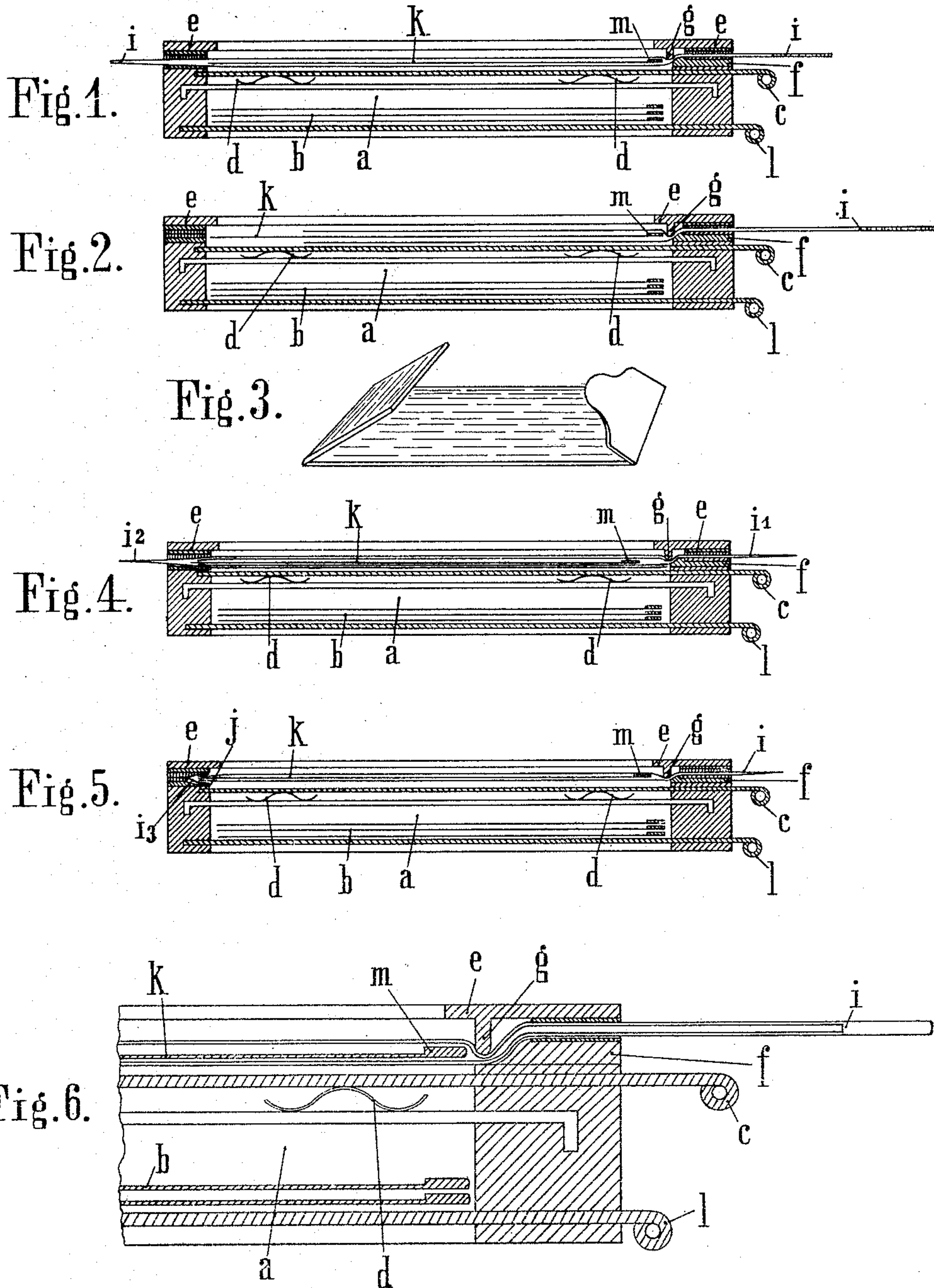


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 DEVICE FOR EXPOSING LIGHT SENSITIVE LAYER CARRIERS AND FILM STRUCTURE THEREFOR.
 APPLICATION FILED AUG. 2, 1906.

947,946.

Patented Feb. 1, 1910.



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DEVICE FOR EXPOSING LIGHT-SENSITIVE LAYER-CARRIERS AND FILM STRUCTURE THEREFOR.

947,946.

Specification of Letters Patent.

Patented Feb. 1, 1910.

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To all whom it may concern:

Be it known that I, JOSEPH SCHMUCK, a citizen of the German Empire, and resident of Steglitz, near Berlin, Germany, mechan-
5 ist, have invented certain new and useful Improvements in a Device for Exposing Light-Sensitive Layer-Carriers and Film Structure Therefor, of which the following is a specification.

10 The present invention relates to the exposure of light-sensitive films, plates, or the like, referred to hereinafter under the generic term layer-carrier, inserted into light-proof envelops which are removable from
15 the layer-carriers, and the purpose of the invention is to render possible the simplest form of packing for the layer-carrier and of arrangement of the case, which allows of removing the light-proof envelop from
20 the layer-carrier in such a manner that the layer-carrier remains in the case in position for exposure.

According to the present invention the packing, that is to say the light-proof envelop, inclosing the layer-carrier, is so introduced into the case that the envelop can
25 be pulled out through a slot in the case whereas the layer-carrier is retained in the case by an abutment facing the interior of
30 the case. In this manner it is possible to use packing in which the layer-carrier is only inserted into a simple wrapper closed at both ends, and the construction of the
35 case can be made exceedingly simple, since the possibility of drawing the light-proof envelop off the layer-carrier solely depends on the presence of a slot through which the envelop can pass, but not also the layer-carrier at the same time.

40 Figure 1 shows in longitudinal section a case into which the package is inserted and also shows the position of the package directly after its insertion into the case: Fig. 2 is also a longitudinal section of a case
45 with inserted package, in which the envelop is already partly pulled out over the layer-carrier: Fig. 3 is an elevation of the package. Figs. 4 and 5 show longitudinal sections through cases with modified packages.
50 Fig. 6 is an enlarged detail sectional view of a portion of Fig. 1.

In the drawing the case-chamber is designated *a*. This chamber is intended for the

reception of the exposed layer-carriers *b* and is shut off from the exposing-chamber 55 by means of the slide *c*. The slide *c*, is acted on by springs *d*. By the yielding support of the slide *c* it is rendered possible to use the same case for plates and for films (in the drawing films are shown). The exposing chamber is outwardly bordered by the cover-frame *e*.

f is a bar fixed to the lateral frame-parts of the case.

The cover-frame is provided with a rod *g* 65 forming a counter bar of bar *f* which is laterally displaced with relation to bar *f* and which, when the case is in its closed condition, extends with its lower edge more closely to the surface of the slide *c* than the
70 upper surface of the bar *f*, so that a sinuous slot is formed by the several frame parts *e*, *f*, *g*.

i is the light-proof envelop of the layer-carrier and *k* the layer-carrier itself. 75

l is the lower closing-slide for the case.

The light-proof envelop *i* of the layer-carrier is closed at both ends. The closed ends are folded over, as shown in Fig. 3, so that the position of the layer carrier in the
80 envelop is shown by the folding of the ends. The package can, therefore, at any time without difficulty, be so inserted into the case, that the edge of the layer-carrier adjacent to the bar *f* is not engaged by the bar *g* 85 and does not lie above the bar *f*.

When a package has been inserted into the case, for which purpose the cover *e* of the case is opened, and when an exposure is to be made, that end of the package which is
90 at the side of the case opposite the side at which the bar *f* is situated, is severed in order to open the light-proof envelop. When this has been done, the other end of the envelop, which projects from the case at
95 the end supporting the bar *f* is pulled. The lower edge of the rod *g* then forms an abutment for the edge of the film *k* so that the latter cannot pass through the slot in the case, whereas the light-proof envelop can
100 move out of the case along the sinuous path indicated in the drawing. As soon as the envelop has been pulled off the layer-carrier the latter can be exposed. After the exposure the layer-carrier is allowed to drop into
105 the case-magazine *a* by opening the slide *c*.

When said magazine contains a sufficient number of layer-carriers it is opened by drawing out the slide *l* and the exposed layer-carriers *b* are removed. It is obvious
5 that the exposed layer-carriers could also be separately removed from the case.

In order to reliably retain films in the case-chamber, they may be provided with an enlargement at the end which bears against
10 the rod *g* or a similar edge of the case. An enlargement of this kind is shown in the drawing in Figs. 1 and 2 in the form of a narrow bar *m*.

From the description of the action it will
15 be apparent that the arrangement can be used both for films and for plates. The arrangement is intended for the use of a package with only a single layer-carrier, the insertion of two or more layer-carriers would
20 be entirely useless, since in each case only one layer-carrier could be exposed.

Instead of using a single envelop for the layer-carrier, closed at both ends, two envelops opening in opposite directions can
25 of course be used, as shown in Fig. 4 of the drawing, although this would increase the cost of the packing. In this case one envelop *i*₁ would be pulled out at one side of the case and the other envelop *i*₂, at the other
30 side. The outer envelop could also be reduced to a simple border piece put over the edge of the layer-carrier and pressing the edges of the open end of the envelop inclosing same tightly together or against the op-
35 posite faces of the layer-carrier, as is shown in Fig. 5 of the drawing. In this instance it is not necessary that both the ends of the packing extend outside the case through light-tight slots; it is sufficient that the one
40 end, that is to say the end of the light-tight envelop *i* opposite the border piece *i*₂, extends outside the case so as to allow pulling out of the envelop whereas the end carrying the closing border piece *i*₂ may be inside the
45 casing and kept in position by a suitable abutment *j* cooperating with the edge when the envelop is pulled out.

The essential feature of the method of exposure according to the present invention
50 would in each of the several modifications consist of an envelop which directly surrounds the layer-carrier and is adapted to be pulled out at that side of the case at which the layer-carrier is held back by abutting
55 against the edge of the slot in the case, so that a special device for holding fast the layer-carrier at the opposite side is not required.

Having now particularly described and
60 ascertained the nature of my invention and in what manner the same is to be performed, I declare that what I claim is:

1. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover
65 provided with a chamber, adapted to receive

the light-sensitive layer-carrier, frame members at one end of said chamber forming a sinuous slot from inside to outside the case and allowing the passage of the envelop of the layer-carrier and means at the end of
70 the layer-carrier receiving chamber opposite the said slot end allowing the opening of the cover of a layer-carrier inserted into the case.

2. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover
75 provided with a chamber adapted to receive the light-sensitive layer-carrier, frame members at one end of said chamber forming a sinuous slot from inside to outside the case
80 and frame members at the end of the case opposite the first named slot likewise forming a slot and adapted to light-tightly jam the second end of the light-tight cover of a layer-carrier inserted into the case.
85

3. An exposing case for light-sensitive layer-carriers inclosed in a light-tight cover provided with a chamber adapted to receive the light-sensitive layer-carrier, a cover
90 adapted to be opened and closed at will allowing the packing to be inserted into the chamber of the case, said cover cooperating with the framing of the case so as to form a slot at one end of the case allowing the
95 passage of the envelop of the layer-carrier and means at the end of the layer-carrier receiving chamber opposite the said slot end allowing the opening of the cover of a layer-carrier inserted into the case.

4. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover
100 provided with a chamber adapted to receive the light-sensitive layer-carrier, a cover adapted to be opened and closed at will allowing the packing to be inserted into the
105 chamber of the case, said cover cooperating with the framing of the case so as to form a slot at each end of the case allowing the passage of the envelop of the layer-carrier.

5. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover
110 provided with a chamber adapted to receive the light-sensitive layer-carrier, a supporting member for the packing and layer-carrier forming the bottom of said chamber,
115 frame members at one end of said chamber forming a sinuous slot from inside to outside the case, said frame members comprising a bar projecting from the supporting surface of said supporting member and forming part
120 of one wall of said slot and a counter bar, projecting from the opposite wall of the slot, said bars being laterally displaced with relation to each other and positioned outside the area of the layer-carrier receiving cham-
125 ber and means at the end of the layer-carrier receiving chamber opposite the said slot end allowing the opening of the cover of a layer-carrier inserted into the case.

6. An exposing-case for light-sensitive
130

layer-carriers inclosed in a light-tight cover provided with a chamber, adapted to receive the light-sensitive layer-carrier, a supporting member for a packing and layer-carrier forming the bottom of said chamber, frame members at one end of said chamber forming a sinuous slot from inside to outside the case, said frame members comprising a bar projecting from the supporting surface of said supporting member and forming part of one wall of said slot and a cover adapted to be opened and closed at will allowing the packing to be inserted into the chamber of the case and forming the second wall of said slot, a bar projecting from the slot wall forming part of said cover and being laterally displaced with relation to said first named bar, the bars being positioned outside the area of the layer-carrier receiving chamber and means at the end of the layer-carrier receiving chamber opposite the said slot and allowing the opening of the cover of a layer-carrier inserted into the case.

7. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover provided with a chamber adapted to receive the light-sensitive layer-carrier, a supporting member for a packing and layer-carrier inserted into the casing forming the bottom of said chamber, frame members forming slots at both ends of said chamber from inside to outside the case allowing the passage of the envelop of the layer-carrier, said frame members comprising a bar projecting from the supporting surface of said supporting member and forming part of one wall of said slot and a counter bar projecting from the opposite wall of the slot, said bars being laterally displaced with relation to each other and positioned outside the area of the layer-carrier receiving chamber.

8. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover provided with a chamber adapted to receive the light-sensitive layer-carrier, a supporting member for a packing and layer-carrier forming the bottom of said chamber, frame members forming slots at both ends of said chamber from inside to outside the case allowing the passage of the envelop of the layer-carrier, said frame members comprising a bar projecting from the supporting surface of said supporting member and forming part of one wall of one of said slots and a cover adapted to be opened and closed at will allowing the packing to be inserted into the chamber of the case and forming one wall of each of said two slots, a bar projecting from that slot wall form-

ing part of the cover which coöperates with the frame member forming said first named bar, said bars being laterally displaced with relation to each other and positioned outside the area of the layer-carrier receiving chamber and forming a sinuous path through one of the slots from inside to outside the case.

9. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover provided with a chamber adapted to receive the light-sensitive layer-carrier and with a collecting chamber for exposed layer-carriers, means for allowing the exposed layer-carriers to be removed from said collecting chamber, a door between said two chambers forming a support for the packings and layer-carriers inserted into the case, frame members forming at one end of said sensitive layer-carrier receiving chamber a sinuous slot from inside to outside the case said slot forming frame members comprising abutment members outside the area of the layer-carrier receiving chamber and means at the end of the layer-carrier receiving chamber opposite the said slot end allowing the opening of the cover of a layer-carrier inserted into the case.

10. An exposing-case for light-sensitive layer-carriers inclosed in a light-tight cover, provided with a chamber adapted to receive the light-sensitive layer-carrier and with a collecting chamber for exposed layer-carriers, means for allowing the exposed layer-carriers to be removed from said collecting chamber, a door between said two chambers forming a support for the packings and layer-carriers inserted into the case, frame members forming slots at both ends of said sensitive layer-carrier receiving chamber from inside to outside the case allowing the passage of the envelop of the layer-carrier, said frame members comprising abutment members outside the area of the layer-carrier receiving chamber forming a sinuous path through one of said slots from inside to outside the case.

11. As an article of manufacture and commerce a cut film and a light-proof envelop inclosing same said film having an enlargement or thickening at one end.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH SCHMUCK.

Witnesses:

HENRY HASPER,
WILLIAM MAYNER.