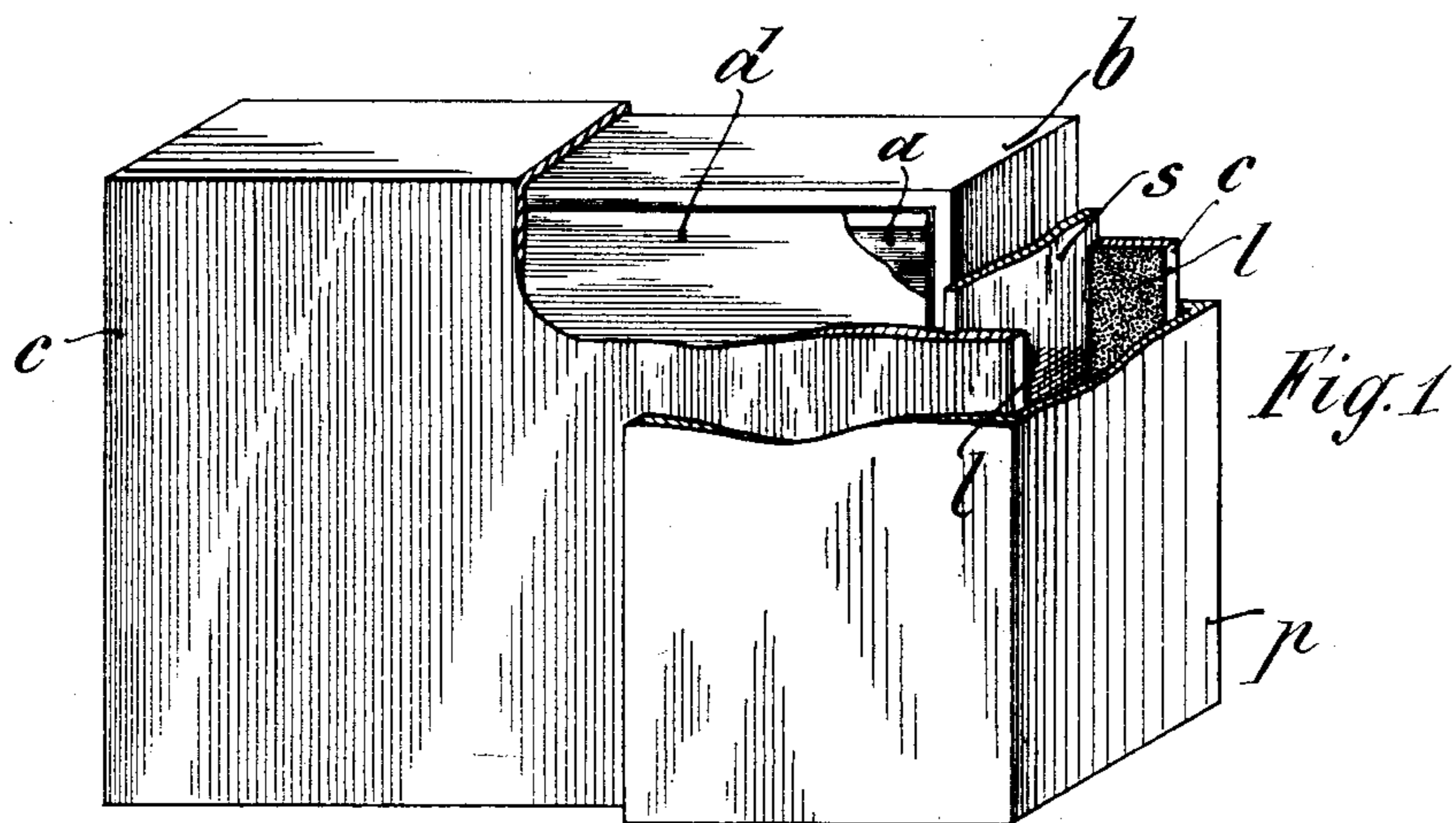
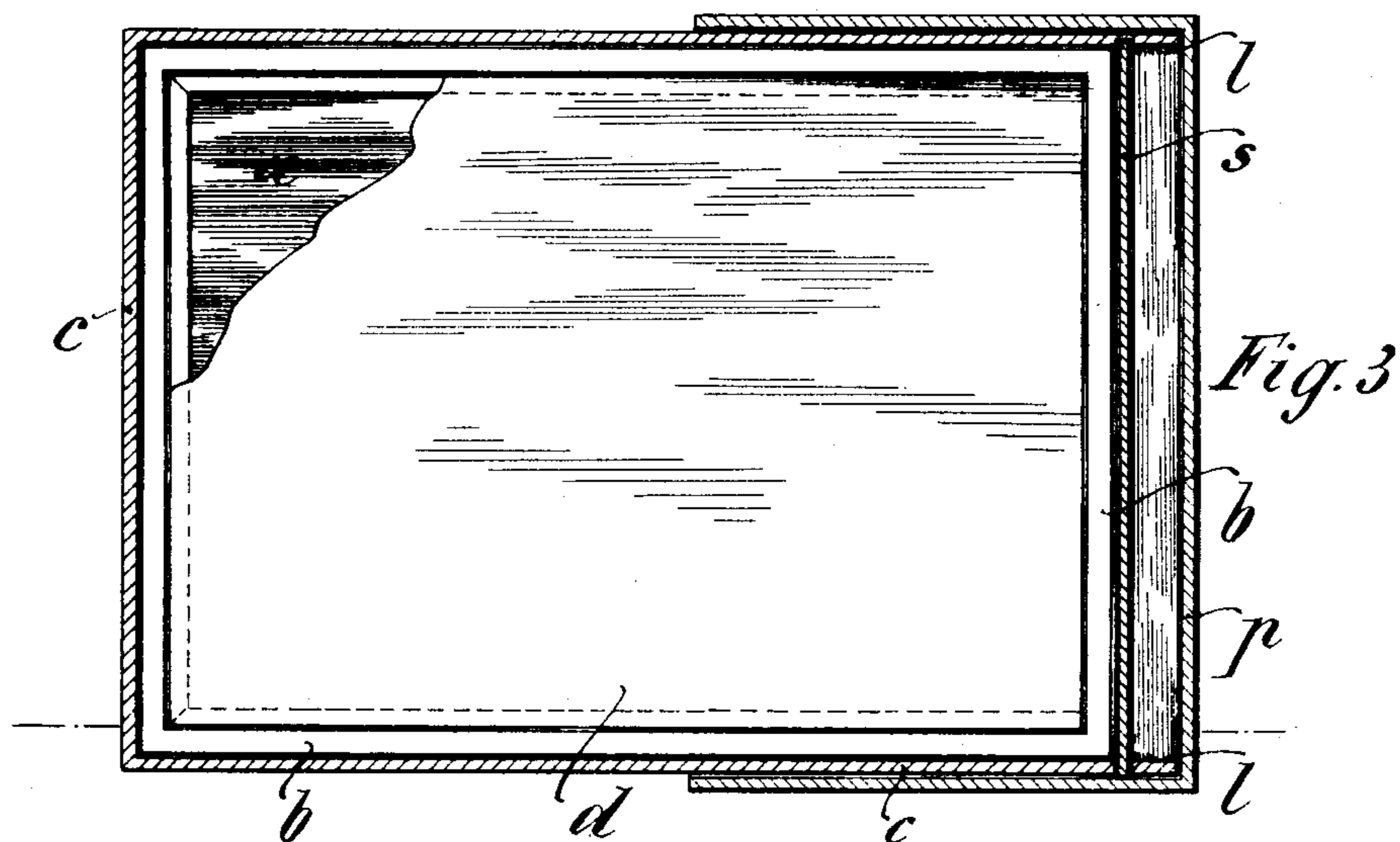
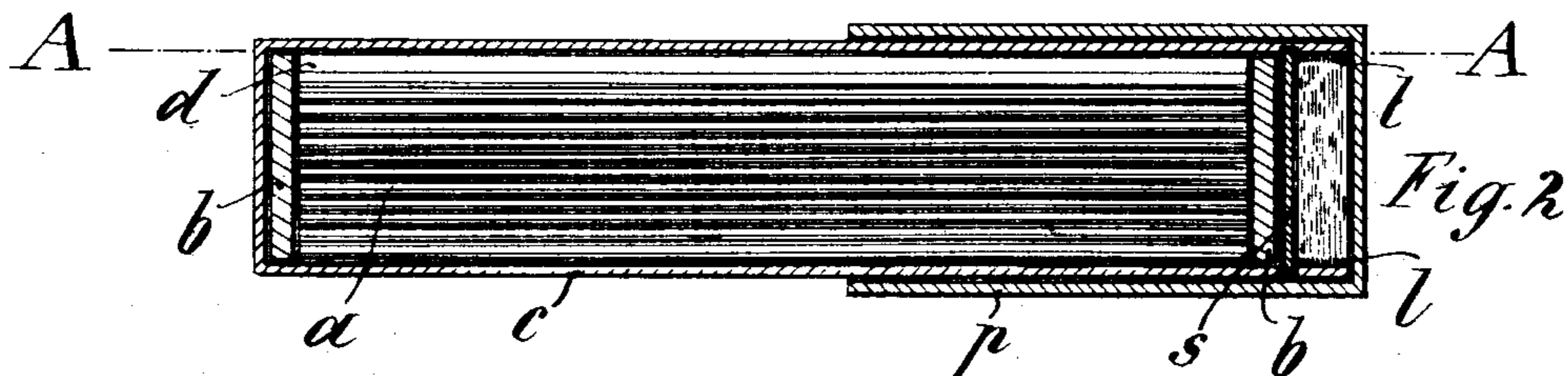


K. MICHAËLIS.
MAGAZINE PLATE HOLDER.

(Application filed May 4, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:

Max Kirbel
Berthold Pacht

Inventor:

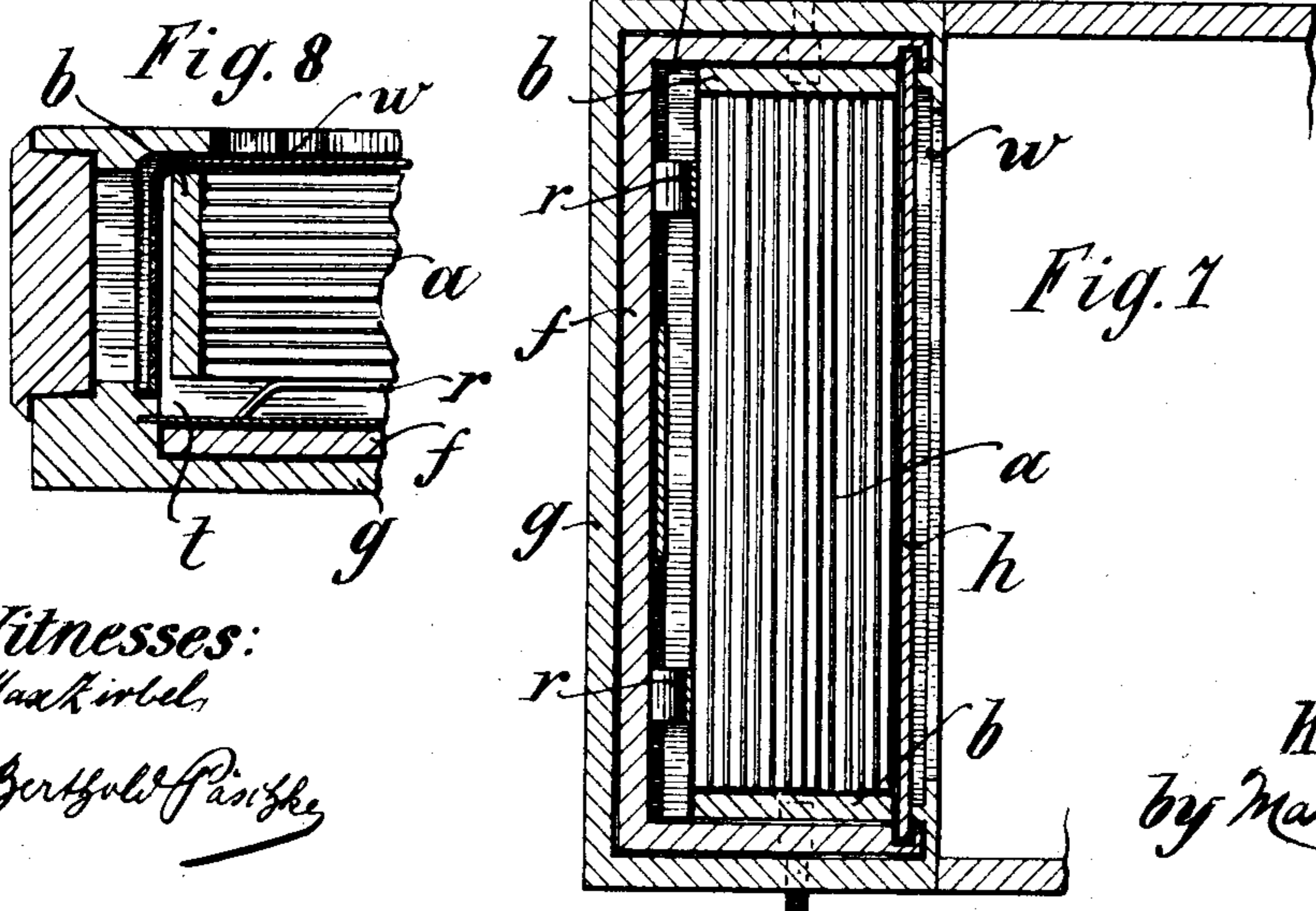
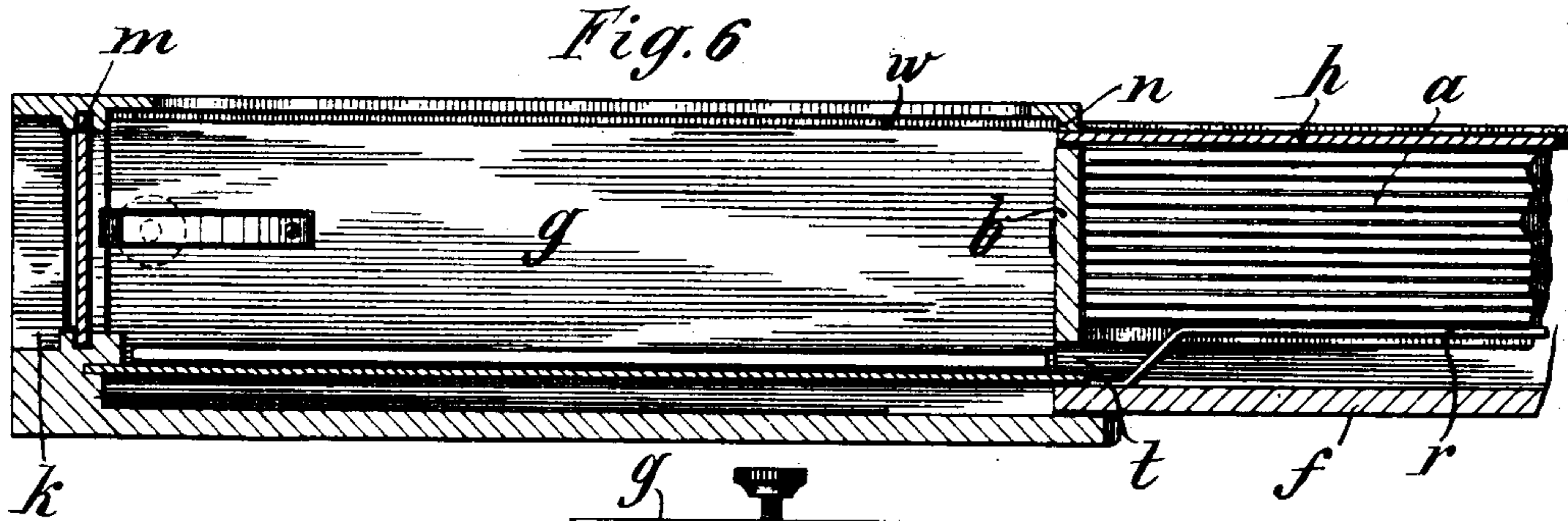
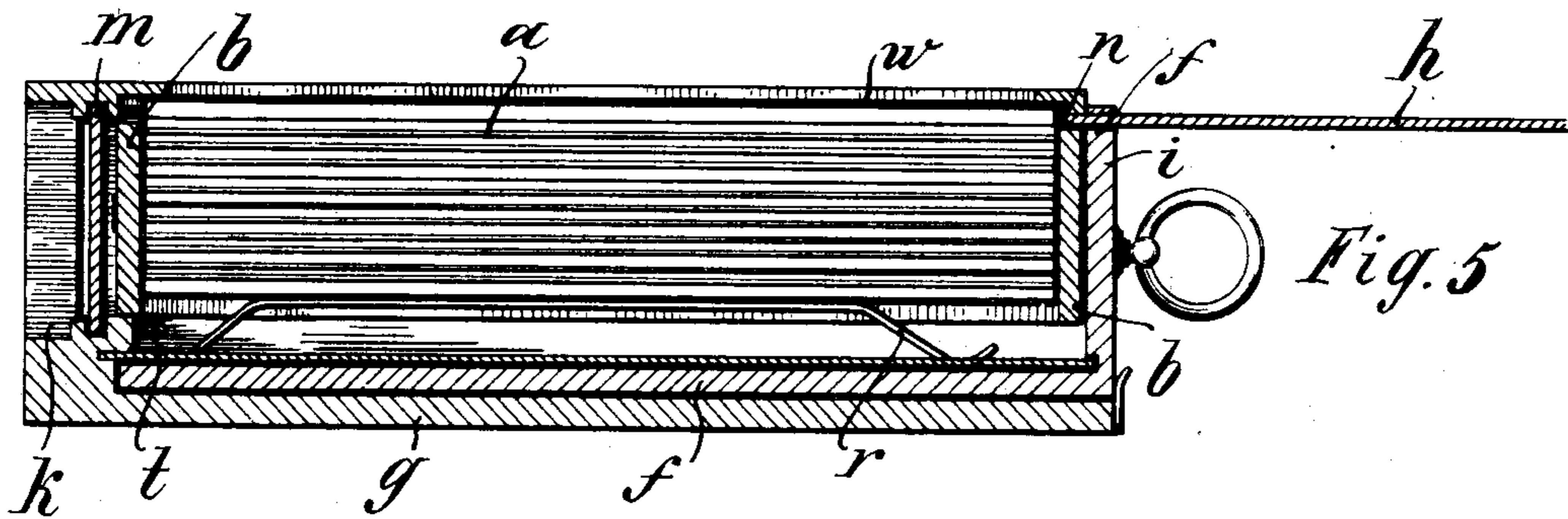
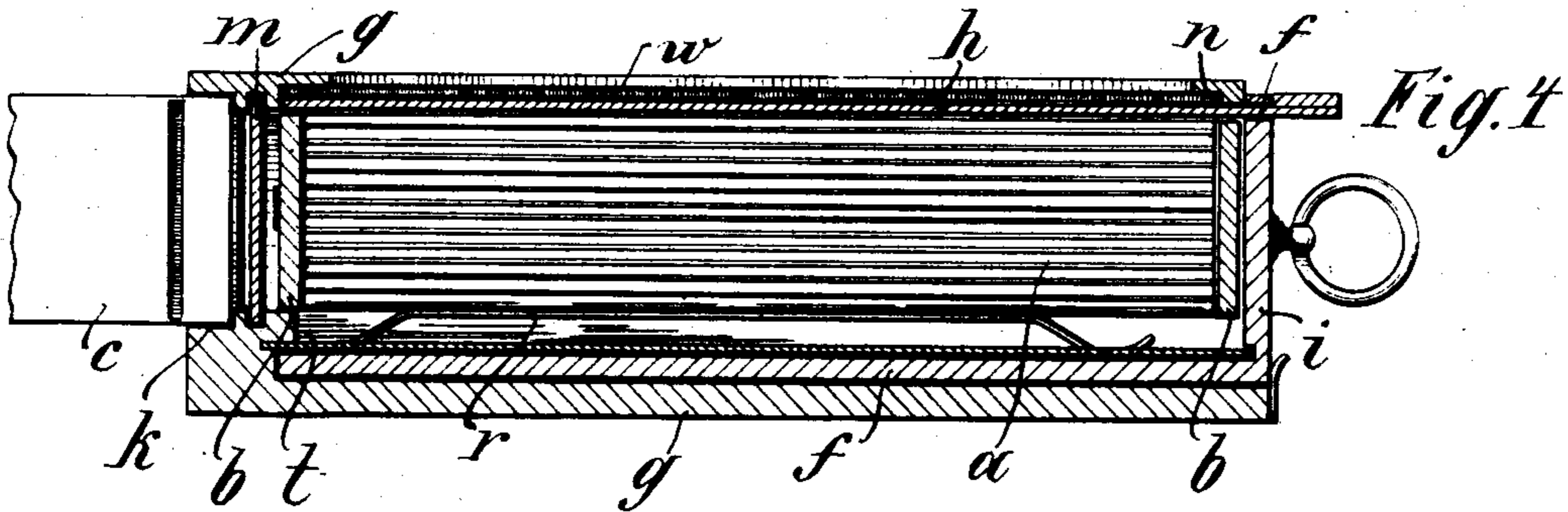
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K. MICHAËLIS.
MAGAZINE PLATE HOLDER.

(Application filed May 4, 1901.)

(No Model.)

2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

KARL MICHAËLIS, OF CHARLOTTENBURG, GERMANY.

MAGAZINE PLATE-HOLDER.

SPECIFICATION forming part of Letters Patent No. 711,515, dated October 21, 1902.

Application filed May 4, 1901. Serial No. 58,704. (No model.)

To all whom it may concern:

Be it known that I, KARL MICHAËLIS, analytical chemist, a citizen of the Kingdom of Prussia, and a resident of Charlottenburg, near Berlin, Germany, (whose post-office address is Carmerstrasse 18,) have invented certain new and useful Improvements in Magazine Plate-Holders, of which the following is a specification.

10 The object of this invention is a package for photographic plates designed expressly for the purpose of introducing these plates into the camera in full daylight, thus enabling the photographer to load and unload his
15 photographic apparatus without using a dark room. There is further shown a special form of magazine plate-holder or hand-camera to be used with this new form of plate-package.

In the accompanying drawings, Figure 1 is
20 a perspective view and partial section of the plate-package; Fig. 2, a longitudinal vertical cut through same; Fig. 3, a horizontal section through same on line A A of Fig. 2. Fig. 4 is a longitudinal section through the repeating dark slide used in connection with the
25 new package, showing the method of transferring the plates from one to the other. Fig. 5 shows the magazine plate-holder uncovered, and the top plate brought into position for
30 exposure. Fig. 6 shows the manner of changing the plates. Fig. 7 represents the back portion of a box-camera with a magazine attached thereto which is constructed after the principle of the described magazine plate-
35 holder. Fig. 8 shows a modified form of the shutter for closing the opening through which the plates are introduced into the magazine plate-holder or the magazine.

The plates *a*—twelve, for instance—are provided with sheet-metal frames of the well-known pattern, the back side of each plate being thus secured against the access of light. This pack of twelve plates is surrounded at its narrow edges by a strip *b*, of
45 cardboard, sheet metal, or any other suitable material, this strip forming a sort of frame around the plates and preventing them from changing their position relative to each other. This strip does not fit tightly around the
50 edges of the plates. Therefore if a pressure is exerted from below upon the back of the

lowest plate the plates are lifted without touching the strip and the uppermost plate is raised above the strip edges and is thus free to be removed sidewise. The plates surrounded by said strip are placed in a box *c*,
55 made of cardboard or any other material, this box being open at one end to allow of the plates and the strip *b* surrounding them gliding into said box or out of it. To
60 make this package absolutely light-tight, the edges of the opening of said box may be provided with a lining *l*, of plush or any other suitable material, the edges of the strip *b* securing a light-tight closure of the box-open-
65 ing. The box-opening may as well be covered with a cover *p* of paper or any similar material. On top of the uppermost plate there may be placed a protecting-plate *d*, made
70 of cardboard or any other material. A further protection may be secured by the insertion of a cardboard or metal slide *s* just below the edge of the opening.

To be able to use my new plate-packing with a hand-camera or a repeating dark slide,
75 the camera or dark slide has to be provided with an opening allowing of the introduction of the plates and the strip surrounding them into said camera or magazine plate-holder. A repeating magazine plate-holder and a cam-
80 era built on these lines are shown in Figs. 4 to 6 and Fig. 7, respectively, of the accompanying drawings. The repeating magazine plate-holder shows the well-known features of this kind of apparatus. A drawer *f* is in-
85 serted in a box *g*, the top of said box forming a frame *w*, which is closed by a slide *h*, the bottom carrying springs *r r*, designed to lift the plates *a* and to press the uppermost plate against the shutter respectively the frame *w*.
90 To allow of the introduction of the plates into said drawer, either the front part *i* of the latter or the back part *k* of the cutter-box *g* and the back part *l* of the drawer are replaced by a shutter *m*, of stiff or flexible material, which
95 may lie either in longitudinal direction or sidewise in the top and bottom plank of the drawer or box, or which may form part of the slide *h*, as shown in Fig. 8. To introduce the plates contained in my new packing into
100 said magazine plate-holder, the box *c* is inserted into the opening of box *g* or drawer *f*,

and the shutter *m* is then withdrawn. On tilting, the whole weight of the plates causes them to glide into the magazine plate-holder, the strip *b* gliding along with them and preventing their being displaced relatively to each other. The shutter *m* is then closed again and the box *c* removed. The changing of the plates after each exposure is done as usual. Upon opening the shutter *h* the top plate is lifted into position for exposure. After the exposure the drawer *f* is withdrawn from the box *g*, the top plate being prevented from following this movement by the edge *n* of the box *g*. The top plate is thus carried away from the other plates over the edge of the strip *b* and drops down upon the bottom of box *g*. Upon reinserting the drawer into the box said plate is pushed below the bottom plate. When the plates are to be removed—for example, after all of them have been exposed—the empty box *c* is again inserted into the side opening of the dark-slide. After opening the shutter *m* the plates surrounded by the strip *b* are made to glide back into the box *c*, which is then removed from the magazine plate-holder.

The magazine of the hand-camera shown in Fig. 7 is built upon the same lines as the magazine plate-holder described above.

What I claim is—

1. A new packing for photographic plates, consisting of a strip of suitable material surrounding the narrow edges of the packet of plates, both the plates and the strip surrounding them being inserted in a box open at one narrow side only. 30
2. A magazine plate-holder to be used in connection with a plate-packing having a narrow strip of material surrounding the narrow edges, said magazine plate-holder consisting of an outer box and a drawer inserted in the latter, the narrow sides of one of said parts being replaced by a shutter. 40
3. The combination with a magazine plate-holder consisting of an outer box and a drawer inserted in the latter, the narrow sides of one of said parts being replaced by a shutter, of a packet of plates and a strip of material surrounding the narrow edges of the packet of plates and adapted for coöperation with said magazine plate-holder, substantially as described. 50

In testimony whereof I affix my signature in presence of two witnesses.

KARL MICHAËLIS.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.