective carrier there is provided a movable slide *b* having an exposure slot *c* to permit light to pass from the objective to the film situated behind the shutter when an exposure is made. The slide *b* is loaded for movement towards the left by a spring *d*, and carries at each end a springy extension or blind *e*, preferably made from a thin metal band. The outer ends of the blinds *e* are fastened to fixed pins *e'*, about which the metal bands can spirally coil and uncoil. On the slide *b* a double-armed spring-controlled pawl *f* is pivotally mounted, one arm of which projects through the slot *c* in the slide *b*, while the other downwardly directed arm co-operates with a trip-hook *g* pivotally mounted on a slide (not shown) and guided in a slot. The hook *g* has an inclined surface *h*, which on the movement of the slides towards the right (position shown in Fig. 2) strikes against a fixed pin *i* and rocks the hook *g*, while a second stop *k*, serves for rocking it back again at the end of its travel in the opposite direction (position in Fig. 1). Above the slide *b* is situated a covering slide *l*, which is connected to the slide *b* by a spring *d'* which is slightly stronger than the spring *d*, and on its lower face the slide *l* has notches at short distances apart from each other. In the position of rest shown in Fig. 1, the slide *l* bears against a stop *m*, while in the wound-up position shown in Fig. 2, it comes against an adjustable stop *n*. A bar or cam rail *o*, on which the lower end of the pawl *f* is adapted to engage, serves for releasing the pawl *f* from the notches in the slide *l* on the movement of the slides from right to left.

When a photograph is to be taken, the stop *n* is first of all brought into position corresponding to the desired slot length, i.e., corresponding to the necessary duration of exposure. The adjusted time of exposure can be read off in known manner on a scale provided on the outside of the camera. The trip-hook *g* engaging behind the pawl *f* in the position of repose shown in Fig. 1 is then moved to the right whereby the slide *b* is moved against the action of the spring *d*, and the slide *l* is

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