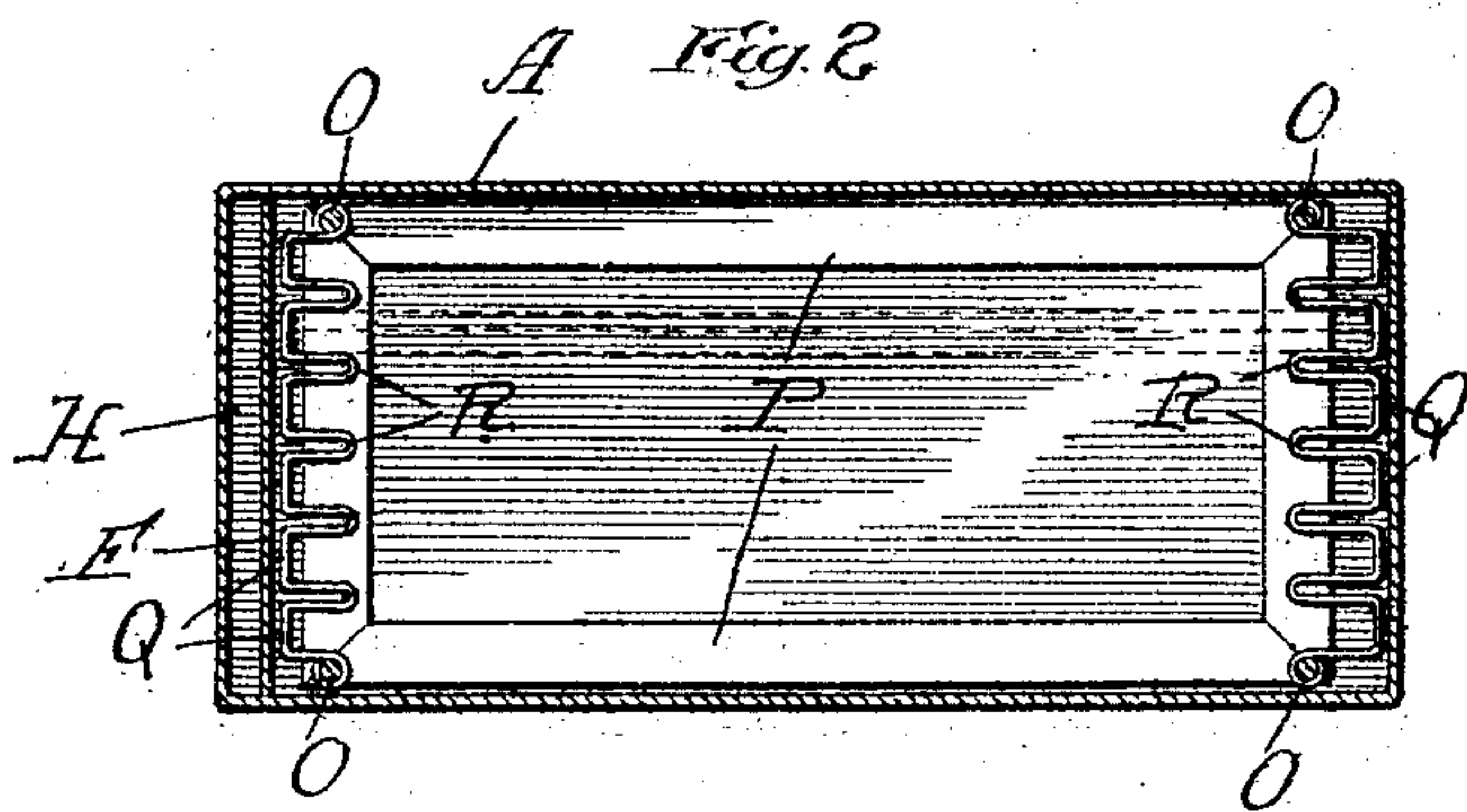
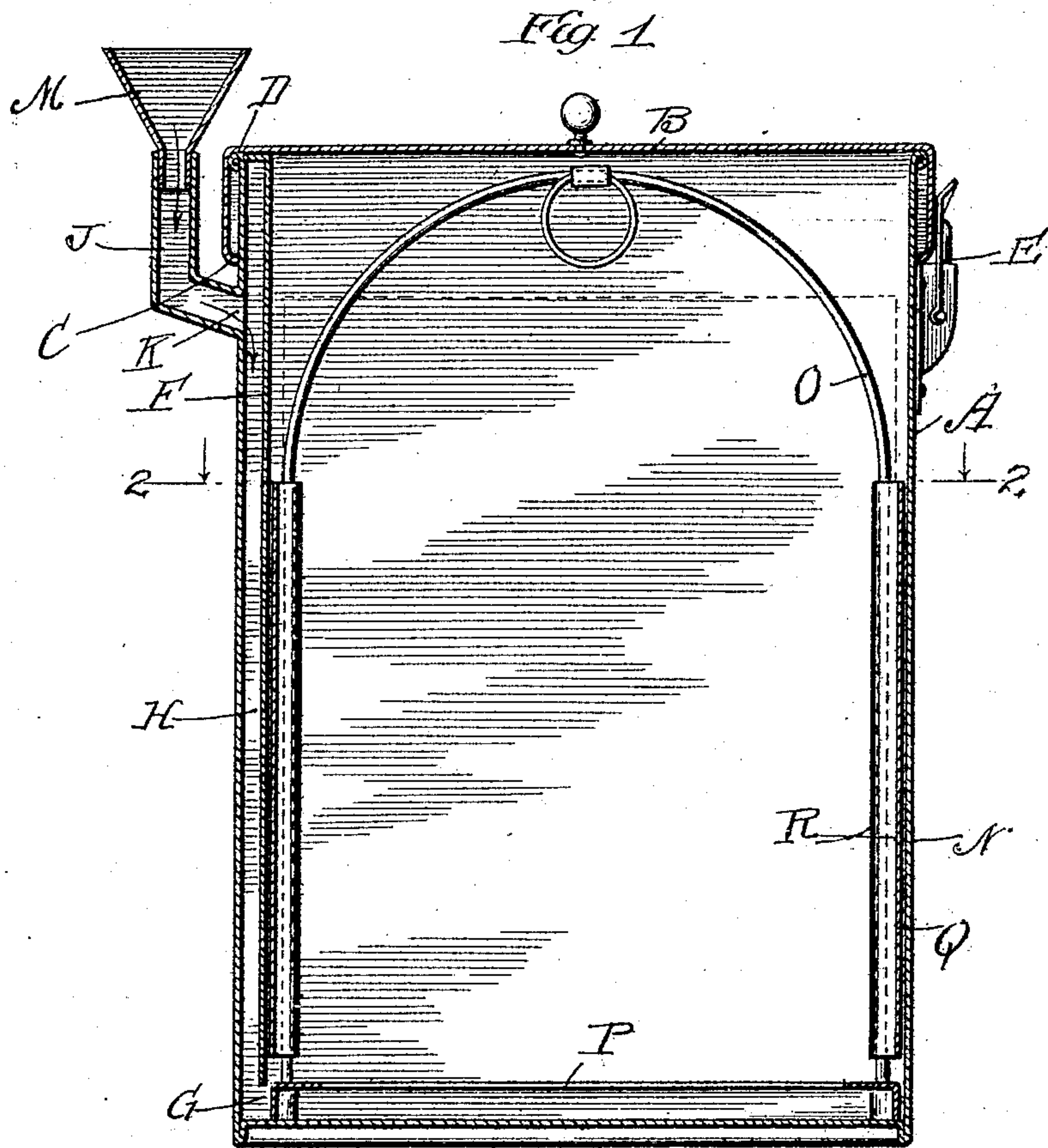


D. JAMES.  
 PHOTOGRAPHIC DEVELOPING APPARATUS  
 APPLICATION FILED NOV. 4, 1907.

909,091.

Patented Jan. 5, 1909.



Witnesses  
 Harry R. White  
 Ray White.

Inventor  
 David James  
 By *Rudolph M. Fox* atty.



# UNITED STATES PATENT OFFICE.

DAVID JAMES, OF CHICAGO, ILLINOIS.

## PHOTOGRAPHIC DEVELOPING APPARATUS.

No. 909,091.

Specification of Letters Patent.

Patented Jan. 5, 1909.

Application filed November 4, 1907. Serial No. 400,665.

*To all whom it may concern:*

Be it known that I, DAVID JAMES, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have  
5 invented certain new and useful Improvements in Photographic Developing Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled  
10 in the art to which it appertains to make and use the same.

This invention relates to a novel construction in a photographer's developing tank, the object being to provide a device of this  
15 character which is very compact, light-proof, and permits of all manipulations necessary to the attainment of the best results in developing and by means of which plates may be developed in daylight and thus obviate the  
20 necessity of a darkroom, and consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings illustrating this invention: Figure —1— is a central vertical section of a developing tank constructed  
25 in accordance with my invention. Fig. —2— is a plan section of the same on the line 2—2 of Fig. —1—.

In a companion application filed of even  
30 date herewith I have shown and described a developing tank adapted to receive plates and be immersed in the developer which enters the same at either end. The said device does not, however, constitute a receptacle  
35 for liquid as upon removal from the bath the liquid drains therefrom.

The object of the present invention is to provide a developing tank which constitutes a receptacle for the liquid as well as the plates  
40 and which, therefore, obviates the use of an additional receptacle for the liquid, and which is relatively very small and compact, and, therefore, easily portable thus particularly fitting the same for use by travelers who  
45 are thereby enabled to develop and fix plates whenever desired and ascertain before departure from the scene whether success has been achieved in photographing views, groups, etc.

To the above and other ends my said apparatus comprises a relatively flat rectangular tank A having a flanged cover B in which  
50 one end of said tank is received, the overlapping flanges of said cover excluding light from the tank. The said cover is preferably

engaged by a suitable latch to hold it against accidental removal. In the instance illustrated one of the end flanges of the cover B is provided at its free end with an inwardly extending projection C adapted to engage the  
60 bead D on the wired mouth of the receptacle, the other end flange and the corresponding end wall of the tank being equipped with a trunk latch E. While this arrangement serves my purpose I desire it to be under-  
65 stood that any other suitable means for locking the cover in place is comprehended in my invention.

Adjacent to and preferably inwardly of a vertical wall of the tank a plate F is disposed  
70 parallel therewith and which terminates at a point higher than the bottom of the receptacle to provide an inlet G through which liquid passes from the passages H formed between said plate F and the said wall of  
75 said tank into the body portion of the latter. An L-shaped spout J is disposed on the last-named wall of said tank and communicates with said passage H through an opening K in said wall, the mouth of said spout being  
80 preferably equipped with a removable funnel M. In this manner a light-proof inlet for liquid is provided and the latter is admitted to the bottom of the main or developing chamber N of said tank in which the plates to  
85 be developed are received.

Compactness of the tank (by which I desire to express maximum capacity of plates in proportion to space occupied) is attainable  
90 only by the use in connection therewith of a rack in which the plates are maintained separated to the smallest possible extent without danger of retarding or deleteriously affecting the action of the solutions on the sensitized surfaces of the plates. The rack  
95 employed consists of two parallel inverted U-shaped wires O to the free ends of which the rectangular skeleton base P is secured at the corners thereof. Secured at their side edges to the said wires are two parallel opposed  
100 rack-plates Q each provided with a plurality of parallel opposing recesses in each of which two plates are disposed back to back (sensitized faces outwardly) said recesses being separated by projections R of less width,  
105 thereby providing narrow spaces between the opposing sensitized faces of plates in which the developer circulates freely. The said rack fits snugly within the tank and is removable therefrom thus forming sub-  
110



stantially a basket for the plates and affording the most convenient means for handling the same.

5 The plates are transferred from plate holders to the rack in a dark closet or in a light-proof bag forming a portable dark room and the rack then placed in the tank without permitting penetration of light thereto. The cover B is then placed in said  
10 tank and secured. The tank may now be exposed to daylight and developer introduced through the spout in quantity sufficient to completely immerse the plates. The cover fits relatively loosely on the tank  
15 thus permitting ready escape of displaced air through the interstices between the walls of the tank and the flanges of the cover. Owing to the compact disposition of the latter a relatively small quantity of developer suffices, this being advantageous to  
20 the traveler in particular as he cannot well carry liquids and must throw away his solutions after using. The tank may be rocked to keep the developer well in motion and insure  
25 uniformity of action and the plates maintained therein a sufficient length of time to insure full development. The developer is then drained off without exposing the plates to daylight and then rinsed repeatedly with water if desired before introducing  
30 hypo or other fixing solution. After fixing the plates the last-named solution is drained off, the cover removed and the tank placed under a hydrant (if available) and  
35 water continuously introduced through the spout and overflowing the mouth of the

tank, the plates being thus quickly thoroughly cleared of hypo or other fixer. If a hydrant is not available the rack may be removed and dipped repeatedly in successive  
40 changes of water in a bucket or the like until sufficiently washed, the rack thus affording a most convenient means of handling the plates without contact of the hands therewith or with any of the solutions used from  
45 the time they leave the plate-holders until they are ready to dry.

I claim as my invention:

A photographer's developing apparatus comprising a rectangular vessel equipped  
50 with a removable cover having flanges overhanging the upper end thereof to exclude light, a plate disposed within said vessel parallel with one wall thereof to form a vertical passage between the same, said  
55 passage communicating at its lower end with the said vessel, and an angular spout communicating at its delivery end with said passage between the ends of the latter, the  
60 inner wall of said passage constituting a false side wall of said vessel, and a removable rack in said receptacle receiving the plates and maintaining the same properly spaced therein.

In testimony whereof I have signed my  
65 name in the presence of two subscribing witnesses.

DAVID JAMES.

Witnesses:

HENRY BURKE,  
RUDOLPH WM. LOTZ.