

No. 672,605.

Patented Apr. 23, 1901.

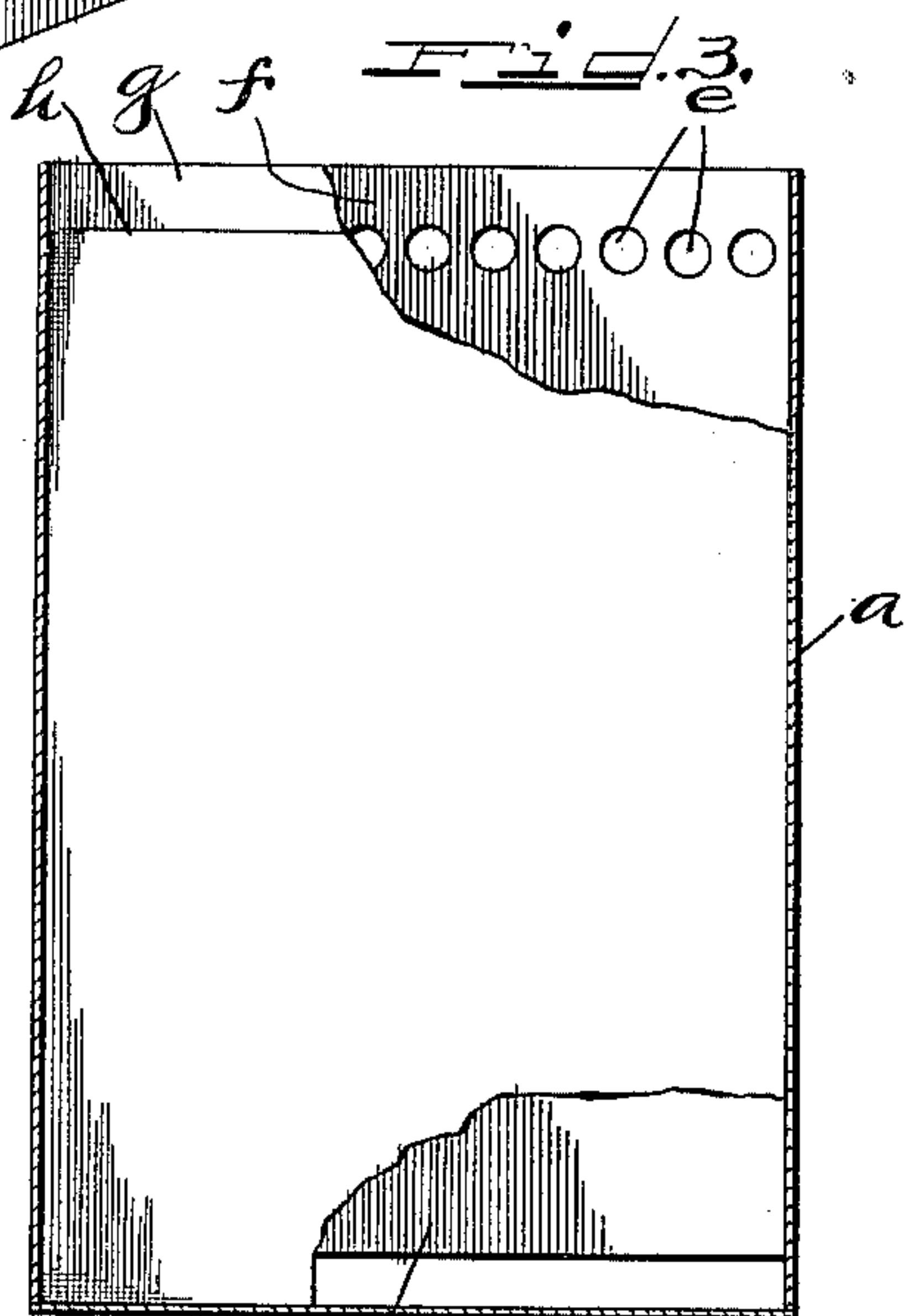
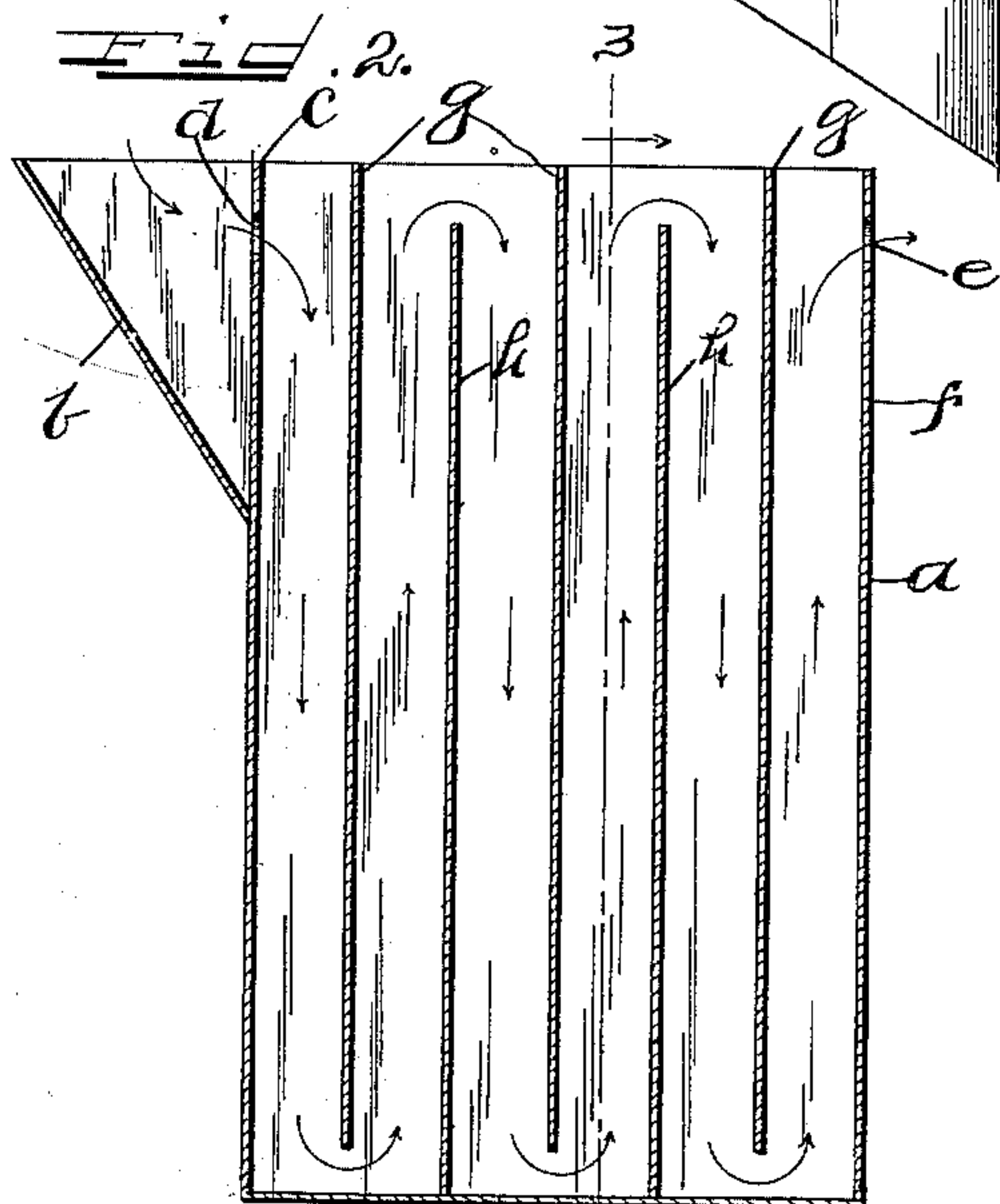
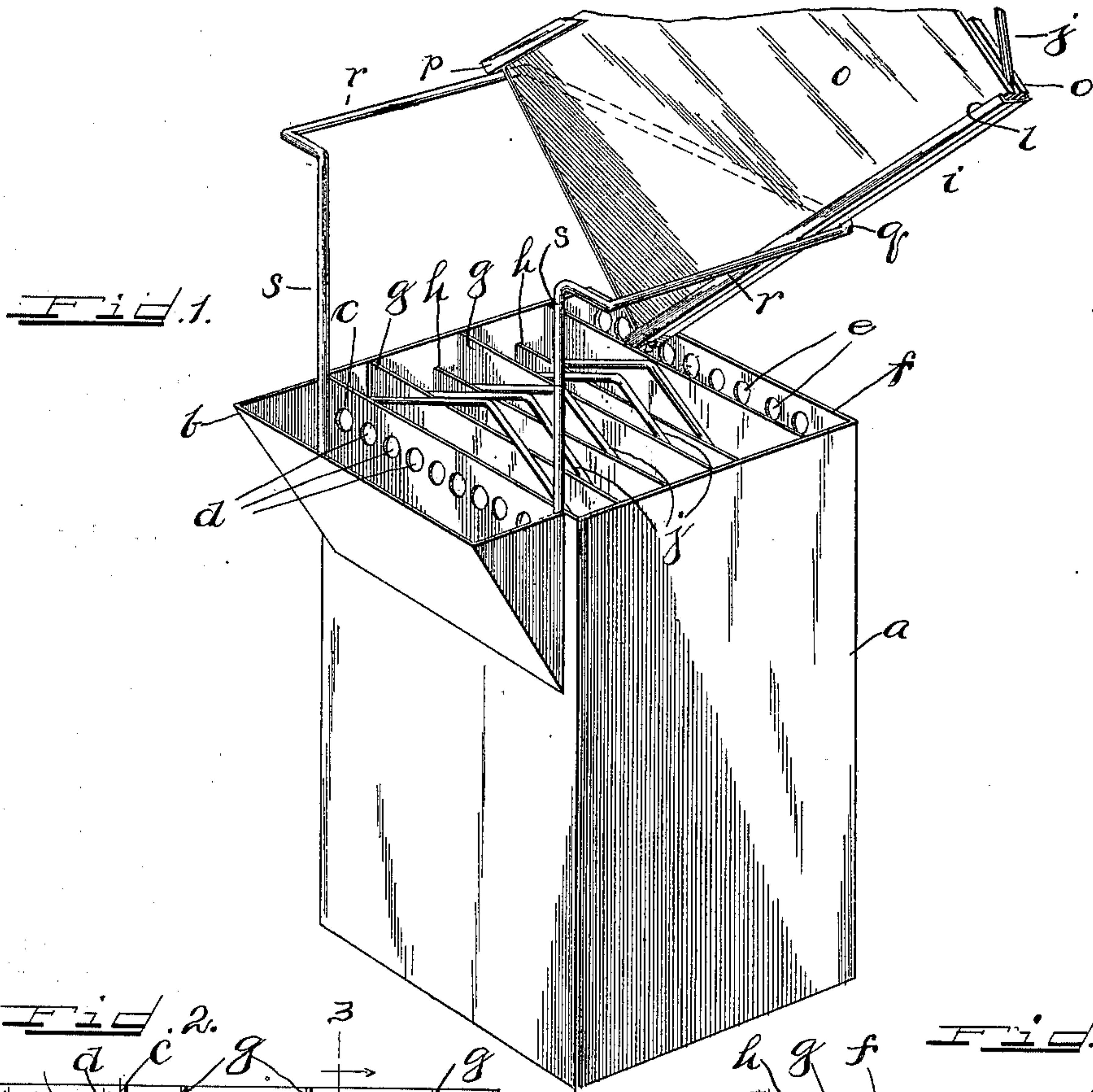
U. G. ORR & J. H. SMITH.

APPARATUS FOR WASHING PHOTOGRAPHIC NEGATIVES.

(Application filed Feb. 16, 1900. Renewed Feb. 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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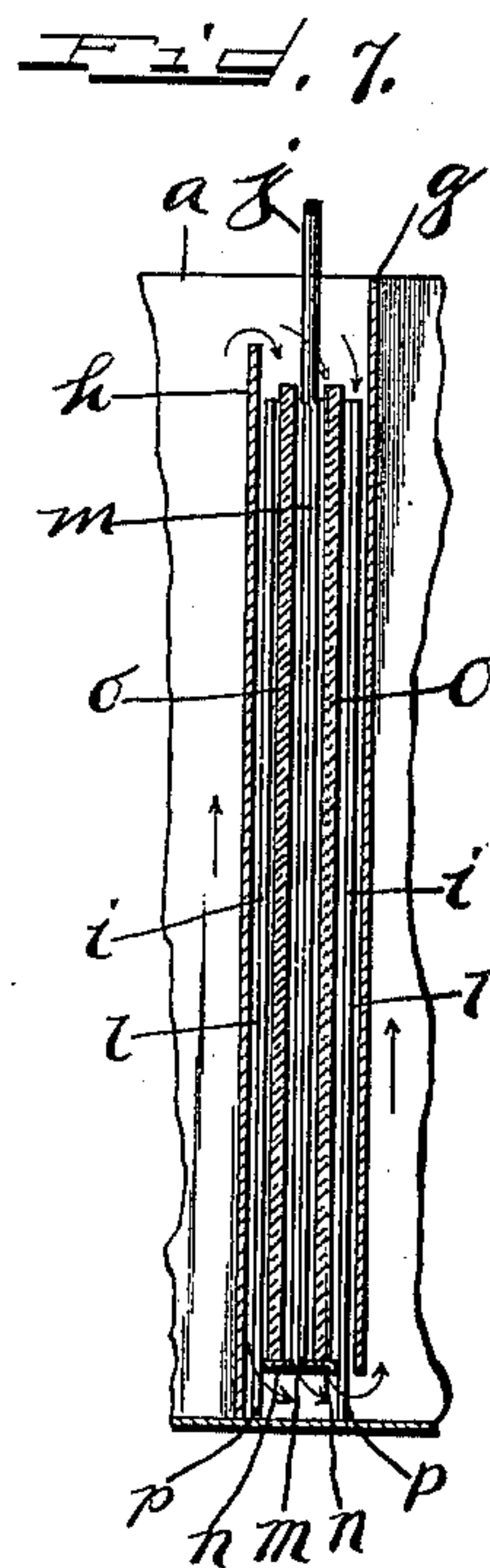
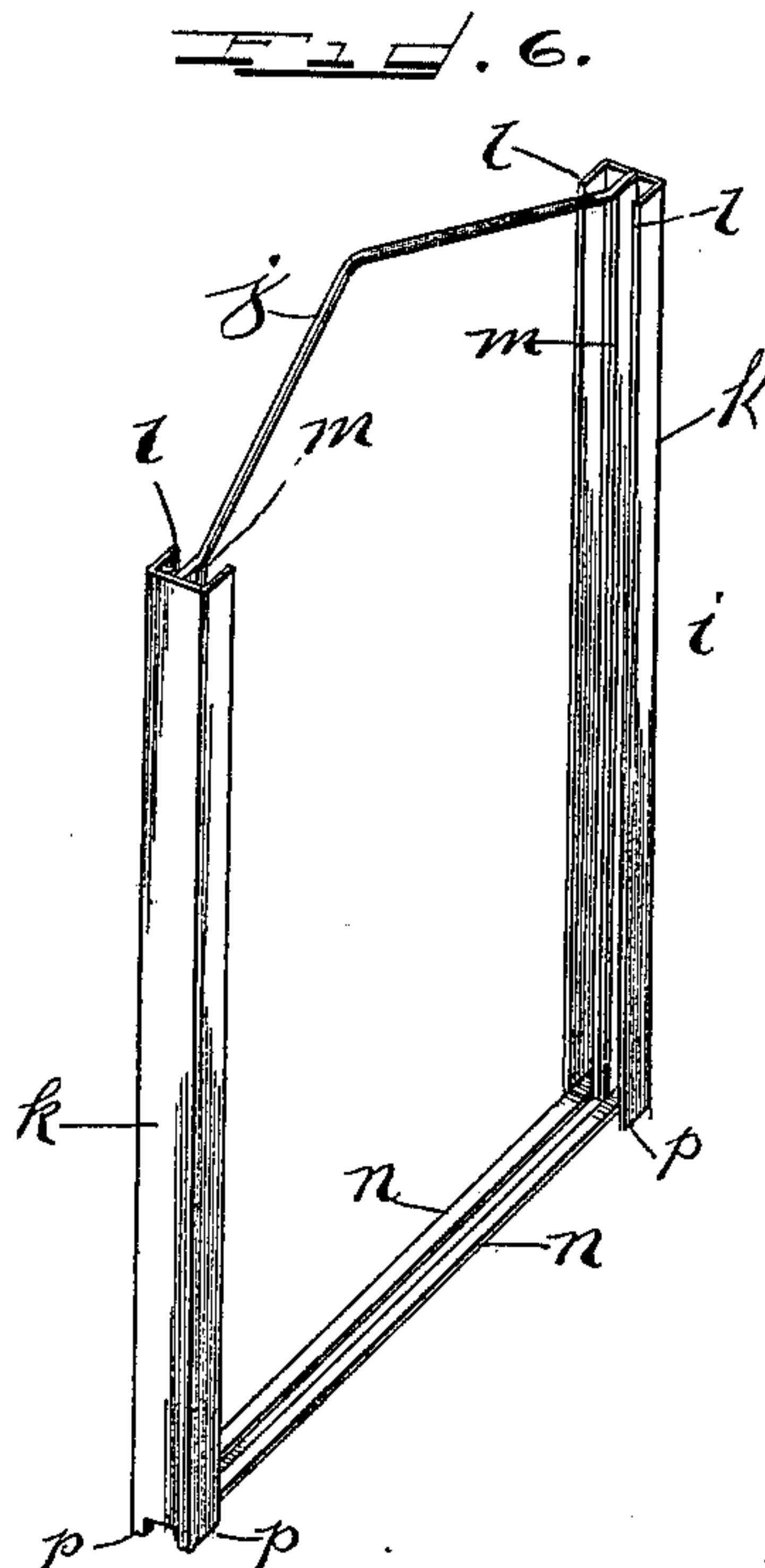
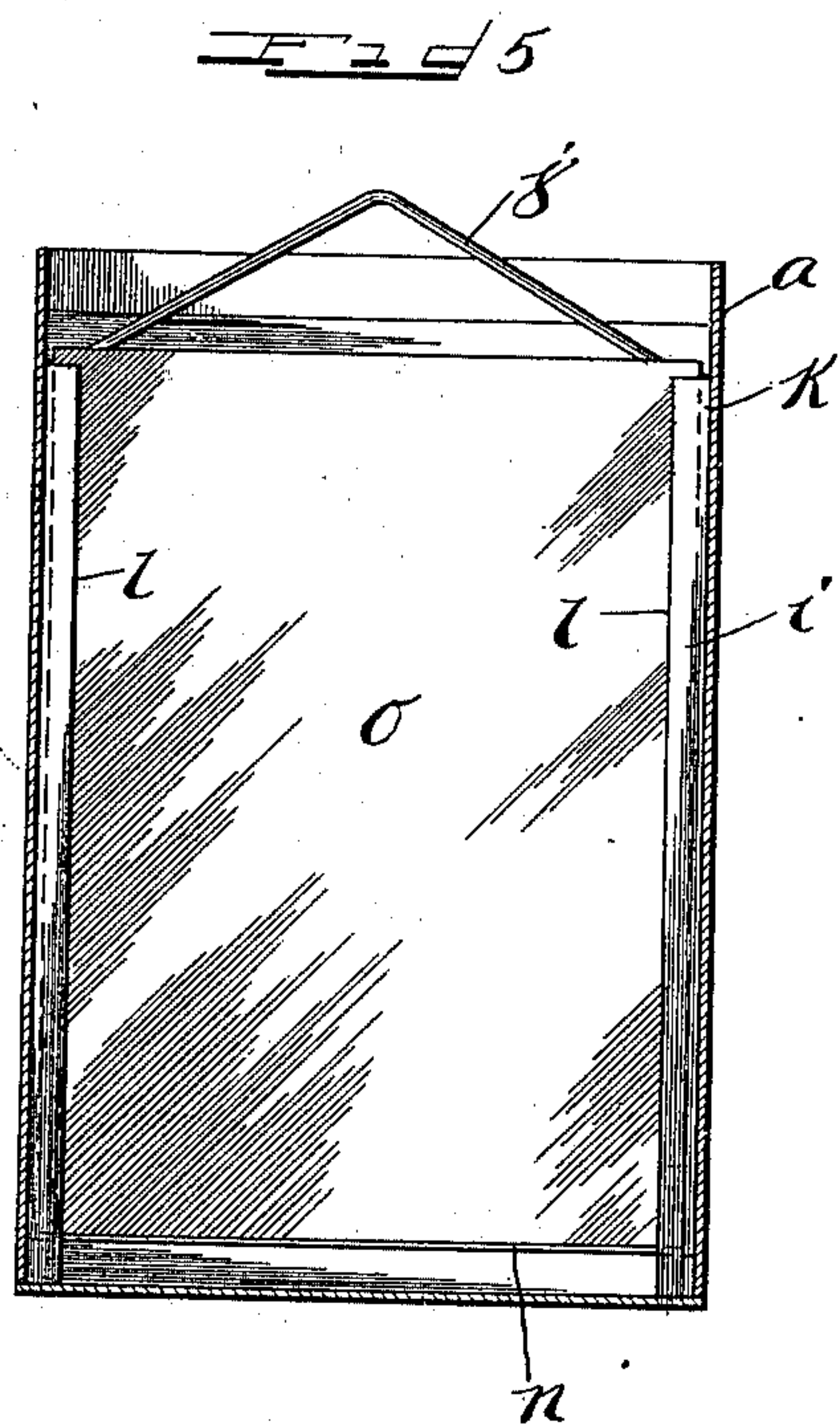
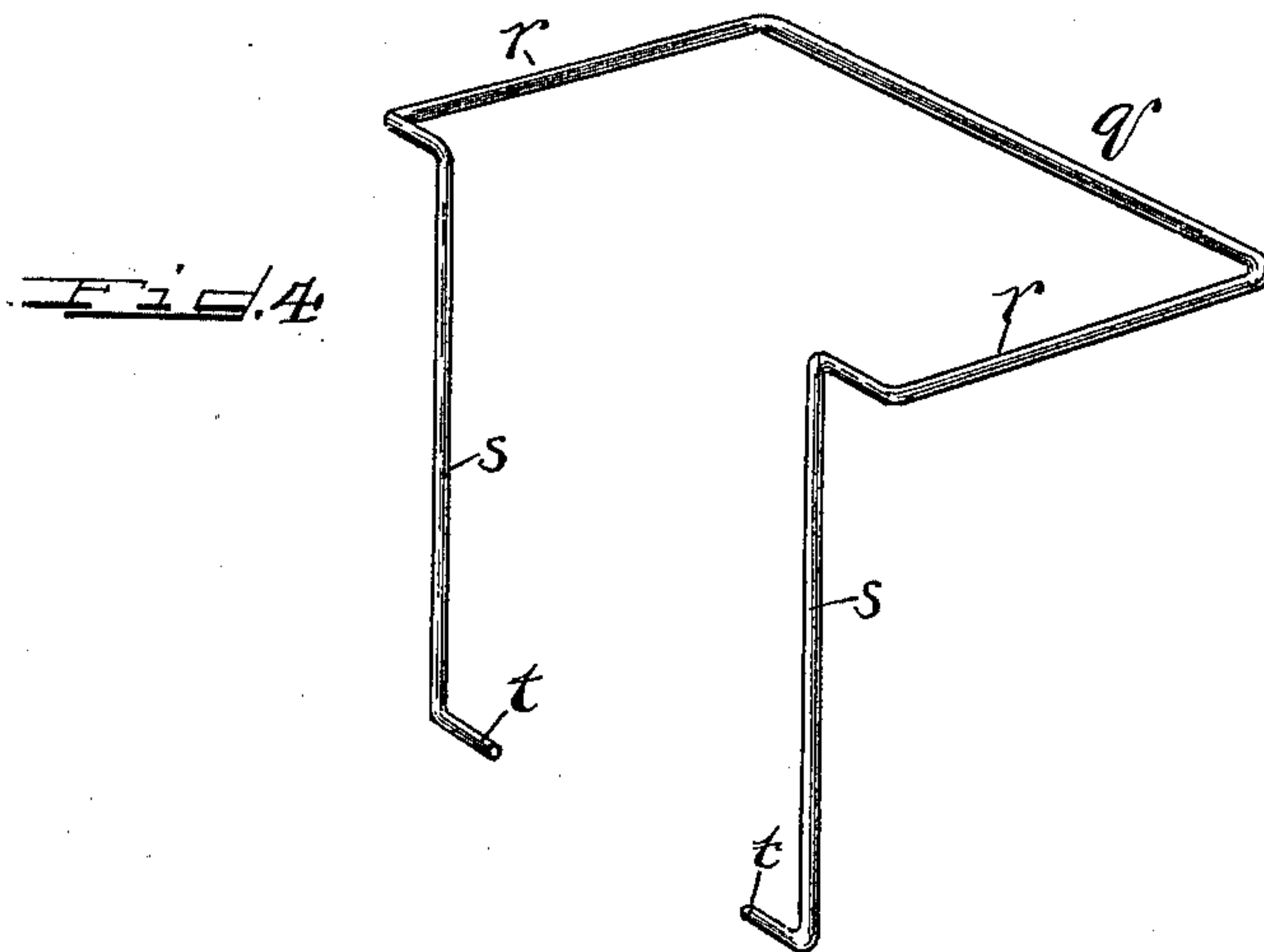
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WITNESSES

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UNITED STATES PATENT OFFICE.

ULYSSES G. ORR, OF BUFFALO, NEW YORK, AND JAMES H. SMITH, OF CHICAGO, ILLINOIS.

APPARATUS FOR WASHING PHOTOGRAPHIC NEGATIVES.

SPECIFICATION forming part of Letters Patent No. 672,605, dated April 23, 1901.

Application filed February 16, 1900. Renewed February 2, 1901. Serial No. 45,771. (No model.)

To all whom it may concern:

Be it known that we, ULYSSES G. ORR, of the city of Buffalo, county of Erie, and State of New York, and JAMES H. SMITH, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Apparatus for Washing Photographic Negatives, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of an apparatus embodying the features of our invention. Fig. 2 is a vertical sectional view from front to rear of the washing-tank. Fig. 3 is a vertical sectional view taken upon the line 3 3, Fig. 2, viewed in the direction of the arrow there shown. Fig. 4 is a perspective view in detail of the removable frame forming the drying-rack. Fig. 5 is a transverse vertical sectional view of the washing-tank, showing a removable plate-holder therein. Fig. 6 is a perspective view of a holder for supporting plates within the tank; and Fig. 7 is a vertical sectional view in detail of a portion of a tank, showing a plate-holder and plates therein.

Corresponding letters of reference in the different figures indicate like parts.

One object of our invention is to so construct an apparatus for washing photographic negative plates that there may be a continuous flow of water against said negatives, the current being directed successively over the face of each plate, which is supported vertically in a removable holder so constructed that one or more, but preferably two plates, may be placed therein and held within a given compartment of the tank.

A further object is to so combine a detachable rack with said apparatus and to so construct said plate-holders that the former may be adapted to receive and support said holders, so as to enable them conjointly to form a drying-rack for the purpose of draining and drying the plates, whereby the entire process of washing and drying said plates may be accomplished without necessitating the removal of the plates from the holders.

With these ends in view our invention consists in the combination of elements hereinafter more particularly described and claimed.

Referring to the drawings, *a* represents a tank, preferably constructed from sheet metal, said tank being provided with a trough *b*, Figs. 1 and 2, and extending from the top downwardly a short distance, as shown. Within the front wall *c* of the tank, near the top thereof and adjacent to the trough, are a series of openings *d* for the purpose hereinafter stated, while a like series of openings *e* are formed in the rear wall *f*. Within the tank *a* we place a series of partitions *g h*, which are arranged parallel to each other and to the front and rear walls of the tank, said partitions alternating with each other—that is to say, each of the partitions *g* begins at the top of the tank and extends downwardly to within a short distance from the bottom, while the partitions *h*, which are interposed between the partitions *g*, extend from the bottom to within a short distance of the top.

In the use of our improved device the water is permitted to flow from a faucet or other source of supply into the trough *b*, from whence it passes through the openings *d*, by which it is uniformly distributed into the space between the front wall and the first partition *g*, thence under the latter, over the top of the partition *h*, and so on up and down, as indicated by the arrows shown in Fig. 2, until it escapes from the openings *e* in the rear wall.

In order that the plates may be readily handled and placed within and removed from the compartments between the partitions without danger of injury to the films, we provide suitable holders *i*, which holders consist of a frame having an upwardly-bent cross-bar *j*, which is connected to vertical side-pieces *k k*, (better shown in Fig. 6,) said side-pieces being provided with inwardly-turned flanges *l l* and central dividing-flanges *m m*. Bottom cross-bars *n n* are rigidly attached to the bottoms of the side-pieces *k* between the flanges *l m*. Said cross-bars serve as a rest for the negative plates *o*, which are inserted, as shown in Figs. 5 and 7, between said flanges *l m*, by which said plates are supported back to back.

The lower ends of the flanges *l* project somewhat below the cross-bars *n*, as shown at *p* in Figs. 1, 6, and 7, so as to raise the lower end of the

plate above the bottom of the tank, and thus permit a free circulation of water beneath. Said projections also serve an additional purpose in connection with the drying of the plates, as hereinafter described.

A removable drying-rack consisting of a bent wire *q*, so that the top portion may describe a rectangular figure with the parts *r r* parallel to each other and in a plane at right angles to that formed by the parts *s s*, which are bent toward each other at the bottom, as shown at *t t*. When it is desired to use the rack, the parts *s s* of the frame are inserted in the trough *b* next to the wall *c*, thus enabling the parts *t t*, Fig. 4, to rest in the bottom of the trough, which causes the rack to be supported, as shown in Fig. 1, with the parallel wires *r r* in a horizontal plane.

When the plates are washed in the tank, they may be easily removed therefrom by grasping the bail *j* of the holder, when one of the bottom projections *p* is permitted to rest upon one of the wires *r*, the opposite side of the plate-holder resting upon the other. This forms a simple, cheap, and convenient rack for all of the plate-holders, which are permitted to drain into the tank while in the position shown in Fig. 1.

Our improved apparatus is such as to enable the plates to be thoroughly washed in the shortest period of time, while the plates may be inserted, removed, and dried without danger of injuring the film, as they need not be touched by the fingers during the entire process of washing and drying.

Having thus described our invention, we claim—

1. In an apparatus of the class described, the combination of a tank having two sets of upright partitions therein arranged alternately in parallel planes, one set extending

from a level near the top to one near the bottom thereof and the other from the bottom of said tank to a level near but below the top of said first-named partitions, means for permitting an outflow from the tank below the level of the top of the last partition therein, a series of removable plate-holding frames adapted to fit loosely within the compartments between said partitions, and means for supporting the bottom of said plate-holders above the bottom of the tank, substantially as described.

2. The combination with the tank *a* having a series of compartments therein formed by the partitions *g h* arranged to alternate with each other, the trough *b*, openings in the front wall of said tank between said trough and the first compartment of the series, and the removable plate-holders *i*, having the bails *j*, substantially as described.

3. The combination with the tank *a* having a series of compartments therein formed by the partitions *g h* arranged to alternate with each other, a series of removable plate-holders adapted to fit within said compartments, said plate-holders having projections upon the lower ends and a removable draining-rack adapted to support said plate-holders above the tank, substantially as described.

In testimony whereof we have signed this specification, in the presence of subscribing witnesses, this 9th day of February, 1900.

ULYSSES G. ORR.
JAMES H. SMITH.

Witnesses as to Ulysses G. Orr:

RENA P. HAMBLIN,
J. H. FIELD.

Witnesses as to James H. Smith:

D. H. FLETCHER,
JAS. W. STEELE.