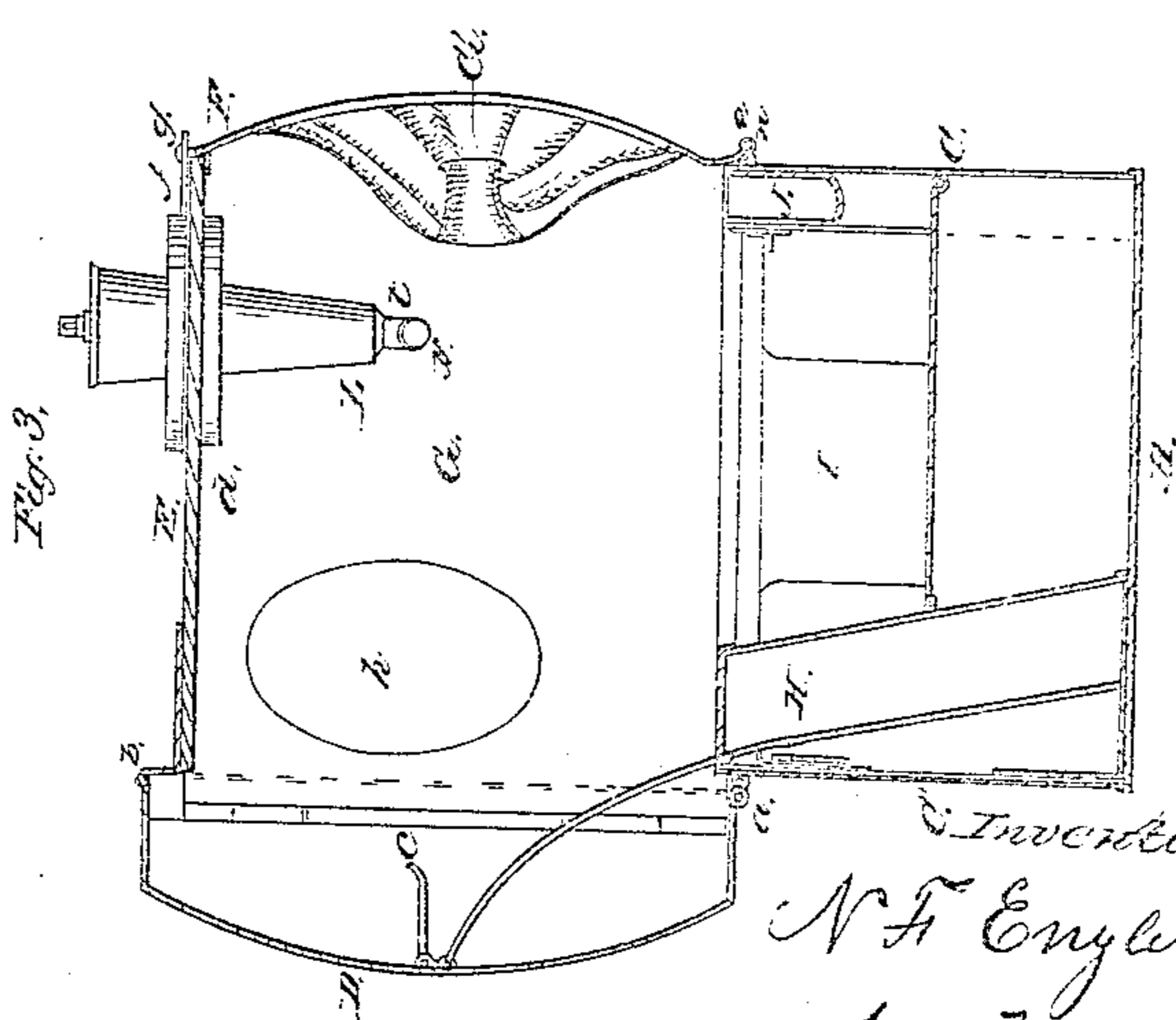
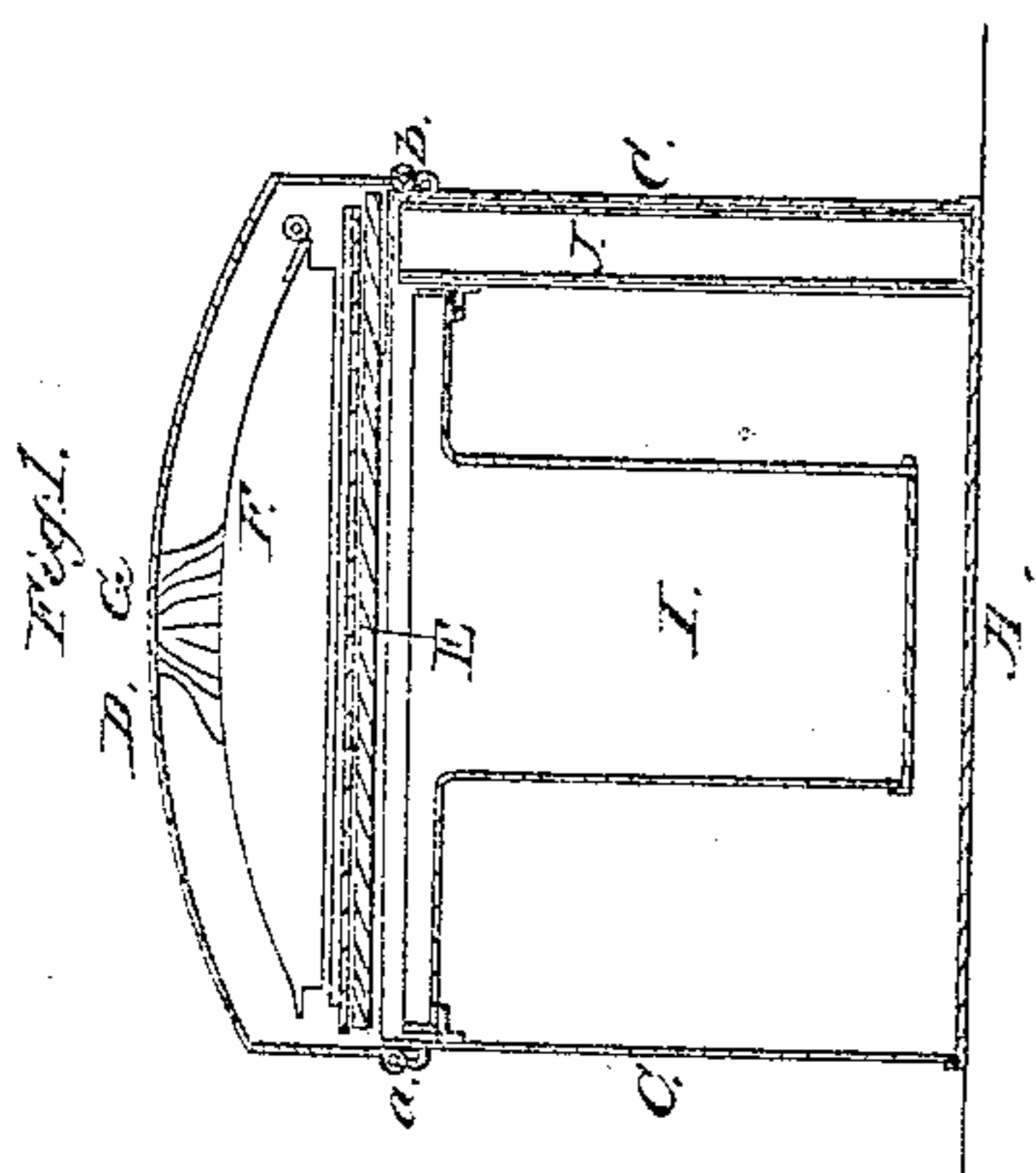
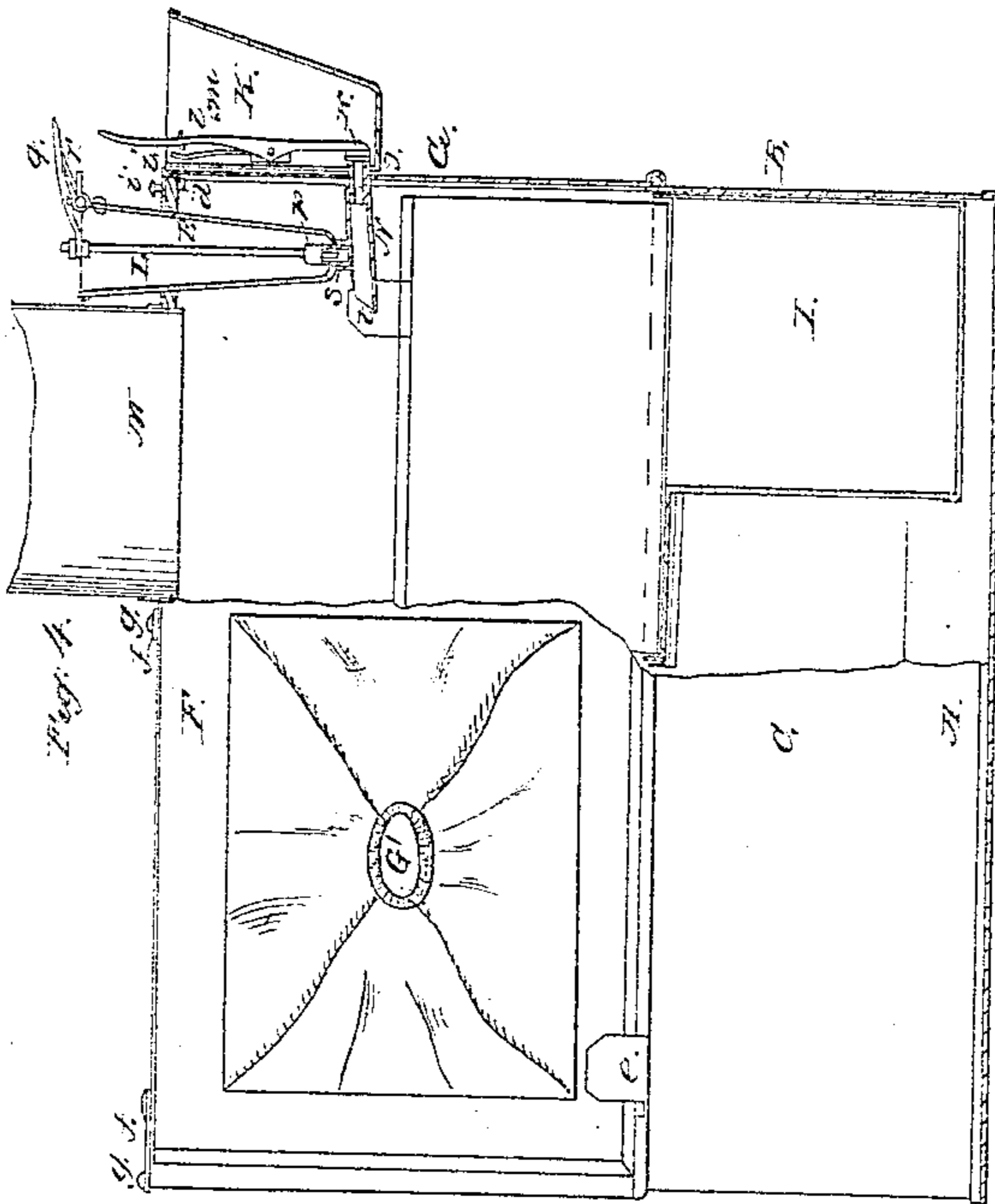
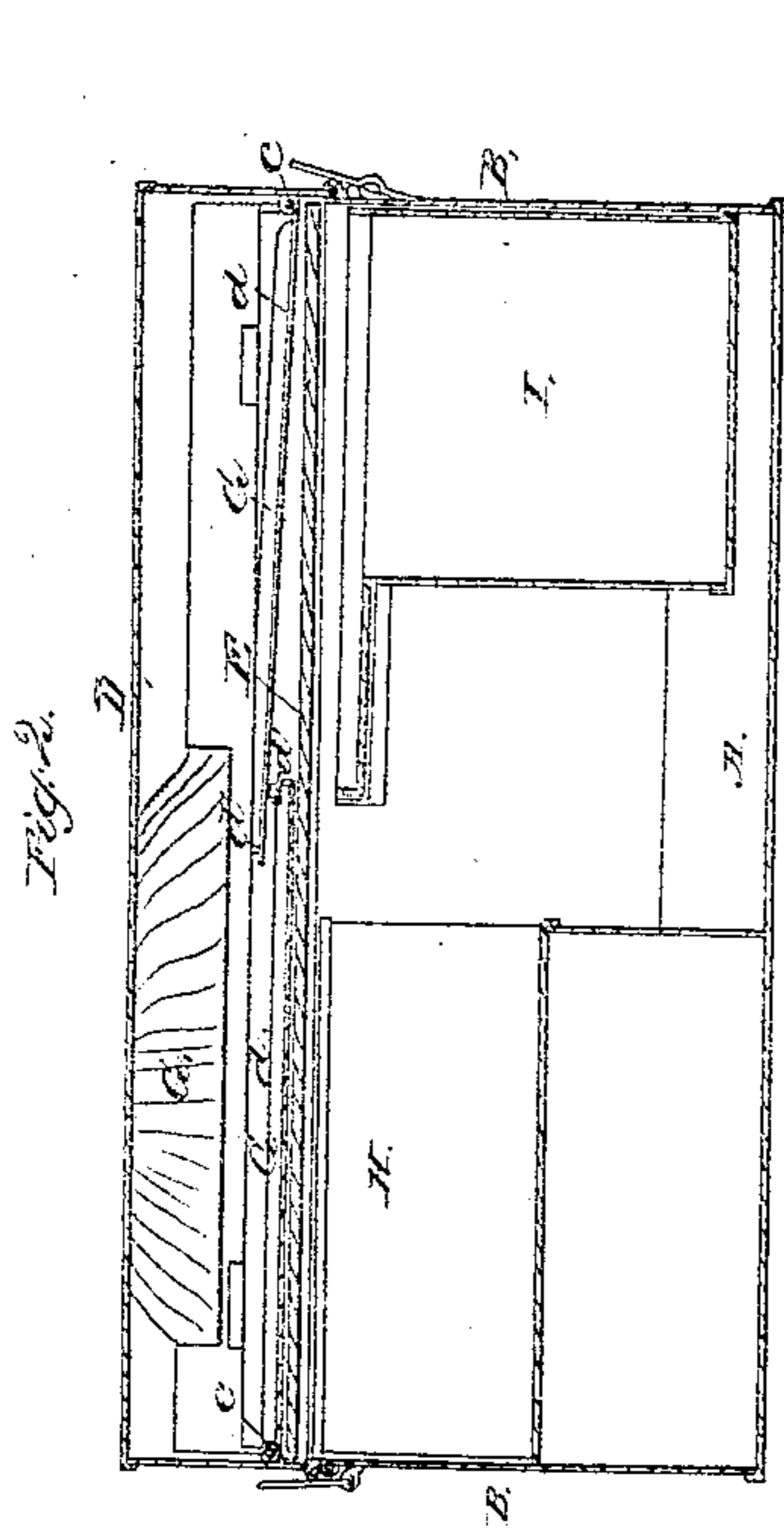


N. F. English Camera Attachment

N^o 35,308.

Patented May 20, 1862.



Witnesses
J. W. Reed
G. W. Reed

Inventor:
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per Munn & Co
Attorneys.

UNITED STATES PATENT OFFICE.

N. F. ENGLISH, OF HARTLAND, VERMONT.

PHOTOGRAPHIC APPARATUS.

Specification forming part of Letters Patent No. 35,308, dated May 20, 1862.

To all-whom it may concern:

Be it known that I, N. F. ENGLISH, of Hartland, in the county of Windsor and State of Vermont, have invented a new and Improved Portable Apparatus for Preparing the Plates and Developing the Pictures in Photography; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figures 1 and 2 are vertical sections of the apparatus, taken at right angles to each other, representing it in condition for transportation. Fig. 3 is a transverse vertical section of the apparatus in condition for use. Fig. 4 is a front view, partly in section, representing the apparatus in the same condition as Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

This invention consists in a certain arrangement of movable supplementary lids or flaps attached and fitted to the lid of a trunk or box, whereby the said trunk or box may be converted expeditiously into a "dark room" of about double its size.

It also consists in a certain combination of a vessel for containing developing solution and a fountain or vessel for water, and a certain system of valves in connection therewith, whereby the flowing of the said solution over the plate and of the water for washing off the said solution are controlled by the hand of the operator outside of the dark room, and the said solution and water are caused to be delivered onto the picture from the same tube or conductor, so that the water may wash away all trace of the solution from the said conductor after the developing of a picture, and so prevent the staining of the next picture.

To enable others to make and use my invention, I will proceed to describe its construction and operation.

A is the bottom, B B the ends, C the front, and C' the back, of a box or trunk, of oblong quadrangular form, of wood or metal, all rigidly connected together.

D is the lid hinged to the back C', as shown at *a*, and made deep enough for the reception of the piece E, which is to form the upper part

of the front thereof, and the pieces G G, which are to form the upper parts of the sides thereof, the lid itself when brought to an upright position forming the back of the upper part of the chamber, as shown in Fig. 1. The top piece, E, is hinged at *b*, Figs. 1 and 3, to the front of the lid, and the end pieces, G G, are hinged to the ends thereof at *c c*, Figs. 2 and 3. The piece F is not attached to the lid, but when the box is packed for transportation is placed within the lid inside of the pieces G G and E, as shown in Figs. 1 and 2, which are then folded into the lid. To extend the chamber in the condition for use, (represented in Figs. 3 and 4,) the lid is first raised to an upright position. The end pieces, G G, are then opened out at right angles to it and brought on the tops of the ends B B of the box, the top piece, E, is moved up to a horizontal position and placed on ledges *d d*, formed for its reception on the pieces G G, and the front piece, F, being provided with hinge-sockets *e e*, has the said sockets slipped onto pins attached to the front of the box, and has its upper rabbeted edge placed under the top piece, E, and its ends placed in grooves *d' d'* in the end pieces, G G. The lid D and the several pieces E F G G are then all secured firmly in place by means of hooks *f f*, attached to the top piece, E, said hooks catching onto studs *g g* on the upper edges of the front and end pieces. The box A B C C, forming the lower part of the chamber, has arranged within it the box H for containing the sensitizing-bath, the dripping-pan I, and the fixing-bath J, and in the remainder of the space within it the water-fountain K, the jar L, from which the developing solution is used, and such bottles and other articles as it may be desirable to place therein, may be packed for transportation.

Near the left-hand end of the front piece, F, there is an opening for the admission of the left hand of the operator to effect the necessary manipulations, such opening being fitted with a cloth sleeve, G, with an elastic band to fit the wrist of the operator. Near the left-hand end of the top piece E there is an opening for the reception of the movable eye-piece M, through which the operator views the processes of sensitizing and developing, such eye-

piece being made large enough to admit both eyes, and formed to fit the face to exclude the light as much as possible. In one of the end pieces there is an opening, *h*, which is glazed with colored glass or covered with colored paper to admit only sufficient light to enable processes to be viewed.

The water-fountain K is made with a flange, *i*, at the top to rest on the top E of the chamber, and with a nozzle, *j*, near the bottom to enter a hole in the right-hand end piece, G, against which the back of the said fountain rests, as shown in Fig. 1. At the inner end of this nozzle there is formed the seat for a valve, *k*, which is attached to a lever, *l*, and closed by a spring, *m*, applied to the said lever. The fountain is secured against the end of the chamber by one of the hooks *f* catching a stud, *i'*, on the top of the flange *i*. Between the eye-piece M and the right-hand end of the top piece E there is provided in the said top piece a hole for the reception of the jar L, which is provided with a flange to rest on the margin of the said hole. In the bottom of this vessel there is a valve, *p*, which is connected with a lever, *q*, at the top, and closed by a spring, *r*, applied to the said lever, and from the seat of this valve there descends a nozzle, *s*.

N is a T-shaped shoe-piece fitted to the nozzle *j* of the water-fountain and the nozzle *s* of the jar L in such manner as to connect both nozzles with one outlet, *t*, situated over the dripping-pan I, and that water flowing to the said outlet from the fountain to wash the developing solution from a picture shall pass the

nozzle *s* and wash out from the said shoe-piece the developing solution, which will have been left on the inner surface of the said shoe-piece, and which if allowed to remain would discolor the next picture. The apparatus having been extended and arranged, as represented in Figs. 3 and 4 and above described, the operator places himself in front of it and inserts his left hand through the sleeve G' to handle the plates and places his eye to the eye-piece to observe its condition. The valve-levers *q* and *l* are so situated as to be conveniently worked by the right hand to develop the pictures, the valve *p* being first opened to allow the developing solution to run from the jar L over the picture, and the valve *k* being afterward opened to allow the water to run from the fountain K to wash the solution both from the picture and from the shoe-piece N.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the box A B B C C and the lid D, of the end pieces, G G, top piece, E, and front piece, F, the whole applied and arranged substantially as herein specified.

2. Combining the water fountain or vessel K and the vessel L, from which the developing-fluid is used, by means of valves *k p* and a shoe-piece, N, or its equivalent, making one outlet for both vessels, substantially as and for the purpose herein specified.

N. F. ENGLISH.

Witnesses:

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B. F. LABARN.