(No Model.)

B. F. HALE.

APPARATUS FOR DRYING PHOTOGRAPHIC PAPER.

No. 291,722. Patented Jan. 8, 1884.

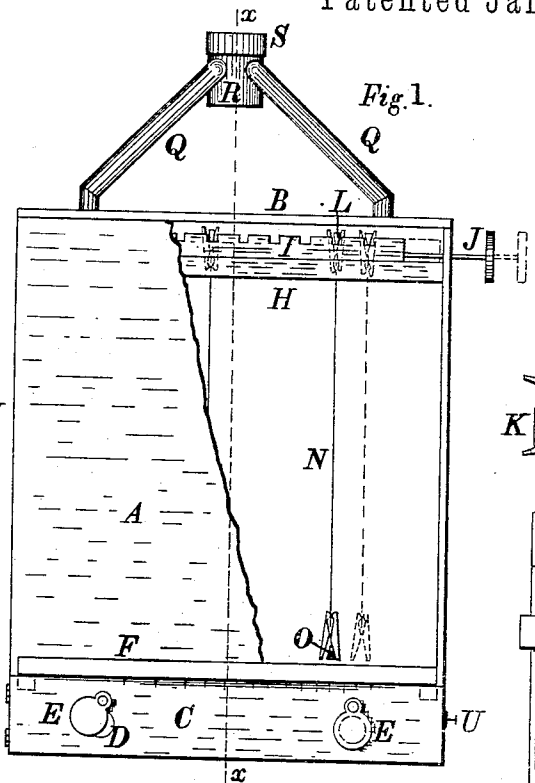


Fig. 1.

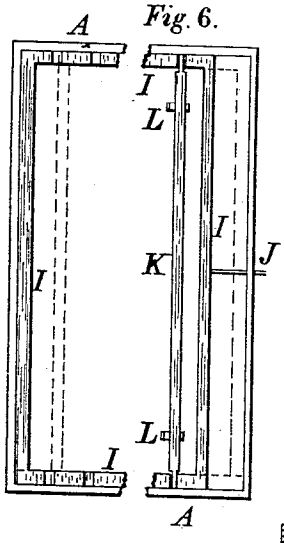


Fig. 6.

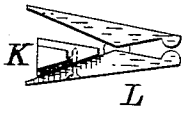


Fig. 4.

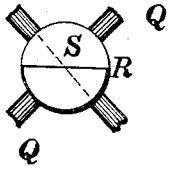


Fig. 5.

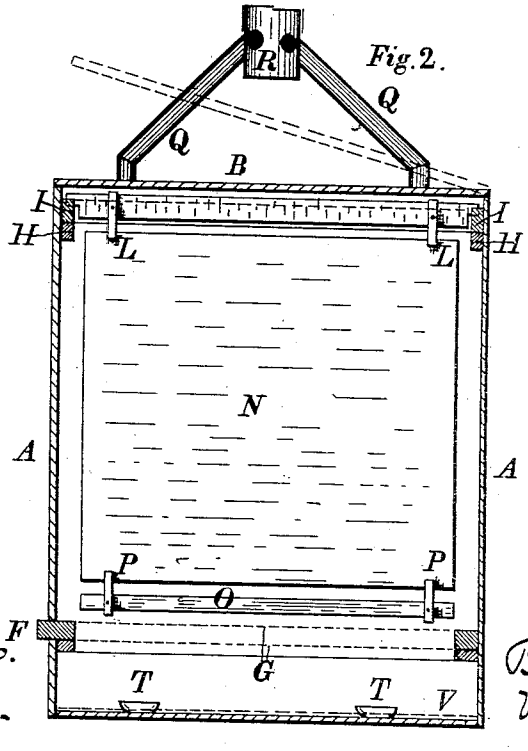


Fig. 2.

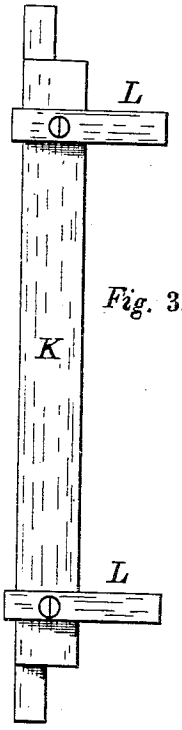


Fig. 3.

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BENJAMIN F. HALE, OF ROCHESTER, NEW YORK.

APPARATUS FOR DRYING PHOTOGRAPHIC PAPER.

SPECIFICATION forming part of Letters Patent No. 291,722, dated January 8, 1884.

Application filed May 9, 1883. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. HALE, of Rochester, New York, have invented certain Improvements in Apparatus for Drying Photographic Paper, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to certain improvements in apparatus designed more particularly for drying silvered photographic paper, but capable also of being used for fuming the same and for various other purposes, in a photographic gallery, which improvements are hereinafter fully described and specified.

My invention is represented in the accompanying drawings, in which Figure 1 is an elevation, a portion of the front being removed to show the interior. Fig. 2 is a central vertical section on the dotted line *x x*, Fig. 1. Fig. 3 is a side view of the upper paper-holder. Fig. 4 is an end view of the same. Fig. 5 shows the regulating-valve as seen from above. Fig. 6 is a top view of my improved apparatus, the cover being removed.

My improved apparatus for drying photographic paper consists of a suitable box or casing, A A, the top of which is made movable, or to swing on hinges, for the purpose of introducing and removing the paper. At its lower part, on one side, it is provided with a door, C, fastened by a suitable catch, U, through which access is had to the heating apparatus.

Provision is made for the admission of air to the lower part of the box or case through one or more openings, D, which are provided with flaps or valves E E, by which the amount of air admitted to the interior of the apparatus may be controlled. Any suitable number of these openings may be employed, and they can be placed in the door or in the sides or bottom of the case.

A short distance above the bottom of the box the frame F is arranged to slide through one side, being supported on suitable ways. This frame is made of a size and shape corresponding with the interior of the box, and is covered on one or both sides with wire-cloth, represented by the dotted lines G, Fig. 2.

Near the top of the box, on opposite sides, are placed the cleats or ways H H, on which the frame I slides, provision being made for giving the frame a horizontal reciprocating motion from the outside, as represented by the dotted lines in Figs. 1 and 6, by means of the rod J, passing through the box, and provided on its outer end with a suitable handle.

The silvered photographic paper N is supported during the drying operation by the bars K and clips L L. A series of notches is formed in the end pieces of the frame I, into which the bars K are fitted. Any desired number of bars may be employed according to the size of the apparatus or the number of sheets of paper which are to be dried at any given time. The ends of the bars K may be reduced in size to fit the notches in the frame. Each bar is provided with two spring clips or catches, L L, by which the paper is held at or near two of its corners during the drying operation.

I have employed in practice for the clips the well-known spring clothes-pin, but any preferred form of clip may be used for the purpose of sustaining the paper. At the lower end of the paper a similar bar, O, provided with clips P P, is applied to the paper for the purpose of keeping it from curling while being dried.

From the cover B arise a number of pipes, Q Q, which unite together in a common tube or passage, R, provided with a valve, S, Fig. 5, by which the current of air therethrough may be regulated. Any number of these pipes may be employed, the object being to secure an equable discharge of air from the box, and in practice I have found that four pipes, connected to the box near each corner thereof, perform satisfactorily.

The valve S consists of a half-cap arranged to regulate the discharge-opening in the passage R by being partially rotated thereon, as represented in Fig. 5 by the dotted lines.

T represents one or more shallow cups or trays containing asbestus, mineral wool, or other suitable wick material, which are placed on the bottom of the box and charged with alcohol, which is set on fire to produce the rapid drying of the silvered paper. The screen G—or the lower one, if the two are used—operates to prevent the flame of the burning al-

cohol in the tray T from injuring the paper, the meshes of the wire-cloth forming the screen being fine enough for this purpose.

Instead of alcohol, the smokeless flame from a Bunsen or other suitable gas-burner, may be employed.

The bottom of the box may be covered with absorbent paper or other material to receive the drip from the paper, the screen G being removed at the time the paper is hung up and until it has drained.

The operation of my improved apparatus for drying photographic paper will be readily understood from the foregoing description. The paper as it comes from the silver bath is suspended by the bars and clips in the box, the screen G being removed. When the box is full, or the desired number of sheets have been introduced therein, the top or cover B and the screen G are put in place on the box, and heat applied by burning alcohol in the trays, or by a smokeless gas-burner, or in any other preferred manner.

The drying operation requires but a few moments, and when the paper is dry the valves E and S are closed and the paper fumed, if desired, by the introduction of ammonia into the lower part of the box.

The frame I may be vibrated by hand, or a pendulum may be attached to the rod J for the purpose of giving it a suitable reciprocating motion.

I claim—

1. The herein-described apparatus for drying photographic paper, consisting of the box A, provided with suitable air inlet and outlet passages, the reciprocating frame I, bars K, having paper-clips L L, and one or more heating devices, T T, substantially as and for the purposes set forth.

2. The combination, with the box A, provided with suitable air inlet and outlet passages, of the reciprocating frame I, adapted to support the paper during the drying operation, the removable screen G, and a suitable heating device, T, substantially as and for the purposes set forth.

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Witnesses:
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